

Abbott, Mark B., Mary E. Edwards, and Bruce P. Finney

**2010 A 40,000-yr record of environmental change from Burial Lake in Northwest Alaska.** Quaternary Research 74(1):156-165.

**ABSTRACT:** Burial Lake in northwest Alaska records changes in water level and regional vegetation since ~ 39,000 cal yr BP based on terrestrial macrofossil AMS radiocarbon dates. A sedimentary unconformity is dated between 34,800 and 23,200 cal yr BP. During all or some of this period there was a hiatus in deposition indicating a major drop in lake level and deflation of lacustrine sediments. MIS 3 vegetation was herb-shrub tundra; more xeric graminoid-herb tundra developed after 23,200 cal yr BP. The tundra gradually became more mesic after 17,000 cal yr BP. Expansions of *Salix* then *Betula*, at 15,000 and 14,000 cal yr BP, respectively, are coincident with a major rise in lake level marked by increasing fine-grained sediment and higher organic matter content. Several sites in the region display disrupted sedimentation and probable hiatuses during the last glacial maximum (LGM); together regional data indicate an arid interval prior to and during the LGM and continued low moisture levels until ~ 15,000 cal yr BP. AMS <sup>14</sup>C dates from Burial Lake are approximately synchronous with AMS <sup>14</sup>C dates reported for the *Betula* expansion at nearby sites and sites across northern Alaska, but 1000-2000 yr younger than bulk-sediment dates.

**KEYWORDS:** Alaska

Late-Quaternary  
Climate change  
Aridity  
Lake-level  
Pollen  
Moisture balance

**NOTES:**

Abbott-Jamieson, Susan, and Patricia M. Clay

**2010 The long voyage to including sociocultural analysis in NOAA's National Marine Fisheries Service.** Marine Fisheries Review 72(2):14-33.

**ABSTRACT:** The United States has managed and analyzed its marine fisheries since 1871, and since 1970 via NOAA's National Marine Fisheries Service (NMFS). As the primary directive moved from aiding fishermen in expanding their operations emphasizing conservation, the government over time recognized that management involves influencing people not fish, and has hired social scientists to complement the biologists who assess fish populations. This change has not always been smooth. We use archival documents and oral histories to trace the development of sociocultural analytic capabilities within NMFS and describe future plans for growing the program. Four points are made. First, NMFS has created the best developed social science program in NOAA. Second, established institutions change slowly; achieving the social science presence in NMFS has taken over 25 years. Third, change needs visionaries and champions with both tenacity and opportunity. Fourth, social science data collection and research helps in making fishery management decisions, but they have also been useful in evaluating the impact and helping with the recovery from Hurricane Katrina. Good work finds other uses.

**KEYWORDS:** social science, fisheries, NOAA, NMFS

**NOTES:**

Ackerman, Robert E.

**1959 Siberians of the New World.** Expedition 1(4):24-35.

**ABSTRACT:** An archaeologist spends the summer on St. Lawrence Island

**KEYWORDS:****NOTES:**

Ackerman, Robert E.

**1983 Settlements and sea mammal hunting in the north Bering Sea region.** *In* International Congress for Archaeological and Ethnological Sciences Pp. 1-20. Vancouver, Canada.

**ABSTRACT:****KEYWORDS:****NOTES:**

Ackerman, Robert E.

**1988 Settlements and sea mammal hunting in the Bering-Chukchi Sea region.** *Arctic anthropology* 25(1):52-79.

**ABSTRACT:** A discussion of the relationships between the physical and biological parameters of the Bering-Chukchi Sea region is presented to provide some insights into the adaptive strategies of sea mammal hunting. The acquisition of ecological information critical to sea mammal hunting was attained via a series of cultural adaptations over several millennia. The dynamics behind these cultural adaptations are the movement of hunting/gathering societies into the New World and the flooding of the Bering-Chukchi Sea marine platform. These relations are explored from c. 22,000 B.P. to the late prehistoric period. Prehistoric evidence for the hunting of land mammals precedes that of sea mammal hunting by several millennia. The earliest indication of sea mammal hunting occurs c. 9500 B.P. in southeastern Alaska and is followed shortly by evidence in the Aleutian-Alaska Peninsula region (8500 B.P.). Here icefree conditions permitted the open sea type of sea mammal hunting. The northern pattern of sea ice hunting emerged considerably later, beginning in the Denbigh complex of the Arctic Small Tool tradition. The Old Whaling culture (3300 B.P.) appears as an early but aberrant whale hunting society to be followed by multiresource based groups such as Choris and Norton which utilized land resources as much as those of the sea. Whale hunting, as a full blown cultural complex, is evident for the first time in the Bering Strait region with the initiation of the Neoeskimo stage (c. 2000 B.P.: Okvik-Old Bering Sea phases) when the motivation may have been as much social as ecological.

**KEYWORDS:****NOTES:**

Active, John

**1998 Why subsistence is a matter of cultural survival: a Yu'pik point of view.** *In* Cultural survival quarterly. Pp. 35-6, Vol. 22.

**ABSTRACT:**

**KEYWORDS:** Alaska, Yupik, subsistence economy, survival strategies

**NOTES:**

Adams, John

**Policy statement of the Arctic Slope Regional Corporation on the conduct of scientific research upon its lands.** 1-4.

**ABSTRACT:****KEYWORDS:****NOTES:**

Adams, William. M., Ros Aveling, Dan Brockington, Barney Dickson, Jo Elliott, Jon Hutton, Dilys Roe, Bhaskar Vira, and William Wolmer

**2004 Biodiversity conservation and the eradication of poverty.** *Science* 306(5699):1146-1149.

**ABSTRACT:** It is widely accepted that biodiversity loss and poverty are linked problems and that conservation and poverty reduction should be tackled together. However, success with integrated strategies is elusive. There is sharp debate about the social impacts of conservation programs and the success of community-based approaches to conservation. Clear conceptual frameworks are needed if policies in these two areas are to be combined. We review the links between poverty alleviation and biodiversity conservation and present a conceptual typology of these relationships.

**KEYWORDS:**

**NOTES:**

Adger, W. Neil

**2006 Vulnerability.** Global Environmental Change 16(3):268-281.

**ABSTRACT:** This paper reviews research traditions of vulnerability to environmental change and the challenges for present vulnerability research in integrating with the domains of resilience and adaptation. Vulnerability is the state of susceptibility to harm from exposure to stresses associated with environmental and social change and from the absence of capacity to adapt. Antecedent traditions include theories of vulnerability as entitlement failure and theories of hazard. Each of these areas has contributed to present formulations of vulnerability to environmental change as a characteristic of social-ecological systems linked to resilience. Research on vulnerability to the impacts of climate change spans all the antecedent and successor traditions. The challenges for vulnerability research are to develop robust and credible measures, to incorporate diverse methods that include perceptions of risk and vulnerability, and to incorporate governance research on the mechanisms that mediate vulnerability and promote adaptive action and resilience. These challenges are common to the domains of vulnerability, adaptation and resilience and form common ground for consilience and integration.

**KEYWORDS:** vulnerability; disasters; food insecurity; hazards; social-ecological systems; surprise; governance; adaptation; resilience

**NOTES:**

Adger, W. Neil, Nigel W. Arnell, and Emma L. Tompkins

**2005 Successful adaptation to climate change across scales.** Global Environmental Change Part A 15(2):77-86.

**ABSTRACT:** Climate change impacts and responses are presently observed in physical and ecological systems. Adaptation to these impacts is increasingly being observed in both physical and ecological systems as well as in human adjustments to resource availability and risk at different spatial and societal scales. We review the nature of adaptation and the implications of different spatial scales for these processes. We outline a set of normative evaluative criteria for judging the success of adaptations at different scales. We argue that elements of effectiveness, efficiency, equity and legitimacy are important in judging success in terms of the sustainability of development pathways into an uncertain future. We further argue that each of these elements of decision-making is implicit within presently formulated scenarios of socio-economic futures of both emission trajectories and adaptation, though with different weighting. The process by which adaptations are to be judged at different scales will involve new and challenging institutional processes.

**KEYWORDS:** Adaptation

Vulnerability

Scenarios

Sustainability

Decision making

**NOTES:** doi: DOI: 10.1016/j.gloenvcha.2004.12.005

Adger, W. Neil, Saleemul Huq, Katrina Brown, Declan Conway, and Mike Hulme

**2003    Adaptation to climate change in the developing world.** Progress in Development Studies 3(3):179-195.

**ABSTRACT:** The world's climate is changing and will continue to change into the coming century at rates projected to be unprecedented in recent human history. The risks associated with these changes are real but highly uncertain. Societal vulnerability to the risks associated with climate change may exacerbate ongoing social and economic challenges, particularly for those parts of societies dependent on resources that are sensitive to changes in climate. Risks are apparent in agriculture, fisheries and many other components that constitute the livelihood of rural populations in developing countries. In this paper we explore the nature of risk and vulnerability in the context of climate change and review the evidence on present-day adaptation in developing countries and on coordinated international action on future adaptation. We argue that all societies are fundamentally adaptive and there are many situations in the past where societies have adapted to changes in climate and to similar risks. But some sectors are more sensitive and some groups in society more vulnerable to the risks posed by climate change than others. Yet all societies need to enhance their adaptive capacity to face both present and future climate change outside their experienced coping range. The challenges of climate change for development are in the present. Observed climate change, present-day climate variability and future expectations of change are changing the course of development strategies - development agencies and governments are now planning for this adaptation challenge. The primary challenge, therefore, posed at both the scale of local natural resource management and at the scale of international agreements and actions, is to promote adaptive capacity in the context of competing sustainable development objectives.

**KEYWORDS:**

**NOTES:**

Adler, Al, EJ Boyko, CD Schraer, and NJ Murphy

**1994    Lower prevalence of impaired glucose tolerance and diabetes associated with daily seal oil or salmon consumption among Alaska Natives.** Diabetes Care 17(12):1498-1501.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Ager, Lynn Price

**1980    Economic role of women in Alaskan Eskimo society.** World of Women.

**ABSTRACT:**

**KEYWORDS:** Eskimo, woman, economic anthropology, subsistence, gender, roles

**NOTES:**

Agrawal, A., A. Chhatre, and R. Hardin

**2008    Changing governance of the world's forests.** Science 320(5882):1460-1462.

**ABSTRACT:** Major features of contemporary forest governance include decentralization of forest management, logging concessions in publicly owned commercially valuable forests, and timber certification, primarily in temperate forests. Although a majority of forests continue to be owned formally by governments, the effectiveness of forest governance is increasingly independent of formal ownership. Growing and competing demands for food, biofuels, timber, and environmental services will pose severe challenges to effective forest governance in the future, especially in conjunction with the direct and indirect impacts of climate change. A greater role for community and market actors in forest governance and deeper attention to the factors

that lead to effective governance, beyond ownership patterns, is necessary to address future forest governance challenges.

**KEYWORDS:**

**NOTES:** Times Cited: 39

Agrawal, Arun, and Clark C. Gibson

**1999 Enchantment and Disenchantment: The Role of Community in Natural Resource Conservation.** World Development 27(4):629-649.

**ABSTRACT:** The poor conservation outcomes that followed decades of intrusive resource management strategies and planned development have forced policy makers and scholars to reconsider the role of community in resource use and conservation. In a break from previous work on development which considered communities a hindrance to progressive social change, current writings champion the role of community in bringing about decentralization, meaningful participation, and conservation. But despite its recent popularity, the concept of community is rarely defined or carefully examined by those concerned with resource use and management. We seek to redress this omission by investigating "community" in work concerning resource conservation and management. We explore the conceptual origins of the community, and the ways the term has been deployed in writings on resource use. We then analyze those aspects of community most important to advocates for community's role in resource management -- community as a small spatial unit, as a homogeneous social structure, and as shared norms -- and indicate the weaknesses of these approaches. Finally, we suggest a more political approach: community must be examined in the context of development and conservation by focusing on the multiple interests and actors within communities, on how these actors influence decision-making, and on the internal and external institutions that shape the decision-making process. A focus on institutions rather than "community" is likely to be more fruitful for those interested in community-based natural resource management.

**KEYWORDS:**

**NOTES:**

Agrawal, A., and E. Ostrom

**2006 Political science and conservation biology: A dialog of the deaf.** Conservation Biology 20(3):681-682.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Alaska Consultants Inc.

**1978 Beaufort Sea - Petroleum Development Scenarios Man Made Environment Impacts.** Anchorage: U.S. Department of the Interior/Bureau of Land Management/Alaska OCS Office.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** The purpose of this study is to assess the future impacts of oil and gas development in a non-OCS case and in the case of four OCS scenarios on the manmade environment of the Beaufort Sea region and four of its member communities - Barrow, Kaktovik, Nuiqsut and blainwright. In each of the four OCS cases, the emphasis is placed on the additional impacts that such scenarios could be expected to have beyond what would be anticipated in a non-OCS case. To assist in this assessment, a series of projections was developed for anticipated population and employment changes in the individual communities, plus projections of Borough revenues and expenditures. Community infrastructural requirements in the case of a non-OCS scenario and additional requirements likely to be generated by each of the four OCS scenarios have also been examined.

Alaska Consultants Inc.

**1978 Beaufort Sea Region - Manmade Environment.** Anchorage: U.S. Department of the Interior/Bureau of Land Management/Alaska OCS Office.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** The following pages of this report contain an overview of the economy and population, selected community facilities and services, and the local government organization of the North Slope Borough and four of its member communities. Additional information on land use, land status, utilities, and transportation facilities and services is provided for the communities of Nuiqsut and Wainwright.

Alaska Department of Fish & Game Division of Subsistence

**1980 Subsistence: a position paper.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report presents recommendations from the Alaska Department of Fish and Game to the Boards of Fisheries and Game regarding regulatory implementation of the subsistence priority law. It also evaluates the authority of the Boards and methods by which subsistence regulations might be implemented.

**KEYWORDS:**

**NOTES:**

Alaska Department of Fish & Game Division of Subsistence

**1981 Draft options for Naknek River subsistence fishery.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report offers regulatory options to the Alaska Board of Fisheries in their consideration of proposals that allow nonresidents who have defined ties to Naknek and King Salmon or who have traditionally and habitually used the area for subsistence fishing, to obtain subsistence fishing permits for the Naknek and Kvichak river drainages.

**KEYWORDS:**

**NOTES:**

Alaska Department of Fish & Game Division of Subsistence

**1992 Report on proposed nonsubsistence areas.** Anchorage, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** A compilation of responses to 6 proposals of nonsubsistence areas statewide. This publication was scanned in January 2010 from a printed copy published November 1992 and presented to the Alaska Joint Board of Fisheries and Game in Anchorage, Alaska during their November 1-7 meeting. Page and figure numbering may not be consecutive.

**KEYWORDS:** Subsistence fishing, subsistence hunting, nonsubsistence area, Fairbanks, Denali Park, Anchorage, Mat-Su, Matanuska-Susitna, Matsu, Kenai Peninsula, Whittier, Valdez, Juneau, Ketchikan, Joint Board of Fisheries and Game

**NOTES:**

Alaska Department of Fish & Game Division of Subsistence

**2011 Proposed changes to nonsubsistence areas.** Anchorage, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** At its meeting in October 2007, the Alaska Joint Board of Fisheries and Game will discuss two proposals (Proposal 37 and Proposal 38; see Appendix A) that would change the current boundaries of nonsubsistence areas (5 AAC 99.015). As noted in its Call for Proposals

(Alaska Joint Board of Fisheries and Game 2006), the Joint Board intends to use a two-step approach in acting on these proposals. In October 2007, the Joint Board will conduct an initial assessment of the proposals, including identifying any additional information needed for a full review. Appropriate proposals will be scheduled for further public review and department analysis before regulatory action during a meeting in 2008.

**KEYWORDS:** Alaska Joint Board, proposal 37, proposal 38, nonsubsistence, subsistence economy

**NOTES:**

Alaska Department of Fish and Game

**1985 Development and implementation of Tier II hunting regulations: A report to the Joint Boards of Fisheries and Game.** Juneau.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Alaska Natives Commission

**1994 Alaska Natives Commission Final Report.** Anchorage.

**ABSTRACT:** The Alaska Natives Commission (the Joint Federal-State Commission on Policies and Programs Affecting Alaska Natives) was created by Congress in 1990 at the urging of Alaska Native groups, and was jointly funded by the federal government and the State of Alaska. **Volume I: Healing, Harmony, Hope** contains the essence of the Alaska Native Commission's findings. It documents physical, social, and economic changes that have occurred over the past two centuries which affect Alaska Natives; provides the commission's fundamental recommendations in key issue areas; and presents key statistical facts and findings of the commission. **Volume II** includes the results of studies conducted by the commission in the areas of Alaska Native physical health; social and cultural issues and the alcohol crisis; economic issues and rural economic development; Alaska Native education; and self-governance and self-determination, including justice, law enforcement, and corrections. **Volume III** contains the full text of two separate studies conducted by the commission in the areas of Alaska Native subsistence and Alaska Native tribal government, condensed forms of which are found in Volume I.

**KEYWORDS:**

**NOTES:**

Alaska Planning Council

**1940 Preliminary economic survey of the Seward Peninsula area:** Alaska Planning Council.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** Number and distribution of the white and native population, school population, and population trend.

Alaska Rural Development Council

**1980 Proceedings** Alaska Rural Development Council Meeting, Juneau, 1980, pp. 11-18.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** Pages 1-4 Participants of meeting

Alessa, Lilian, Andrew Kliskey, Robert Busey, Larry Hinzman, and Dan White

**2008 Freshwater vulnerabilities and resilience on the Seward Peninsula: Integrating multiple dimensions of landscape change.** *Global Environmental Change* 18(2):256-270.

**ABSTRACT:** Climate change exerts influence on the globe over relatively long temporal and at broad spatial scales. However, at the local scale in which communities undertake their daily activities, changes in land-use may result in changes that accumulate and manifest more quickly in the landscape. In this paper we set out a methodology for identifying social-ecological system (SES) vulnerabilities in the landscape with respect to freshwater resources for Arctic communities. A multiple-scale approach is used at regional and watershed scales and is demonstrated for the Seward Peninsula region, Alaska and the Fish River watershed on Seward Peninsula but may be applied elsewhere. The approach includes change in permafrost distribution as an important effect of climate change, and change in mining activity as an important land-use effect. Vulnerability in the SES is identified as a consequence of spatially coinciding values. The resulting patterns of vulnerability highlight the interaction between changes, which act on slower temporal scales (e.g., permafrost distribution) and changes which act more quickly (e.g., downstream aggregation of mining activity). These results are discussed in the context of using the integration approach outlined in this paper to better enable communities' responses to change at local scales in such a way that they are both adaptive and resilient.

**KEYWORDS:** Arctic; Landscape change; Resilience; Social-ecological systems; Vulnerability; Mapping

**NOTES:** (Na'ia)

(Anaru)

doi: DOI: 10.1016/j.gloenvcha.2008.01.004

Alessa, L., A. Kliskey, and P. Williams

**2010 Forgetting Freshwater: Technology, Values, and Distancing in Remote Arctic Communities.** *Society & Natural Resources* 23(3):254-268.

**ABSTRACT:** Technology is often touted as a collective solution to environmental problems. However, what if technology results in trade-offs in long-term resilience that ultimately pose a critical vulnerability for society? In this study, we examine the change in values of freshwater from traditional to convenience-oriented values in remote, resource-dependent communities that are in the process of modernization. Individuals living in remote resource-dependent communities in Alaska were interviewed and asked a series of questions concerning their values toward freshwater and the importance of those values. As age of the individual decreased, traditional-subsistence values of water diminished, and both convenience and recreational values of water increased. Individuals from communities without municipal water systems expressed greater traditional-subsistence values and less convenience-oriented values than individuals from communities with municipal water systems. The data presented suggest that as communities increasingly adopt the dominant social paradigm associated with Western cultures, their values of freshwater change from traditional and cultural values to convenience and recreational values. The implications of this transformation in values are discussed as a form of technology-induced environmental distancing.

**KEYWORDS:**

**NOTES:** Times Cited: 0

Alessa, Lilian, Andrew Kliskey, Paula Williams, and Michael Barton

**2008 Perception of change in freshwater in remote resource-dependent Arctic communities.** *Global Environmental Change* 18(1):153-164.



**ABSTRACT:** This paper provides empirical evidence to support existing anecdotal studies regarding the mechanisms by which human communities become vulnerable to rapid changes in freshwater resources on the Seward Peninsula, Alaska. We interviewed adults, stratified by age, sex, and extended family, in Inupiat communities on the Seward Peninsula. Using categorical indices as part of a semi-structured interview we elicited a respondent's perception of the availability and quality of freshwater resources in their community as well as their perception of change in the availability and quality of freshwater during the period of their lifetime in that community. Significant relationships were observed between age groups for the perception of change in the availability of the local water source and the perception of change in its quality--older generations perceiving more change than younger age groups. These perceptions of change were examined with respect to recent historic changes in precipitation and temperature on the Seward Peninsula. These findings suggest that individual perceptions are instrumental in determining whether or not change merits response. The findings also provide evidence that oral traditional knowledge systems have shifted from continuous to discontinuous transmission, distancing the users from traditional resources. We discuss the role of collective knowledge, through the transmission of knowledge from elders to subsequent generations, in aiding the development of a community's ability to note and respond to changes in critical natural resources.

**KEYWORDS:** Resilience; Environmental perception; Freshwater; Environmental change; Human response; Traditional ecological knowledge

**NOTES:** (Na'ia)

(Anaru)

doi: DOI: 10.1016/j.gloenvcha.2007.05.007

Allison, Edward H., and Frank Ellis

**2001 The livelihoods approach and management of small-scale fisheries.** Marine Policy 25(5):377-388.

**ABSTRACT:** An approach to poverty reduction in low-income countries known as the "sustainable livelihoods approach" is applied to understanding the strategies of artisanal fisherfolk confronted by fluctuating fisheries resources. The livelihood approach is explained, and the insights it provides into conventional fisheries management policies in developing countries are explored. It is argued that both state-led management and some of the newer, community or territorial use-rights approaches, if predicated on an incomplete understanding of livelihoods, can result in management directives incompatible with both resource conservation and the social and economic goals of management.

**KEYWORDS:** Rural development, Livelihood diversification, Artisanal fisheries

**NOTES:**

Alvard, Michael S.

**2001 Mutualistic Hunting.** Meat-Eating and Human Evolution:261.

**ABSTRACT:** The cooperative acquisition, defense and distribution of meat are common problems that must be solved by social hunters. These were also problems faced by any of our hominid ancestors that may have hunted large game in our evolutionary past. Much of the last 40 years of research in evolutionary ecology has tried to understand such cooperative behavior. The classic Prisoner's Dilemma game theory model captures much of the essence of cooperation and its study has dominated inquiry into cooperation. While a good model of reciprocity, the Prisoner's Dilemma may not be the best paradigm for understanding other types of cooperation. Both byproduct and synergistic mutualism differ from the Prisoner's Dilemma with respect to the relative payoffs for cooperators and defectors. I argue that synergistic mutualism more closely models the payoffs common to cooperative big game hunting. Selection favors

by-product mutualism in circumstances where not cooperating inflicts a cost on the cheater. The difference between synergistic hunting and by-product hunting lies with the returns obtained from solitary large game hunting (lower return) relative to the returns obtained from solitary small game hunting (higher return). For many types of large game, return rates increase significantly when hunting occurs in a group. However, these same prey are extremely difficult to kill alone. I present whale hunting in the village of Lamalera, Indonesia as an example of synergistic big game hunting.

**KEYWORDS:**

**NOTES:**

Alvard, Michael S.

**2002 Carcass ownership and meat distribution by big-game cooperative hunters.**

Research in Economic Anthropology 21:99-132.

**ABSTRACT:** A renewed interest in the hunting hypothesis has focused on the control and distribution of meat. A frequent observation among foragers is that large game prey resources are often widely distributed in a manner that suggests to some researchers that hunters do not own their prey and thus cannot direct meat distribution to their families. The 'show-off' model has been evoked to argue that hunters hunt in order to signal status rather than to provision their families. In contrast, detailed prey distribution data from the whale hunters of Lamalera, Indonesia, show that hunters do in fact own specific shares of prey. Whales are indeed very large game, but rather than a public good, a harvested whale carcass at Lamalera consists of privately owned shares, delineated by a complex and mutually agreed upon set of norms. Results show that hunting in Lamalera is mutualistic, involving multifaceted coordination between many individuals. Rights to shares of the harvest are contingent primarily upon hunt participation either directly as a hunter, as a craftsman, or as a corporate member. If big game hunting does not preclude hunters from owning the meat they harvest, then hunting may be less about simply 'show' and more about family provisioning than suggested by the show-off model.

**KEYWORDS:**

**NOTES:**

Alvard, Michael S.

**2003 The adaptive nature of culture.** Evolutionary Anthropology 12(3):136-149.

**ABSTRACT:** Some have argued that the major contribution of anthropology to science is the concept of culture. Until very recently, however, evolutionary anthropologists have largely ignored culture as a topic of study. This is perhaps because of the strange bedfellows they would have to maintain. Historically, anthropologists who claimed the focus of cultural anthropology tended to be anti-science, anti-biology, or both. Paradoxically, a segment of current mainstream cultural anthropology has more or less abandoned culture as a topic. It is particularly ironic that in spite of a growing awareness among evolutionary anthropologists that culture is critical for understanding the human condition, the topic of culture has fallen out of favor among many "cultural" anthropologists.

**KEYWORDS:**

**NOTES:**

Alvard, Michael S.

**2003 Kinship, lineage, and an evolutionary perspective on cooperative hunting groups in Indonesia.** Human Nature 14(2):129-163.

**ABSTRACT:** Work was conducted among traditional, subsistence whale hunters in Lamalera, Indonesia, in order to test if strict biological kinship or lineage membership is more important for explaining the organization of cooperative hunting parties ranging in size from 8 to 14 men. Crew identifications were collected for all 853 hunts that occurred between May 3 and August 5, 1999. Lineage identity and genetic relatedness were determined for a sample of 189 hunters. Results

of matrix regression show that genetic kinship explains little of the hunters' affiliations independent of lineage identity. Crew members are much more closely related to each other than expected by chance, but this is due to the correlation between lineage membership and genetic kinship. Lineage members are much more likely to affiliate in crews, but kin with  $r < 0.5$  are just as likely not to affiliate. The results are discussed vis-à-vis the evolution of cooperation and group identity.

**KEYWORDS:** affiliation; cooperation; culture; hunting; Indonesia; lineage theory

**NOTES:**

Alvard, M. S.

**2004 The ultimatum game, fairness, and cooperation among big game hunters.** Foundations of Human Sociality: Economic Experiments and Ethnographic Evidence from Fifteen Small-Scale Societies:413.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Alvard, Michael S., and David A. Nolin

**2002 Rousseau's whale hunt? Coordination among big-game hunters (w/commentary).** Current Anthropology 43(4):533-559.

**ABSTRACT:** In spite of its common use as a tool for examining cooperation, the prisoner's dilemma game does not conform to the reality of many socio-ecological contexts. Situations in which people engage in joint activities and maintain agreement in their preferences for outcomes are called "coordination games" by game theorists and "mutualism" by biologists. Coordination games are common, but cooperative outcomes are not always as easy to achieve as is generally believed. Data are presented from the village of Lamalera, Indonesia, where the economy revolves around traditional subsistence sperm-whale hunting, that indicate a situation consistent with a coordination game. Return rates from cooperative whale hunting are greater per capita than those from solitary fishing. Coordination is maintained through complex norms that reduce transaction costs and provide assurances of satisfactory payoffs to participants. We speculate that cultural transmission of norms provides the "pregame" communication shown to be crucial for actors whose preference is to cooperate and achieve the synergistic payoffs common to coordination games such as big-game hunting.

**KEYWORDS:**

**NOTES:**

Anders, G.C., and K.K. Anders

**1986 Incompatible Goals in Unconventional Organization: The Politics of Alaska Native Corporations.** Organization Studies 7(3):213.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Andersen, David B.

**1982 Regional subsistence bibliography: Volume II, Interior Alaska, Number 1.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This bibliography presents references on a wide range of topics concerning subsistence in Alaska's Interior region. Referencing 473 works, each citation includes a brief abstract and is indexed by keyword and author.

**KEYWORDS:**

**NOTES:**

Andersen, David B.

**1982 Regional subsistence bibliography: Volume I, North Slope, Alaska, Number 1.**  
Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** The first in a series of regional subsistence bibliographic publications, this bibliography includes a wide range of topics treating the subsistence activities, economics, and culture of Alaska's North Slope. Referencing 665 works, each citation includes a brief abstract and is indexed by keywords.

**KEYWORDS:** Arctic Region - Bibliography, North Slope, economics, culture

**NOTES:**

Andersen, David B.

**1984 Regional subsistence bibliography Volume III, Northwest Alaska, number I.**  
Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** A wide range of subsistence-related topics is covered in this bibliography: subsistence hunting, fishing, trapping, and gathering activities; social and economic information on over 35 northwestern Alaska communities; impacts of culture change on subsistence; health, nutrition, and diet; and Alaskan Native cultures. Covering the Norton Sound and Kotzebue Sound regions, the bibliography includes 434 citations, a map, and keyword cross-referencing.

**KEYWORDS:** Arctic Region, Northwest Alaska, subsistence hunting, subsistence fishing, subsistence trapping, subsistence gathering, subsistence social information, subsistence economic information, subsistence health, subsistence nutrition, subsistence diet, Norton

**NOTES:**

Andersen, David B.

**1992 Trapping in Alaska and the European Economic Community import ban on furs taken with leghold traps.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** Trapping has a centuries-long history in Alaska. Among the indigenous people of the Arctic and subarctic, furbearers have been important sources of furs for clothing and trade as well as for food. The 19th century search for furs and the resulting expanding network of Russian and Euroamerican fur trading posts in the North American frontier was a predominant agent of Russian/Euroamerican first contact with the indigenous populations of much of Alaska. However, an organized anti-trapping movement also has a history, spanning more than 65 years in the United States. The leghold trap has been the focus of much of the controversy over trapping. Increasingly, those opposed to trapping and the use of leghold traps have aligned with well-funded and politically influential animal-rights groups concerned with a broad range of animal welfare issues. Such groups have been successful in promoting anti-trapping legislation in several U.S. states and in Europe.

**KEYWORDS:**

**NOTES:**

Andersen, David B.

**1992 The use of dog teams and the use of subsistence-caught fish for feeding sled dogs in the Yukon River drainage, Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** In response to a petition to the Alaska Board of Fisheries to prohibit the feeding of subsistence-caught salmon to sled dogs used for racing, trapping, and other commercial uses, this report examines the uses of dog teams in Central Alaska and the use of subsistence-caught fish to feed them. Interviews were conducted with dog mushers during May and June 1991 in the Yukon River drainage communities of Fort Yukon, Huslia, Kaltag, Manley, Russian Mission, Saint Mary's and Tanana. The 68 mushers surveyed owned a total of 1,078 dogs in kennels

ranging in size from 4 to 80 dogs. Includes an overview of the Yukon River drainage sled dog population, a description of how dog teams are used today, and examines the kinds and quantities of fish used to feed dogs. The use of fish by urban mushers is also discussed based on telephone interviews with Fairbanks-area mushers.

**KEYWORDS:**

**NOTES:**

Andersen, David B.

**1998 A view from the Yukon flats: an interview with Gwich'in leader Clarence Alexander.** *In* Cultural survival quarterly. Pp. 40-3, Vol. 22.

**ABSTRACT:**

**KEYWORDS:** Clarence Alexander, Alaska, Athapaskans, subsistence economy, survival strategies, hunting, fishing

**NOTES:**

Andersen, David B., and Clarence L. Alexander

**1992 Subsistence hunting patterns and compliance with moose harvest reporting requirements in rural Interior Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report discusses why traditional subsistence moose hunting patterns in many rural Interior Alaska communities are not conducive to compliance with the moose harvest reporting requirements of the state management system. Key respondent interviews were used to identify factors related to this issue. Common traditional practices include several group hunts as well as sharing of moose kills among multiple households over the course of a year. Individual, non-transferable bag limits of 1 moose, and individual harvest reporting tickets in state regulation were bound to be difficult to use for reporting harvests under the traditional system. Other factors included traditional seasons and differences in language.

**KEYWORDS:**

**NOTES:**

Andersen, David B., Caroline L. Brown, Robert J. Walker, and Kimberly Elkin

**2004 Traditional ecological knowledge and contemporary subsistence harvest of non-salmon fish in the Koyukuk River drainage, Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** Non-salmon fish resources are very important to the past and present human population of the Koyukuk River region. Moose were not present in the drainage until the mid-1930s and the area has limited access to other subsistence mainstays such as Pacific salmon and caribou. In order to feed themselves and their dog-teams, residents of the Koyukuk drainage developed a particularly rich body of traditional ecological knowledge pertaining to the habits, seasonal movements, and availability of resident fish species. The primary purpose of this project was to begin the process of collecting and documenting this traditional ecological knowledge (TEK) through interviews with local experts. TEK interviews were conducted with a total of 29 individuals from throughout the Koyukuk drainage. The wealth of information they provided on the behaviors, harvests, and uses of fish is summarized by species. In addition to this largely historical perspective, a door-to-door harvest survey was conducted to provide estimates of the contemporary (2002) annual harvest of nonsalmon fish in Koyukuk River communities. These data show that fish continue to be harvested and used in significant quantities by a high percentage of area households.

**KEYWORDS:** Alaska blackfish, *Dallia pectoralis*, Alatna River, Arctic grayling, *Thymallus arcticus*, Burbot, *Lota lota*, Koyukuk River, longnose sucker, *Catostomus catostomus*, northern pike, *Esox lucius*, sheefish, *inconnu*, *Stenodus leucichthys*, traditional ecological

**NOTES:**

Andersen, David B., Caroline L. Brown, Robert J. Walker, and Gretchen Jennings

**2004 The 2001-2002 harvest of moose, caribou, and bear in Middle Yukon and Koyukuk river communities.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report documents the harvest and uses of moose, caribou, black bears, and brown bears for the 12-month period April 2001-March 2002 by residents of 7 Interior Alaska communities: Alatna, Allakaket, Galena, Huslia, Kaltag, Nulato, and Ruby.

**KEYWORDS:** Moose, Alces alces, caribou, Rangifer tarandus, black bears, Ursus americanus, brown bears, Ursus arctos, Alatna, Allakaket, Galena, Huslia, Kaltag, Nulato, Ruby, Middle Yukon River, Koyukuk River.

**NOTES:**

Andersen, David B., and Craig L. Fleener

**2001 Whitefish and beaver ecology of the Yukon Flats, Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** In recent years, the Alaska Department of Fish and Game has received comments from residents of the Yukon Flats that the abundance of whitefish in the area has declined. High abundance of beavers, and, more specifically, an increase in the number of beaver dams disrupting whitefish movements, is typically cited as the cause of this decline. To examine this issue, 15 lifelong residents of the Yukon Flats were identified as local experts and interviewed as a source of traditional ecological knowledge, or TEK, on whitefish and beavers. Interview topics specifically included Native names and local taxonomies relating to whitefish, seasonal movements and life history information, information on the harvest and uses of whitefish, and the impacts of beaver dams on whitefish.

**KEYWORDS:**

**NOTES:**

Andersen, David B., and Gretchen Jennings

**2001 The 2000 harvest of migratory birds in seven Upper Tanana River communities, Alaska.** Fairbanks and Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report summarizes the harvest of migratory birds and eggs in the upper Tanana River region of Interior Alaska during the spring, summer, and fall of 2000. The research was funded by the U.S. Fish and Wildlife Service under agreement number 701810J252. The research was conducted by the Division of Subsistence in collaboration with the Tanana Chiefs Conference. Data were collected through household surveys with hunters and household heads.

**KEYWORDS:** migratory birds, subsistence hunting, subsistence gathering, Upper Tanana River, Dot Lake, Eagle Village, Healy Lake, Northway Village, Tanacross, Tetlin, Tok, Tanana Chiefs Conference

**NOTES:**

Andersen, David B., and Gretchen Jennings

**2001 The 2000 harvest of migratory birds in ten Upper Yukon River communities, Alaska.** Fairbanks and Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report summarizes the harvest and use of migratory birds and eggs by residents of the Yukon Flats during the spring, summer, and fall of 2000. The research was funded by the U.S. Fish and Wildlife Service under agreement number 701810J252. The research was carried out by the Division of Subsistence in cooperation with the Council of Athabascan Tribal Governments. Data were collected through household surveys.

**KEYWORDS:** migratory birds, subsistence hunting, subsistence gathering, Council of Athabascan Tribal Governments, Arctic Village, Beaver, Birch Creek, Canyon Village, Chalkyitsik, Circle, Fort Yukon, Rampart, Stevens Village, Venetie, Yukon Flats, Upper Yukon Rive

**NOTES:**

Andersen, David B., and Jan H. Overturf

**1986 Regional subsistence bibliography. Volume V Western and Southwestern Alaska, number I.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This bibliography presents references on a wide range of topics concerning subsistence in Alaska's Western and Southwestern regions. Each citation includes a brief abstract and is indexed by keyword and author.

**KEYWORDS:**

**NOTES:**

Andersen, David B., Charles J. Utermohle, and Louis A. Brown

**1998 The 1997-98 harvest of moose, caribou and bear in Middle Yukon and Koyukuk River communities, Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report documents the harvests of moose, caribou, black bears, and brown bears for the study year April 1997-March 1998 in 10 communities along the Middle Yukon and Koyukuk rivers in Alaska. The report presents information on the harvest, uses, and sharing of big game resources, including the number of animals harvested, and the sexes, locations, and month of harvests, at the community and regional levels.

**KEYWORDS:**

**NOTES:**

Andersen, David B., Charles J. Utermohle, and Gretchen Jennings

**2001 The 1999-2000 harvest of moose, caribou, and bear in ten Middle Yukon and Koyukuk river communities.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report summarizes the harvest and uses of moose, caribou, black bears, and brown bears for the 12-month period April 1999-March 2000 in selected communities along the Middle Yukon and Koyukuk rivers. This was the fourth consecutive year of data collection in the 5 survey communities along the Middle Yukon River and the third consecutive year of data collection in the 5 Koyukuk River survey communities. Information is presented on the number of animals harvested; the sex, location and month of harvests; and the percentage of households hunting, harvesting, and sharing each resource. Funding was provided by the U.S. Fish and Wildlife Service through an ANILCA 809 agreement. ADF&G Division of Subsistence carried out the research. The project received approvals from village or tribal councils in each survey community in its first year. Data were collected through household surveys administered by locally hired research assistants in each community.

**KEYWORDS:**

**NOTES:**

Anderson, David B., Charles J. Utermohle, and Louis A. Brown

**1999 The 1998-99 harvest of moose, caribou, and bear in ten Middle Yukon and Koyukuk River communities.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report summarizes the harvest and uses of moose, caribou, black bears, and brown bears for the 12-month period April 1998-March 1999 in select communities along the Middle Yukon and Koyukuk rivers. This was the third consecutive year of data collection in the 5 study communities along the Middle Yukon River and the second consecutive year of data collection in the 5 Koyukuk River study communities. Information is presented on the number of

animals harvested; the sexes, locations and month of harvests; and the percent of households hunting, harvesting, and sharing each resource. The research was funded and conducted by the ADF&G Division of Subsistence. The project received approval from tribal or municipal councils and data were collected through household surveys administered by locally-hired research assistants in each community.

**KEYWORDS:**

**NOTES:**

Anderson, Douglas D.

**1968 A stone age campsite at the gateway to America.** Scientific American 218(6):29-38.

**ABSTRACT:** Onion Portage in Alaska is an unusual Arctic archeological site. It provides a record of human habitation going back at least 8,500 years, when its occupants were not far removed from their forebears in Asia.

**KEYWORDS:** Onion Portage; archaeology; Alaska

**NOTES:**

Anderson, Douglas D.

**1970 Microblade traditions in northwestern Alaska.** Arctic anthropology 7(2):2-16.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Anderson, Douglas D.

**1977 Archaeological surveys of the proposed Cape Krusenstern and Kobuk national monuments, Alaska.** Pp. 32: US Dept. of the Interior, National Park Service.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Anderson, Douglas D.

**1979 Changing prehistoric Eskimo subsistence patterns: A working paper.** Cultures of the Bering Sea region, 1979, pp. 62-78.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Anderson, Douglas D.

**1980 Continuity and Change in the Prehistoric Record from North Alaska.** Senri Ethnological Studies 4:233-251.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Anderson, Douglas D.

**1986 The Ipiutak villagers: large populations at Cape Krusenstern.** In Beach ridge archaeology of Cape Krusenstern: Eskimo and pre-Eskimo settlements around Kotzebue Sound, Alaska. J.L. Giddings, Jr. and D.D. Anderson, eds. Pp. 117-159. Washington, D.C.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Anderson, Douglas D.



**1988 Onion Portage: The archeology of a stratified site from the Kobuk River, Northwestern Alaska.** Fairbanks, AK: University of Alaska.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** Kotzebue subsistence library partial copy, missing pages 17,20,23,24,31,33,38,42,46,47,56,59,61,62,63,67,68

Anderson, Douglas D., and Wanni W. Anderson

**1973 An anthropological survey of the Selawik River drainage.**

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Anderson, Douglas D., Wanni W. Anderson, Ray Bane, Richard K. Nelson, and Nita Sheldon Towarak

**1977 Kuuvaymiut Subsistence: Traditional Eskimo Life in the Latter Twentieth Century.** Washington, D.C.: US Dept. of the Interior, National Park Service.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** Study commissioned by the National Park Service and the Northwest Alaska Native Association to provide background information for the Kobuk Valley National Monument. Research was conducted between June 1974 and August 1975. Efforts were made to incorporate all five of the Kobuk villages into the study. This study is an extensive look at subsistence cycles, resource use, subsistence and the environment, subsistence and cash economics, competition for resources, trading, and other factors of subsistence and modern village life. There is a large fishing section that deals with gear, locations, resource use, processing, and the importance of fish species. The study contains excellent illustrations and much detail.

Anderson, Douglas D., Wanni W. Anderson, Ray Bane, Richard K. Nelson, and Nita Sheldon Towarak

**1998 Kuuvaymiut Subsistence: Traditional Eskimo Life in the Latter Twentieth Century.** Washington, D.C.: US Dept. of the Interior, National Park Service.

**ABSTRACT:**

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**NOTES:** Study commissioned by the National Park Service and the Northwest Alaska Native Association to provide background information for the Kobuk Valley National Monument. Research was conducted between June 1974 and August 1975. Efforts were made to incorporate all five of the Kobuk villages into the study. This study is an extensive look at subsistence cycles, resource use, subsistence and the environment, subsistence and cash economics, competition for resources, trading, and other factors of subsistence and modern village life. There is a large fishing section that deals with gear, locations, resource use, processing, and the importance of fish species. The study contains excellent illustrations and much detail.

Andrews, Elizabeth F.

**1986 The harvest of fish and wildlife for subsistence by residents of Minto, Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes species harvested, harvest levels, seasonality of harvests, harvest methods, harvest areas, and distribution and exchange of resources.

**KEYWORDS:**

**NOTES:**

Andrews, Elizabeth F.

**1986 Yukon River subsistence fall chum fisheries: an overview.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes the subsistence fall chum salmon fisheries along the Yukon River in terms of geographic location, seasonality, methods and means, and harvest trends since 1977. The report focuses on Alaskan communities of the Yukon River drainage.

**KEYWORDS:****NOTES:**

Andrews, Elizabeth F.

**1989 The Akulmiut: territorial dimensions of a Yup'ik Eskimo society.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes the land and resource uses of residents of the inland tundra region between the Yukon and Kuskokwim rivers of western Alaska during the 19th and 20th centuries. Using data collected at Nunapitchuk, one of three communities in the area, the seasonal round of resource harvesting and settlement patterns are described for both the historical and contemporary periods. Harvest data, socioeconomic data, and geographic areas used for harvesting fish and wildlife during 1983 are included. A discussion of historical and contemporary influences affecting land use and subsistence pursuits provides a means for understanding the continuity and changes in fish and wildlife uses in this area.

**KEYWORDS:****NOTES:**

Andrews, Elizabeth F.

**1989 Low-profile subsistence fishery: pike fishing in Minto Flats, Alaska.** Arctic 42(4):357-361.

**ABSTRACT:**

**KEYWORDS:** Alaska, economic conditions, fishery resources, commercial, recreational

**NOTES:**

Andrews, Elizabeth F., and Daniel E. Albrecht

**1992 Participation in and contributions to fisheries management by Alaskan tribal groups: Case examples from the salmon fisheries of the Yukon and Kuskokwim rivers.** *In* The American Fisheries Society 122nd Annual Meeting. Rapid City, South Dakota.

**ABSTRACT:** Tribal groups in Alaska, with one exception, are subject to state jurisdiction over fisheries and no tribally-controlled fisheries exist. Native of tribal groups must comply with state regulations when fishing in state waters. This paper explores two cases in which tribal groups, other non-Native users, and state fishery regulation of salmon fisheries on the Yukon and Kuskokwim rivers. The paper discusses the relative effectiveness of these organizations in the state regulatory and fishery policy process, and in re-thinking the management of local fisheries. It is shown that even without direct authority over state regulation and management, through joint management organizations, some tribal groups are achieving participation in and contributing to salmon fisheries management within the context and with the support of centralized state authority.

**KEYWORDS:****NOTES:**

Andrews, Elizabeth F., and Michael W. Coffing

**1986 Kuskokwim River subsistence Chinook fisheries: an overview.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes the subsistence Chinook (king) salmon fisheries along the Kuskokwim River in terms of geographic location, seasonality, methods and means, and harvest trends since 1960. A case example describing Chinook salmon fishing patterns in 1986 in the Lower Kuskokwim community of Kwethluk is also included.

**KEYWORDS:**

**NOTES:**

Andrews, Elizabeth F., and Kathryn Koutsky

**1976 Ethnohistory of the Kaltag Portage, West Central Alaska.** First Conference on Scientific Research in the National Parks, New Orleans, LA, 1976. Vol. 2, pp. 921-924. National Park Service and American Institute of Biological Sciences.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Andrews, Elizabeth F., and Rebecca K. Napoleon

**1985 Moose hunting in the Minto Flats Management Area by Minto permit holders, 1984-85.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes moose hunting activities by residents of Minto who participated in the Minto Flats Management Area permit moose hunt during the 1984-1985 season. Information is presented on historical and contemporary moose hunting methods, harvest levels, hunting party compositions, characteristics of permit holders, and costs of hunting.

**KEYWORDS:**

**NOTES:**

Andrews, Elizabeth F., and Raymond Peterson

**1983 Wild resource use of the Tuluksak River drainage by residents of Tuluksak, 1980-1983.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report documents contemporary (1980-1983) wild resource use in the Tuluksak River drainage by Tuluksak residents. It identifies which wild resources are used, the scheduling of harvest activities, and the location of use areas.

**KEYWORDS:**

**NOTES:**

Andrews, Elizabeth F., and Jeff W. Stokes

**1984 An overview of the Upper Kuskokwim Controlled Use Area and the use of moose by area residents, 1981-1984.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** Summary information is presented on moose hunting and harvests in the Upper Kuskokwim Controlled Use Area for the 1981-1984 hunting seasons.

**KEYWORDS:**

**NOTES:**

Anthony, Katey Walter

**2009 Methane: A Menace Surfaces.** Scientific American Magazine 301(6):68-75.

**ABSTRACT:** Touchdown on the gravel runway at Cherskii in remote northeastern Siberia sent the steel toe of a rubber boot into my buttocks. The shoe had sprung free from gear stuffed between me and my three colleagues packed into a tiny prop plane. This was the last leg of my research team's five-day journey from the University of Alaska Fairbanks across Russia to the Northeast Science Station in the land of a million lakes, which we were revisiting as part of our ongoing efforts to monitor a stirring giant that could greatly speed up global warming. These

expeditions help us to understand how much of the perennially frozen ground, known as permafrost, in Siberia and across the Arctic is thawing, or close to thawing, and how much methane the process could generate. The question grips us—and many scientists and policy makers—because methane is a potent greenhouse gas, packing 25 times more heating power, molecule for molecule, than carbon dioxide. If the permafrost thaws rapidly because of global warming worldwide, the planet could get hotter more quickly than most models now predict. Our data, combined with complementary analyses by others, are revealing troubling trends.

**KEYWORDS:** Climate change; methane;

**NOTES:**

Apatiki, Edna S.

**1985 Subsistence Activities of Gambell Hunters.** Nome, Alaska: Eskimo Walrus Commission.

**ABSTRACT:** Report on field research, April 16 - December 31, 1984

**KEYWORDS:**

**NOTES:**

Apatiki, Edna S.

**1985 Subsistence Activities of Gambell Hunters.** Nome, Alaska: Eskimo Walrus Commission.

**ABSTRACT:** Report on field research, April 16 - December 31, 1984

**KEYWORDS:**

**NOTES:**

Arctic Observing Network (AON)

**2009 Arctic Observing Network (AON): Program status report - 2009.** Third AON Principal Investigators (PI) Meeting, Boulder, CO, 2009, pp. 170. National Science Foundation.

**ABSTRACT:** The third Arctic Observing Network (AON) PI meeting provided an opportunity to review observing system status and accomplishments at the close of the International Polar Year (IPY) 2007–2009 and to develop recommendations for refining, enhancing and sustaining the network in the years to come. Sponsored primarily by the National Science Foundation, with additional support from the National Oceanic and Atmospheric Administration and several other agencies, the AON included over 40 projects at the start of 2010. Meeting participants included AON investigators, agency representatives, international partners, and outside experts familiar with observing system implementation. Project status summaries in the Appendix of this report provide an overview of scientific accomplishments, linkages, and plans for the coming years.

**KEYWORDS:**

**NOTES:** "For all of these emerging issues, environmental changes already are manifest and likely to increase. Human impacts could be expected across a range of economic activity, infrastructure, employment, migration, transportation, health and subsistence indicators. Observing systems exist in scattered form needing integration for some of these indicators (such as migration, transportation, fisheries, some aspects of health), but are very weak for others (particularly subsistence). With coordination of scattered existing data plus new observations, integrated, empirical studies are possible and needed. Such studies will contribute not only to better understanding of human impacts and feedbacks, but also to the prospects for adaptive steps and more sustainable Arctic communities." (p. 19)

"The SEARCH Implementation Plan identified the following arenas of human activity likely to involve climate-human interactions: (1) subsistence hunting; (2) tourism; (3) resource development and marine transportation; and, (4) commercial fishing. This project seeks to

develop and assess data sets in these four areas." (p. 147)

"There is no existing network of comprehensive harvest studies in arctic North America." (p. 148)

"The forthcoming Arctic Social Indicators report will identify subsistence harvest and consumption as one of a few primary arctic social indicators." (p. 148)

"Recommendation: International pilot testing of targeted harvest surveys in collaboration with participating communities. Foster development of the approach as part of a community-based observation network." (p. 148)

The work of the Arctic Observation Network Social Indicators Project and ASI has, by design, converged. We are both using the same six dimensions to describe social outcomes (or in ASI terminology, human development). It has become clear to both groups that there are critical gaps in the existing Arctic Observation Network. The most critical gap is the lack of current and ongoing observation of subsistence resource harvests, particularly in Alaska and Canada. It is equally clear that the gap in resource harvests can only be filled through primary data collection. Less clear is how best to measure the dimensions of fate control and cultural integrity. Testing of alternative measures, including those requiring primary data collection, is required. Even education and..." (p. 148).

Arctic Research Consortium of the U.S.

**2011 Synthesis report of local meetings: Western Alaska Landscape Conservation Cooperative.** Pp. 46. Fairbanks, Alaska: Arctic Research Consortium of the U.S.

**ABSTRACT:** The Western Alaska Landscape Conservation Cooperative (LCC), one of five LCCs in progress or planned for Alaska, was recently launched in 2010 in an early pilot stage. The Western AK LCC will share expertise and capacity to achieve common landscape conservation goals. The LCC will bring together federal, state, tribal, and local governments, academia, and other partners to develop tools, synthesize information, and provide a forum for collaboration to land and resource managers to understand and respond to climate change. One of the first activities of the Western AK LCC was to convene a series of local meetings throughout the region to gather input on LCC directions. This report summarizes common themes and suggestions for the LCC that emerged from the local meetings.

**KEYWORDS:** planning

**NOTES:** "Subsistence use of landscape resources is a critical issue throughout Western Alaska, and meeting participants noted the need for more information on subsistence patterns, as well as better information on how the distribution and abundance of subsistence species may change in the future. Specific information needs include potential changes in travel distances for subsistence harvest and adaptation of subsistence patterns to changes in species." (p 4)

Arctic Social Indicators

**2010 Arctic Social Indicators.** Copenhagen: Nordic Council of Ministers.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Arnold, RD, and AN Foundation

**1976 Alaska Native land claims:** Alaska Native Foundation.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Arnold, Scott M., Randall L. Zarnke, Tracey V. Lynn, Marc-Andre R. Chimonas, and Adrian Frank  
**2006 Public health evaluation of cadmium concentrations in liver and kidney of moose (*Alces alces*) from four areas of Alaska.** *Science of The Total Environment* 357(1-3):103-111.

**ABSTRACT:** Liver and/or kidney samples were collected from 139 hunter-killed moose from four areas of Alaska during 1986. The concentration of cadmium in organ tissue was determined by direct-current plasma atomic emission spectrometry. All results are reported as [mu]g/g wet weight. Concentrations of cadmium in liver ranged from 0.06 [mu]g/g to 9.0 [mu]g/g; in the kidney cortex they ranged from 0.10 [mu]g/g to 65.7 [mu]g/g. Cadmium levels were significantly associated with location and age. The highest geometric mean liver (2.11 [mu]g/g) and kidney cortex (20.2 [mu]g/g) cadmium concentrations were detected in moose harvested near Galena, Alaska. Limited dietary information from Alaska and Canada indicates that the intake of moose liver or kidney does not exceed, in most individuals, the World Health Organization recommendations for weekly cadmium consumption of 400 [mu]g to 500 [mu]g. Additionally, human biomonitoring data from Canada and Alaska indicate exposure to cadmium is low except for individuals who smoke cigarettes. Given the nutritional and cultural value of subsistence foods, the Alaska Division of Public Health continues to support the consumption of moose liver and kidney as part of a well-balanced diet. Human biomonitoring studies are needed in Alaska to determine actual cadmium exposure in populations with a lifelong history of moose liver and kidney consumption.

**KEYWORDS:** Moose

Cadmium

Liver

Kidney

Alaska

Public health evaluation

Biomonitoring

**NOTES:**

Arscott, D. B., W. B. Bowden, and J. C. Finlay

**1998 Comparison of epilithic algal and bryophyte metabolism in an arctic tundra stream, Alaska.** *Journal of the North American Benthological Society* 17(2):210-227.

**ABSTRACT:** Phosphorus has been added to a reach of the Kuparuk River Alaska, from late June to mid August every year since 1983. The P-fertilized reach of the river is now extensively colonized by 2 bryophytes (*Schistidium agassizii* and *Hygrohypnum* spp.), whereas only *S. agassizii* is common in unfertilized reaches of the river. We compared photosynthesis rates of epilithic algae, *S. agassizii*, and *Hygrohypnum* spp. under reference and P-enriched conditions to extend our long-term records of bryophyte dynamics within the fertilized reach and to describe the physiological differences between major primary producers. Rates of primary production were determined from changes in dissolved oxygen concentration during light and dark incubations of algal and bryophyte samples in closed chambers. Net primary productivity per unit total chlorophyll a (CHL, a) was greater for epilithic algae (2.0-6.0 mg O<sub>2</sub> mg<sup>-1</sup> CHL t a h<sup>-1</sup>) than for bryophytes (0.2-1.7 mg O<sub>2</sub> mg<sup>-1</sup> CHL t a h<sup>-1</sup>). However, the greater biomass of the bryophyte community in the fertilized reach yielded area-specific productivity rates for *Hygrohypnum* spp. that were 2 to 4 times greater than areal rates of epilithic algal productivity. Bryophytes accounted for 80% of primary production in P-fertilized reaches but only 9% in reference reaches. Thus, increased bryophyte abundance in response to P increased total net primary production from 2.3 g C/h to 6.3 g C/h. Photosynthesis-irradiance (PI) parameters obtained by fitting data to a hyperbolic tangent model differed between bryophyte species, between reference and fertilized stream reaches, and over the season. Differences in PI relationships between *S. agassizii* and *Hygrohypnum* spp. suggest that they use different life strategies (subsistence vs opportunism respectively) to exist in the arctic environment.

**KEYWORDS:****NOTES:** Times Cited: 20

Art Patterson Associates, and Carl Ahwinona

**1980 Use and dependence upon walrus in the Bering Straits and Norton Sound areas.**  
 Pp. 37. Nome, Alaska: Eskimo Walrus Commission, Kawerak Inc.

**ABSTRACT:****KEYWORDS:** walrus, subsistence, hunting, marine mammals,

**NOTES:** Summarizes historical walrus harvest reports from ADF&G. Includes harvest reports collected from 8 households, hunting costs from 16 households. Ahwinona's initial report at end of paper notes that most respondents were reluctant to complete the questionnaires.

Art Patterson Associates, and Carl Ahwinona

**1980 Use and dependence upon walrus in the Bering Straits and Norton Sound areas.**  
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**ABSTRACT:****KEYWORDS:** walrus, subsistence, hunting, marine mammals,

**NOTES:** Summarizes historical walrus harvest reports from ADF&G. Includes harvest reports collected from 8 households, hunting costs from 16 households. Ahwinona's initial report at end of paper notes that most respondents were reluctant to complete the questionnaires.

Arundale, Wendy H.

**1983 Historic Inupiat adaptation on the upper Meade River and Chipp-Ikpikpuk River system, Northwest Alaska.** *In* Annual Meeting of the Society For American Archaeology. Pp. 1-14. Pittsburgh, Pennsylvania.

**ABSTRACT:****KEYWORDS:****NOTES:** Missing page 6

Ashjian, Carin J., Stephen R. Braund, Robert G. Campbell, J.C. "Craig" George, Jack Kruse, Wieslaw Maslowski, Sue E. Moore, Craig R. Nicolson, Stephen R. Okkonen, Barry F. Sherr, Evelyn B. Sherr, and Yvette H. Spitz

**2010 Climate Variability, Oceanography, Bowhead Whale Distribution, and Iñupiat Subsistence Whaling near Barrow, Alaska.** *Arctic* 63(2):179-194.

**ABSTRACT:** The annual migration of bowhead whales *Balaena mysticetus* past Barrow, Alaska, has provided subsistence hunting to Iñupiat for centuries. Bowheads recurrently feed on aggregations of zooplankton prey near Barrow in autumn. The mechanisms that form these aggregations, and the associations between whales and oceanography, were investigated using field sampling, retrospective analysis, and traditional knowledge interviews. Oceanographic and aerial surveys were conducted near Barrow during August and September in 2005 and 2006. Multiple water masses were observed, and close coupling between water mass type and biological characteristics was noted. Short-term variability in hydrography was associated with changes in wind speed and direction that profoundly affected plankton taxonomic composition. Aggregations of ca. 50–100 bowhead whales were observed in early September of both years at locations consistent with traditional knowledge. Retrospective analyses of records for 1984–2004 also showed that annual aggregations of whales near Barrow were associated with wind speed and direction. Euphausiids and copepods appear to be upwelled onto the Beaufort Sea shelf during E or SE winds. A favorable feeding environment is produced when these plankton are retained and concentrated on the shelf by the prevailing westward Beaufort Sea shelf currents

that converge with the Alaska Coastal Current flowing to the northeast along the eastern edge of Barrow Canyon.

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Axelrod, Robert, and D. Dion

**1988 The further evolution of cooperation.** Science 242(4884):1385-1390.

**ABSTRACT:** Axelrod's model of the evolution of cooperation was based on the iterated Prisoner's Dilemma. Empirical work following this approach has helped establish the prevalence of cooperation based on reciprocity. Theoretical work has led to a deeper understanding of the role of other factors in the evolution of cooperation: the number of players, the range of possible choices, variation in the payoff structure, noise, the shadow of the future, population dynamics, and population structure.

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Axelrod, Robert, and W.D. Hamilton

**1981 The evolution of cooperation.** Science 211:1390-1396.

**ABSTRACT:** Cooperation in organisms, whether bacteria or primates, has been a difficulty for evolutionary theory since Darwin. On the assumption that interactions between pairs of individuals occur on a probabilistic basis, a model is developed based on the concept of an evolutionarily stable strategy in the context of the Prisoner's Dilemma game. Deductions from the model, and the results of a computer tournament show how cooperation based on reciprocity can get started in an asocial world, can thrive while interacting with a wide range of other



strategies, and can resist invasion once fully established. Potential applications include specific aspects of territoriality, mating, and disease.

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Axelrod, Robert M.

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**KEYWORDS:** Cognition.; Choice (Psychology)

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**KEYWORDS:** Public administration Decision making.; Choice (Psychology); Cognitive maps (Psychology)

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**KEYWORDS:** Cooperativeness.; Prisoner's dilemma game.; Games of strategy (Mathematics); Conflict management.; Egoism.; Consensus (Social sciences); Social interaction.

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**KEYWORDS:** Cooperativeness.; Social groups.; Social psychology.; Prisoner's dilemma game.; Games of strategy (Mathematics); Conflict management.; Egoism.; Consensus (Social sciences); Social interaction.; Cooperación (Psicología); Dilema del prisionero; Juego.; Juegos de estrategia (Matemáticas); Solución de conflictos.; Egoísmo.; Consenso (Ciencias sociales); Interacción social.

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**2007 The Bering Sea--A dynamic food web perspective.** Deep Sea Research Part II: Topical Studies in Oceanography 54(23-26):2501-2525.

**ABSTRACT:** The Bering Sea is a high-latitude, semi-enclosed sea that supports extensive fish, seabird, marine mammal, and invertebrate populations and some of the world's most productive fisheries. The region consists of several distinct biomes that have undergone wide-scale population variation, in part due to fisheries, but also in part due to the effects of interannual and decadal-scale climatic variation. While recent decades of ocean observation have highlighted possible links between climate and species fluctuations, mechanisms linking climate and population fluctuations are only beginning to be understood. Here, we examine the food webs of Bering Sea ecosystems with particular reference to some key shifts in widely distributed, abundant fish populations and their links with climate variation. Both climate variability and fisheries have substantially altered the Bering Sea ecosystem in the past, but their relative importance in shaping the current ecosystem state remains uncertain.

**KEYWORDS:** Bering Sea, Climate variability, Ecosystem structure, Ecosystem function, Fish, Productivity

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Baden, John, Richard Stroup, and Walter Thurman

**1981 Myths, admonitions and rationality: The American Indian as a resource manager.** Economic Inquiry 19(1):132-143.

**ABSTRACT:** As concern over natural resource management has increased, modern societies have been warned that a new, less materialistic ethic will be required for man's survival. The American Indian cultures have been prominent among the ideals mentioned. This paper puts forth and cites evidence to support the economic arguments that incentives matter most. Ethical considerations are important to the extent that they influence institutions, which are crucial in determining incentives. Indian use of private property rights, and the problems caused when that solution was impractical, are featured.

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**2011 An Empty Donut Hole: the Great Collapse of a North American Fishery.** Ecology and Society 16(2):28-28.

**ABSTRACT:** Walleye pollock (*Theragra chalcogramma*) is North America's most abundant and lucrative natural fishery, and is the world's largest fishery for human food. The little-known demise of the "Donut Hole" stock of pollock in the Aleutian Basin of the central Bering Sea during the 1980s is the most spectacular fishery collapse in North American history, dwarfing the famous crashes of the northern cod and Pacific sardine (*Sardinops sagax*). This collapse has received scant recognition and became evident only in 1993 when fishing was banned by an international moratorium; nearly 20 years later it has not recovered. The history of fishing in the North Pacific Ocean after World War II offers some insights into how the Donut Hole pollock fishery developed, and the societal and economic pressures behind it that so influenced the stock's fate. Overfishing was, without a doubt, the greatest contributor to the collapse of the Aleutian Basin pollock fishery, but a lack of knowledge about population biocomplexity added to the confusion of how to best manage the harvest. Unfortunately, the big scientific questions regarding the relationship of Donut Hole fish to other stocks are still unanswered.

**KEYWORDS:** Aleutian Basin

Bering Sea  
 commercial fisheries  
 conservation  
 North  
 Pacific  
 Theragra chalcogramma  
 walleye pollock  
 bering-sea pollock  
 stock structure  
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**1969 Nutritional survey of northern Eskimo infants and children.** American Journal of Clinical Nutrition 22(5):612-616.

**ABSTRACT:** The culture of Alaskan Eskimos has changed in several ways in recent decades. The introduction of new feeding practices, housing, occupations, and diseases has had an impact on many facets of life in Alaska and North Canada. Anthropometric and nutritional surveys in Alaska have been concerned for the most part with adults and older children. No reports of serum protein levels and lipid components in young Eskimo children are available. Such studies may reveal information about the general nutritional status of these infants and children. Breast feeding is uncommon except in remote villages. When available, evaporated milk formulas are fed to Eskimo infants. The infants reported in this study resided in or near Nome, Alaska (population about 2,300) and with one exception had received evaporated milk from birth. Some estimate of nutritional status is possible from measurement of height, weight, hematocrit, serum protein, and serum lipid components. These data have been compared with information available from other geographic areas and other ethnic groups.

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Balestrery, Jean Emily

**2010 The Bureaucratic Iditarod: Navigating the Terrain of Social Policy and Research in Alaska and Beyond.** Journal of Policy Practice 9(2):132-153.

**ABSTRACT:** This article explores the terrain of navigating the nexus of social policy and research with Alaska Natives serving as a case example in context of a larger sociohistorical

framework. This article begins by discussing the global sociohistorical background of research with indigenous, Native communities in context of European colonization followed by a discussion of seminal research studies marked by Eurocentric colonizing practices. It also identifies a "people-policy-methods" confusion associated with conducting research with Alaska Natives in Alaska and beyond. Next, this article constructs three decision pathways with potential outcomes the researcher may choose in response to a "people-policy-methods" confusion: (1) Calling It Quits; (2) Gatekeeping the Gatekeepers; and (3) Making the Best Next Move and asserts that Making the Best Next Move is the more ethical decision pathway in the research enterprise. This article concludes with recommendations on navigating the terrain of social policy and research in Alaska and beyond.

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Ballew, Carol, Angela Ross, Rebecca S. Wells, Vanessa Hiratsuka, Kari J. Hamrick, Elizabeth D. Nobmann, and Scott Bartell

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Ballew, Carol, Angela Ross Tzilkowski, Kari J. Hamrick, and Elizabeth D. Nobmann

**2006 The contribution of subsistence foods to the total diet of Alaska natives in 13 rural communities.** Ecology of Food and Nutrition 45(1):1-26.

**ABSTRACT:** The goal of this study was to describe the use of subsistence and purchased foods by residents of rural Alaska villages. Interviewers administered food frequency questionnaires referring to the previous 12 months to 665 participants between the ages of 13 and 88 years in 13 villages in three ecological zones of Alaska. Participants reported consuming a wide variety of subsistence foods, in some cases in large quantities, including salmon, other fish, moose, caribou, and a wide variety of plant foods. Subsistence foods were dense in protein, iron, vitamin A, vitamin B12, and omega-3 fatty acids. Participants also reported consuming purchased staples and sugared beverages.

**KEYWORDS:** Alaska native; diet; nutrition; subsistence; nutrient

**NOTES:** "This table emphasizes both the very wide range of subsistence foods consumed in appreciable quantities, and the very large amounts of some foods consumed by some people. By definition, half of the participants consumed less than the median, and in fact some consumed none of a given food. Half of the participants consumed more, in some cases very much more, than the median amount. Some participants reported eating the equivalent of several pounds per day of some subsistence foods. Although some of these estimated intakes are high, they are plausible in rural subsistence communities." (p.12)

"In four of the five regions, subsistence foods accounted for approximately 20% of total energy intake, but they accounted for 40% or more of the protein consumed in all regions, 40% or more of the vitamin A consumed in four regions, 75% or more of the vitamin B12 consumed in all regions, and more than 90% of the omega-3 fatty acids consumed in all regions. This indicates that subsistence foods are dense sources of these nutrients." (p. 16-17)

"Our study confirms previous reports that subsistence foods make up a large proportion of total diet of Alaska Natives living in rural villages. We were not able to quantify the economic balance of subsistence relative to purchased foods but this is a serious issue for many rural residents who do not have large or predictable cash incomes. In villages that have local stores, food stocks are limited, unpredictable, may be of poor quality, and are very expensive. A few small

rural villages do not have stores and residents must travel to purchase food. In addition to providing food, many subsistence species are essential for producing cash income by yielding raw materials such as bone, antler, leather, and fur for marketable crafts." (p.21)

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Bane, Ray G., and Richard K. Nelson

**1977 Preliminary report, subsistence activities, proposed Gates of the Arctic National Park.** Pp. 1-28.

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**NOTES:** p. 28: "The division of rural Alaska lands among private, corporate, state, and federal agencies has fragmented active subsistence zones. To date, no concerted effort has been made to coordinate land and resource management among these diverse interests. Within the Gates of the Arctic region, this includes private individuals, village corporations, Native regional corporations, the State of Alaska, the Fish and Wildlife Service, the Bureau of Outdoor Recreation, the National Forest Service, and the Bureau of Land Management. Unless all concerned land managers and users find ways to cooperate and coordinate policies, it is likely that the original inhabitants of this land, the subsistence users, will be most adversely affected."

Bang, H. O., J. Dyerberg, and H. M. Sinclair

**1980 The composition of the Eskimo food in north western Greenland.** American Journal of Clinical Nutrition 33(12):2657-2661.

**ABSTRACT:** In the winter of 1976 an examination of the composition of Eskimo food was carried out in north western Greenland. Duplicate specimens of diets collected from 50 adults, equal numbers of males and females, were analyzed for water, ash, protein, fat, individual fatty acids, cholesterol, and carbohydrate. The results are compared with those of typical Danish diets. Seal and the fish are predominant Eskimo food. Marked differences between Eskimo and Danish food were found. The Eskimo diets were richer in polyunsaturated fatty acids, the ratio to saturated fatty acids was 0.84 as compared with 0.24 in Danes. The polyunsaturated fatty acids were predominantly of the linolenic class (n-3) in Eskimos and the linoleic class (n-6) in Danes. Monoenes other than palmitoleic and oleic acids were high in Eskimo diets, but negligible in Danish. The results are related to previous examinations of the plasma lipids in Eskimos. The rarity of ischemic heart disease in Greenland Eskimos may partly be explained by the antithrombotic effect of the long-chained polyunsaturated fatty acids, especially eicosapentaenoic acid prevalent in diets rich in marine oils.

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Barabási, A. L.

**2005 The origin of bursts and heavy tails in human dynamics.** *Nature* 435(7039):207-211.

**ABSTRACT:** The dynamics of many social, technological and economic phenomena are driven by individual human actions, turning the quantitative understanding of human behavior into a central question of modern science. Current models of human dynamics, used from risk assessment to communications, assume that human actions are randomly distributed in time and thus well approximated by Poisson processes. In contrast, there is increasing evidence that the timing of many human activities, ranging from communication to entertainment and work patterns, follow non-Poisson statistics, characterized by bursts of rapidly occurring events separated by long periods of inactivity. Here we show that the bursty nature of human behavior is a consequence of a decision based queuing process [9, 10]: when individuals execute tasks based on some perceived priority, the timing of the tasks will be heavy tailed, most tasks being rapidly executed, while a few experience very long waiting times. In contrast, priority blind execution is well approximated by uniform interevent statistics. These findings have important implications from resource management to service allocation in both communications and retail.

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**1980 Eskimos on trial: Adaptation, interethnic relations, and social control in the Canadian North.** *Human Organization* 39(3):242-249.**ABSTRACT:****KEYWORDS:**

**NOTES:** p.242: "In the fall of 1970, Quebec authorities arranged for a provincial summary court in Montreal to be held in Nordic Quebec, in the town of Great Whale River (Poste-de-la-Baleine). Seven Inuit (Eskimos) and one White were tried for various violations of Eurocanadian law. In previous legal cases, individuals in the northern regions of Quebec who were charged with serious legal infractions had been taken out to Montreal for trial. Several government officials regarded the convening of a court in Great Whale as an experiment to educate the local Inuit and Cree Indians about the Eurocanadian legal system. The trials were the initial demonstration of the dominant society's system of social control to an indigenous and subordinate subpopulation, and they thus constituted an attempt at directed culture change."

Baring-Gould, Michael, and John A. Kruse

**1985 Utilization of public hearing testimony and the preparation of data on subsistence systems on the North Slope.** *In* Industrial Development and Coastal Community Change Section, Alaska Anthropological Association Meeting. Pp. 1-13. Anchorage, Alaska.**ABSTRACT:****KEYWORDS:****NOTES:**

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**1982 The economics of a traditional coastal Indian salmon fishery.** *Human Organization* 41(2):170-184.**ABSTRACT:****KEYWORDS:****NOTES:**

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**2005 Estimation of traditional food intake in indigenous communities in Denendeh and the Yukon.** International Journal of Circumpolar Health 64(1):46-54.

**ABSTRACT:** OBJECTIVES: Chronic non-communicable diseases related to excessive or unbalanced dietary intakes are on the rise among some Indigenous populations in Canada. Nutritional problems of Indigenous peoples arise in the transition from a traditional diet to a market diet characterized by highly processed foods with reduced nutrient density. This study aimed at assessing traditional food intake of Indigenous people in 18 communities. STUDY DESIGN: This study was cross-sectional with a sample size of 1,356. METHODS: This study used food frequency and 24-hour recall questionnaires to quantify traditional food intake in 18 communities in the McKenzie basin of the Northwest Territories (Denendeh and the Yukon). RESULTS: Typical daily intakes of groups of traditional food items were generated and intake of an extensive list of traditional food detailed for adult men and women. Per capita intake of traditional food items was also calculated. CONCLUSION: Reliance on traditional food intake is still high in Denendeh, as well as in the Yukon. The detailed description of the traditional food system presented here allows an accurate identification of the contribution of traditional food items to nutrient and contaminant intake by Indigenous people for future studies.

**KEYWORDS:** Animals

Cross-Sectional Studies

Diet

Energy Metabolism

Female

Food Habits/ ethnology

Humans

Male

Meat

Multicenter Studies as Topic

Northwest Territories

Nutrition Surveys

Nutritional Requirements

Nutritional Status

Population Groups

Questionnaires

Residence Characteristics

Seafood

Vegetables

Yukon Territory

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Gray-Donald, Katherine

Kuhnlein, Harriet V



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**ABSTRACT:**

**KEYWORDS:** Reindeer; caribou; subsistence; law; minority rights

**NOTES:** "With increasing population growth, discovery of oil in northern regions and increasing conflict over northern resources, herding law, 50- called subsistence law and Native minority policies evolve rapidly along paths blazed by their fundamental, though often conflicting, premises. For this reason reindeer herding and caribou hunting along with their accompanying forms of legislation provide fertile ground for the comparative study of Native minority rights in the north and raise points of principle highly significant to the study of minority rights in general." (p. 3)

"In Alaska, the right to own reindeer and hold a permit to grazing lands rests solely with Natives of the state as prescribed by the Reindeer Act of 1937. This right extends not only to private, individual Natives, but also to the Native Village Corporations and the Native Regional Corporations established by ANCSA in 1971." (p. 5)

"Whatever the reasons for its origin, the Reindeer Act of 1937 stands as an example of a Native-based resource right without any phase-out clause.. For those who believe in the right of Natives to have such a right, the Act itself may be worth more than all the reindeer in Alaska." (p. 17)

"Were the Saami in Sweden to achieve herding rights similar to those granted Alaskan Natives in the Reindeer Act of 1937, it would be considered a major victory of enormous implications for the Saami culture. In the case of the Alaskan Natives, the fight for Native rights is currently being fought on other battlefields. The Reindeer Act receives scant attention. Instead, the parties concerned are concentrating almost exclusively on modification of ANCSA's unfolding provisions, recognition of IRA Councils and subsistence rights. Given the different contexts of reindeer herding in Alaska and Sweden, this state of affairs is quite understandable. In Alaska, it is subsistence legislation over hunting and fishing, with its emphasis on traditional resource utilization, which most closely parallels in ideology and cultural impact the Swedish Reindeer Act

of 1971." (p. 17)

Beach, Hugh

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**ABSTRACT:**

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Bechtol, William R., and Gordon H. Kruse

**2009 Analysis of a stock–recruit relationship for red king crab off Kodiak Island, Alaska.** *Marine and Coastal Fisheries* 1(1):29-44.

**ABSTRACT:** Waters of the northern Gulf of Alaska around Kodiak Island once supported the world's largest fishery for the red king crab *Paralithodes camtschaticus*. Commercial fisheries

began at low levels in the 1930s, increasing rapidly in the 1960s to a peak harvest of 42,800 metric tons in 1965. Stock abundance declined sharply in the late 1960s, moderated in the 1970s, and crashed in the early 1980s. A commercial fishery closure since 1983 has not resulted in stock recovery. To improve understanding of stock dynamics, we examined spawner?recruit (S-R) relationships for the Kodiak red king crab stock. The shape of the S-R relationship helps describe average stock productivity at different stock levels, thus relating directly to fishery management objectives. Due to limited female data, we used only male data and two currencies of male abundance as a proxy for spawners: either (1) all males greater than or equal to 125 mm carapace length (CL) or (2) legal males ( $\geq 145$  mm CL). Due to age uncertainty, we considered lag times of 5 to 8 years between reproduction and recruitment. Residuals from fitting a standard Ricker model were strongly negative for brood years from the mid-1970s to the mid-1980s and positive from the early to mid-1990s. A Ricker model with autocorrelated errors resulted in better fits with corrected Akaike's information criterion (AIC c ) values minimized for a 5-year lag using all males. Among model configurations, estimates of peak production ranged from 2.0 to 3.4 million recruits from a range of 11.3 to 37.7 million males. A model separating the time series into three productivity periods corresponding to different ecological regimes further improved model fit. Although abundances of both spawners and recruits have been less than 1.0 million males since 1985, depensation at low stock sizes was not detected. Future analyses will examine the contribution of ecological and environmental factors to crab recruitment.

**KEYWORDS:** red king crab, kodiak Island, commercial fishing, stock, abundance

**NOTES:**

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**2009 Analysis of a stock–recruit relationship for red king crab off Kodiak Island, Alaska.** Marine and Coastal Fisheries 1(1):29-44.

**ABSTRACT:** Waters of the northern Gulf of Alaska around Kodiak Island once supported the world's largest fishery for the red king crab *Paralithodes camtschaticus*. Commercial fisheries began at low levels in the 1930s, increasing rapidly in the 1960s to a peak harvest of 42,800 metric tons in 1965. Stock abundance declined sharply in the late 1960s, moderated in the 1970s, and crashed in the early 1980s. A commercial fishery closure since 1983 has not resulted in stock recovery. To improve understanding of stock dynamics, we examined spawner?recruit (S-R) relationships for the Kodiak red king crab stock. The shape of the S-R relationship helps describe average stock productivity at different stock levels, thus relating directly to fishery management objectives. Due to limited female data, we used only male data and two currencies of male abundance as a proxy for spawners: either (1) all males greater than or equal to 125 mm carapace length (CL) or (2) legal males ( $\geq 145$  mm CL). Due to age uncertainty, we considered lag times of 5 to 8 years between reproduction and recruitment. Residuals from fitting a standard Ricker model were strongly negative for brood years from the mid-1970s to the mid-1980s and positive from the early to mid-1990s. A Ricker model with autocorrelated errors resulted in better fits with corrected Akaike's information criterion (AIC c ) values minimized for a 5-year lag using all males. Among model configurations, estimates of peak production ranged from 2.0 to 3.4 million recruits from a range of 11.3 to 37.7 million males. A model separating the time series into three productivity periods corresponding to different ecological regimes further improved model fit. Although abundances of both spawners and recruits have been less than 1.0 million males since 1985, depensation at low stock sizes was not detected. Future analyses will examine the contribution of ecological and environmental factors to crab recruitment.

**KEYWORDS:** red king crab, kodiak Island, commercial fishing, stock, abundance

**NOTES:**

Bechtol, William R., and Gordon H. Kruse

**2009 Reconstruction of historical abundance and recruitment of red king crab during 1960-2004 around Kodiak, Alaska.** Fisheries Research 100(1):86-98.

**ABSTRACT:** Gulf of Alaska waters around Kodiak Island once supported the world's largest fishery for red king crab, *Paralithodes camtschaticus*. Fishery harvests occurred at low levels beginning in the 1930s, but increased rapidly in the 1960s to a peak harvest of 42,800 mt in 1965. However, stock abundance declined dramatically in the late 1960s, and again in the early 1980s. The history of the fishery included a variety of management measures, such as time and area closures and changes to minimum size limits. Despite these efforts, the stock was ultimately recognized as depleted, and a commercial fishery closure since 1983 has not resulted in a stock recovery. We developed a quantitative retrospective analysis to understand the conditions surrounding the rise, collapse, and continued depleted status of the red king crab stock around Kodiak Island, Alaska. Our approach used a population dynamics model to estimate abundance, recruitment, and fishing and natural mortality over time. The model included three male and four female "stages" and incorporated catch composition data from the fishery (1960-1982), a pot survey (1972-1986), and a trawl survey (1986-2004). Male abundance is estimated for 1960 to 2004, but the available data limit analysis of females to the years 1972 to 2004. During a critical time of fishery development in the late 1960s, a chance period of strong recruitment helped promote the capitalization of this fishery. Very high harvest rates in the late 1960s were not sustainable, likely due to reproductive failure associated with sex ratios skewed toward females following a recruit-driven fishing period in the 1970s. Environmental and ecological changes, associated with a climate regime shift, likely exacerbated these problems.

**KEYWORDS:** crab, king crab, red king crab, stock reconstruction, population dynamics, Kodiak Island, Gulf of Alaska, abundance, recruitment

**NOTES:** "The rapid expansion of the red king crab fishery during the 1960s was associated with greater fishing capacity corresponding to increased participation by full-time crab fishing vessels. These vessels had flowing seawater live tanks and were capable of staying at sea for prolonged periods of time. **As a coincidence, the 1960s expansion occurred during a period of record strong recruitment that sustained a growing fishery for a short period of time. Once recruitment declined in the late 1960s, exploitation rates escalated, sex ratios became skewed toward mature females, and reproduction appears to have been compromised. In the 1970s, a few moderately strong year classes sustained the now recruit-driven fishery until the early 1980s, after which recruitment has failed for more than 20 years.** Despite fishery closure since 1983, the stock has failed to recover. **A climate regime shift in the late 1970s was associated with other ecosystem changes, including an increase in ocean temperatures and increases in the abundance of predatory fishes, such as Pacific cod.** A second regime shift, in the late 1980s, exacerbated impacts to an already depressed crab stock. Given the lag difference between males and females from larval settlement to functional maturity, natural mortality likely has a greater effect on males and further skewed the sex ratio. The combination of low reproductive potential and unfavorable environmental conditions may have contributed to the longstanding depressed status of this stock." (p. 97)

Bechtol, William R., and Gordon H. Kruse

**2009 Reconstruction of historical abundance and recruitment of red king crab during 1960-2004 around Kodiak, Alaska.** Fisheries Research 100(1):86-98.

**ABSTRACT:** Gulf of Alaska waters around Kodiak Island once supported the world's largest fishery for red king crab, *Paralithodes camtschaticus*. Fishery harvests occurred at low levels beginning in the 1930s, but increased rapidly in the 1960s to a peak harvest of 42,800 mt in 1965. However, stock abundance declined dramatically in the late 1960s, and again in the early 1980s. The history of the fishery included a variety of management measures, such as time and area closures and changes to minimum size limits. Despite these efforts, the stock was ultimately recognized as depleted, and a commercial fishery closure since 1983 has not resulted in a stock recovery. We developed a quantitative retrospective analysis to understand the conditions surrounding the rise, collapse, and continued depleted status of the red king crab

stock around Kodiak Island, Alaska. Our approach used a population dynamics model to estimate abundance, recruitment, and fishing and natural mortality over time. The model included three male and four female "stages" and incorporated catch composition data from the fishery (1960-1982), a pot survey (1972-1986), and a trawl survey (1986-2004). Male abundance is estimated for 1960 to 2004, but the available data limit analysis of females to the years 1972 to 2004. During a critical time of fishery development in the late 1960s, a chance period of strong recruitment helped promote the capitalization of this fishery. Very high harvest rates in the late 1960s were not sustainable, likely due to reproductive failure associated with sex ratios skewed toward females following a recruit-driven fishing period in the 1970s. Environmental and ecological changes, associated with a climate regime shift, likely exacerbated these problems.

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**NOTES:** "The rapid expansion of the red king crab fishery during the 1960s was associated with greater fishing capacity corresponding to increased participation by full-time crab fishing vessels. These vessels had flowing seawater live tanks and were capable of staying at sea for prolonged periods of time. **As a coincidence, the 1960s expansion occurred during a period of record strong recruitment that sustained a growing fishery for a short period of time. Once recruitment declined in the late 1960s, exploitation rates escalated, sex ratios became skewed toward mature females, and reproduction appears to have been compromised. In the 1970s, a few moderately strong year classes sustained the now recruit-driven fishery until the early 1980s, after which recruitment has failed for more than 20 years.** Despite fishery closure since 1983, the stock has failed to recover. **A climate regime shift in the late 1970s was associated with other ecosystem changes, including an increase in ocean temperatures and increases in the abundance of predatory fishes, such as Pacific cod.** A second regime shift, in the late 1980s, exacerbated impacts to an already depressed crab stock. Given the lag difference between males and females from larval settlement to functional maturity, natural mortality likely has a greater effect on males and further skewed the sex ratio. The combination of low reproductive potential and unfavorable environmental conditions may have contributed to the longstanding depressed status of this stock." (p. 97)

Becker, GS

**1993 Human capital: A theoretical and empirical analysis, with special reference to education:** University of Chicago Press.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Becker, Gary S.

**1974 A theory of social interactions.** Journal of Political Economy 82(6):1063.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Becker, Gary S.

**1975 Human capital:** National Bureau of Economic Research New York.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Becker, Gary S.

**1976 The economic approach to human behavior:** University of Chicago Press.

**ABSTRACT:**

**KEYWORDS:****NOTES:**

Becker, Gary S.

**1980 Human capital: A theoretical and empirical analysis:** University of Chicago Press Chicago.

**ABSTRACT:****KEYWORDS:****NOTES:**

Becker, G. S.

**1985 Human capital, effort, and the sexual division of labor.** Journal of Labor Economics:33-58.

**ABSTRACT:****KEYWORDS:****NOTES:**

Becker, Gary S.

**1991 A Treatise on the Family:** Harvard University Press.

**ABSTRACT:** PREFACE: In this book I develop an economic or rational choice approach to the family. The title does not refer to economic aspects of the family, however, because most noneconomists and many economists would interpret the qualifier "economic" to indicate that the discussion is confined to the material aspects of family life, to incomes and spending patterns. My intent is more ambitious: to analyze marriage, births, divorce, division of labor in households, prestige, and other nonmaterial behavior with the tools and framework developed for material behavior. That is to say, this book contains an economic approach to the family, not in the sense of an emphasis on the material aspects of family life, but in the sense of a choice-theoretic framework for analyzing many aspects of family life...

**KEYWORDS:****NOTES:**

Becker, G. S.

**1995 Human capital and poverty alleviation:** World Bank, Human Resources Development and Operations Policy.

**ABSTRACT:****KEYWORDS:****NOTES:**

Becker, Gary S.

**1996 The economic way of looking at behavior: the Nobel Lecture:** Hoover Institution on War, Revolution, and Peace, Stanford University.

**ABSTRACT:****KEYWORDS:****NOTES:**

Becker, G. S., and N. Tomes

**1986 Human capital and the rise and fall of families.** Journal of Labor Economics:1-39.

**ABSTRACT:****KEYWORDS:****NOTES:**

Behnke, Steven R.

**1980 Bristol Bay subsistence fisheries: 1980 status report.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report summarizes information concerning the Bristol Bay subsistence fisheries for Pacific salmon, Pacific herring, and freshwater fish species. Evaluation of various demographic and socioeconomic characteristics of permit holders is included, as is an examination of the changes in user group composition over time. The interrelationships between sport, commercial, and subsistence fishing activities in the area and the regulations and policies governing these activities are also discussed.

**KEYWORDS:**

**NOTES:**

Behnke, Steven R.

**1980 Memorandum: status of subsistence fisheries in Bristol Bay.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This Alaska Department of Fish and Game memorandum outlines the importance of various species of fish to Bristol Bay residents. Included is a discussion of the usefulness of the permit survey system for gathering information on the subsistence fishery.

**KEYWORDS:**

**NOTES:**

Behnke, Steven R.

**1980 Naknek River subsistence proposals.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report on the Naknek-King Salmon subsistence fisheries provides information relevant to two regulatory proposals submitted to the Alaska Board of Fisheries in 1980. One proposal would extend the open season from 2 days per week to 3 days per week. The second proposal would limit subsistence fishing to residents of the Naknek River drainage.

**KEYWORDS:**

**NOTES:**

Behnke, Steven R.

**1981 Background: Iliamna-Newhalen subsistence salmon fishery.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report briefly describes the socioeconomic characteristics and resource uses in the Lake Iliamna communities of Iliamna and Newhalen. Resource use information focuses on the preparation of sockeye salmon, one of the major food resources of the area.

**KEYWORDS:**

**NOTES:**

Behnke, Steven R.

**1981 Background: proposed closure of Upper Naknek River to gill net fishing.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report provides information about subsistence fishing in the Upper Naknek River and in Naknek Lake relevant to a regulatory proposal concerning salmon fishing in the area. A brief description of harvest methods and resource processing is included.

**KEYWORDS:**

**NOTES:**

Behnke, Steven R.

**1981 Subsistence use of brown bear in the Bristol Bay Area: a review of available information.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** Based on a literature review, this report presents information on the uses of brown bears for subsistence purposes in the Bristol Bay Region.

**KEYWORDS:**

**NOTES:**

Behnke, Steven R.

**1982 Wildlife utilization and the economy of Nondalton.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report examines the uses of wildlife, particularly caribou and moose, as part of the contemporary economy of Nondalton in the Lake Iliamna Region. The report documents detailed harvest and use activities and describes the interrelationships between subsistence and cash sector economies.

**KEYWORDS:**

**NOTES:**

Behnke, Steven R.

**1996 How Alaska's subsistence law is working: comparing its implementation before and after 1992.** Pp. 1-20. Juneau, Alaska: Steven R. Behnke and Associates.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** A report to the Alaska Department of Fish and Game Division of Subsistence.

This report examines the implementation of Alaska's 1992 subsistence law. It provides background for the Nineteenth Alaska State Legislature as it considers whether to reauthorize the 1992 law before key provisions sunset in October 1996, or to make other changes concerning the subsistence statute. This report updates and extends the analysis that ADF&G prepared for the legislature in January 1995 (Report on Implementation of the 1992 Subsistence Law. Alaska Department of Fish and Game, Division of Subsistence, January 1995).

Beier, C. M., T. M. Patterson, and F. S. Chapin

**2008 Ecosystem services and emergent vulnerability in managed ecosystems: A geospatial decision-support tool.** *Ecosystems* 11(6):923-938.

**ABSTRACT:** Managed ecosystems experience vulnerabilities when ecological resilience declines and key flows of ecosystem services become depleted or lost. Drivers of vulnerability often include local management actions in conjunction with other external, larger-scale factors. To translate these concepts to management applications, we developed a conceptual model of feedbacks linking the provision of ecosystem services, their use by society, and anthropogenic change. From this model we derived a method to integrate existing geodata at relevant scales and in locally meaningful ways to provide decision-support for adaptive management efforts. To demonstrate our approach, we conducted a case study assessment of southeast Alaska, where managers are concerned with sustaining fish and wildlife resources in areas where intensive logging disturbance has occurred. Individual datasets were measured as indicators of one of three criteria: ecological capacity to support fish/wildlife populations (provision); human acquisition of fish/wildlife resources (use); and intensity of logging and related land-use change (disturbance). Relationships among these processes were analyzed using two methods—a watershed approach and a high-resolution raster—to identify where provision, use and disturbance were spatially coupled across the landscape. Our results identified very small focal areas of social-ecological coupling that, based on post-logging dynamics and other converging drivers of change, may indicate vulnerability resulting from depletion of ecosystem services. We envision our approach can be used to narrow down where adaptive management might be most beneficial, allowing practitioners with limited funds to prioritize efforts needed to address uncertainty and mitigate vulnerability in managed ecosystems.



**KEYWORDS:****NOTES:** Times Cited: 6

Bell, R. Raines, H. H. Draper, and J. G. Bergan

**1973 Sucrose, lactose, and glucose tolerance in northern Alaskan Eskimos.** American Journal of Clinical Nutrition 26(11):1185-1190.

**ABSTRACT:** Sucrose tolerance tests were performed on several adult Eskimos who reported a history of intolerance to sweets. Six experienced severe diarrhea and a rise in capillary blood glucose of less than 20 mg/100 ml after a 50-g oral dose of sucrose. The Eskimo apparently exhibits a higher incidence of sucrose intolerance than does any other population tested. This condition may be a significant public health problem among Eskimos, whose consumption of sucrose has increased markedly in recent years. Fasted adults were given 10, 20, or 30 g of lactose orally on consecutive days and evaluated for clinical signs of lactose malabsorption. Children, aged 7 to 14 years, were given a 50-g oral dose of lactose and the increase in capillary blood glucose was measured. Clinical symptoms of lactose malabsorption were present in 65% of the adults and 55% of the children receiving 30 and 50 g of lactose, respectively. Blood glucose levels rose less than 20 mg/100 ml in 70% of the children. Despite the high incidence of lactose malabsorption indicated by these tests, 95% of the adults could consume the lactose in 1 cup of milk without adverse effects, and 96% of the children routinely consumed at least 1 cup of milk a day.

**KEYWORDS:****NOTES:**

Bell, R. Raines, and Christine A. Heller

**1978 Nutrition studies: An appraisal of the modern north Alaskan Eskimo diet.** Eskimos of Northwestern Alaska: A Biological Perspective. Stroudsburg, PA: Dowden, Hutchinson, and Ross:145-158.**ABSTRACT:****KEYWORDS:****NOTES:**

Bell, R. Raines, and Christine A. Heller

**1978 Nutritional studies: an appraisal of the modern northern Alaskan Eskimo diet.** Eskimos of northwestern Alaska: a biological perspective. Dowden, Hutchinson and Ross, Stroudsburg, PA:145-156.**ABSTRACT:****KEYWORDS:****NOTES:**

Bender, Donald R.

**1967 A refinement of the concept of household: Families, co-residence, and domestic functions.** American Anthropologist 69(5):493-504.

**ABSTRACT:** The concepts of "household" and "family" have been given a greater degree of precision in recent years by those scholars who have pointed out that the former is a residence group that carries out domestic functions while the latter is a kinship group. The concept of "household," having been analytically distinguished from that of "family," is still burdened by the inclusion of two social phenomena that are logically distinct and vary somewhat independently: co-residence and domestic functions. Social groups based on affinal and consanguineal relationships, co-residence, and domestic functions—often thought of as aspects of a single social phenomenon labeled by the term "family"—are in fact semi-independent variables.

**KEYWORDS:**

**NOTES:** p.504: "Families (as specific types of kinship structures), co-residence, and domestic functions are three distinct kinds of social phenomena. Hitherto, co-residence and domestic functions have been mistakenly considered as inherent attributes of families. The first major analytical breakthrough came when families were distinguished from households, the former having as their referent kinship, the latter having as their referent presumably propinquity or locality. In fact, this distinction left the job only half done, since the concept of the household, as formulated, included two distinct kinds of groups and domestic functions. While all three very frequently correspond, they also can and do vary independently."

Berardi, G.

**1998 Natural resource policy, unforgiving geographies, and persistent poverty in Alaska Native villages.** *Natural Resources Journal* 38:85.

**ABSTRACT:** This paper presents an analysis regarding the causes of persistent rural poverty in Alaska Native villages. It discusses the background, structure, and function of PL 92-203, the Alaska Native Claims Settlement Act (ANCSA), how the Act undermines Native polities and traditional natural resource utilization, and the Act's consequent contribution to persistent rural village poverty. The principal problem is seen to be difficulties and conflicts in achieving sustainable and equitable economic development under the corporate structure imposed by ANCSA, due to existing constraints of physical geography, biological resource characteristics, and traditions of governance and resource use. The paper augments earlier findings of the Rural Sociological Society's Task Force on Persistent Rural Poverty regarding the obstacles to economic development facing natural resource-dependent communities in rural America, and the need to consider spatial location as a critical factor in explaining rural poverty.

**KEYWORDS:** Alaska Native Claims Settlement Act, ANCSA, poverty, economic development

**NOTES:** "For scores of small and remote Village Alaska communities, almost any economic activity other than subsistence can be done less expensively elsewhere. Goods and services can be imported more cheaply than they can be produced locally. ANCSA's objective that corporations would be formed, capital accumulated, and profits made, has proven untenable for most villages. In many cases, corporate spending has resulted without concomitant sustainable economic development.

"Moreover, subsistence -the principal foundation of the economy and a core part of cultures in much of Village Alaska -is compromised by the ANCSA corporate development and social transformation model. The separation of land resource control from village government produces resource utilization decisions that are not necessarily representative of village interests. Subsistence resources-fish and wildlife and their essential habitats -often suffer most. Their economic and cultural value to a village can be much greater than their market value to the land-owning ANCSA corporation. When corporations capitalize and exploit other resources, the integrity or quality of subsistence resources is sometimes threatened." (P 107)

Berardi, G.

**1999 Schools, settlement, and sanitation in Alaska Native villages.** *Ethnohistory* 46(2):329-359.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Berardi, G.

**2005 Alaska Native Claims Settlement Act (ANCSA)-Whose Settlement Was It-An Overview of Salient Issues, The.** *Journal of Land, Resources, & Environmental Law* 25:131.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Berger, Thomas R.

**1987 Alaska natives: subsistence and self-determination.** *In* Cultural survival quarterly. Pp. 65-69, Vol. 11.

**ABSTRACT:**

**KEYWORDS:** Descriptor: Eskimos -- Alaska -- Government relations.

Eskimos -- Alaska -- Claims.

United States. Alaska Native Claims Settlement Act.

**NOTES:** Using Smart Source Parsing

no. 1, p. ill. Additional Info: Cambridge, Mass

Source of data: Anthropological Literature, Harvard University.

by Thomas R. Berger.

Berkes, Fikret

**1982 Waterfowl management and northern Native peoples with reference to Cree hunters of James Bay.** Musk-ox 30:23-35.

**ABSTRACT:** For years many northern native peoples hunted waterfowl illegally because the Migratory Birds Convention and its enabling Act prohibited spring and summer harvesting. In 1979, a Protocol was signed between the U.S. and Canada contemplating a regulated spring summer hunt by native peoples. This Protocol has not been given the force of law, partly because some believe that legalizing the hunt may endanger bird populations. Managers need information about subsistence harvests which are quite large but little known. But they cannot obtain the cooperation of native groups to monitor harvests as long as the hunt remains legal. The James Bay Agreement (despite problems in implementation) is used as a model to show how the dilemma may be solved and as a test of the virtual legalization of the spring hunt. There has been little change in the size of the Cree kill or in the status of the stocks (except for the problematic brant.) The Cree have a socially-enforced, traditional system for regulation of the goose hunt comprising hunting territories and rules which are designed to minimize disturbance of goose populations. The best management strategy may be to bring native peoples (as well as other user-groups) into the management process. This must involve the legal definition of native resource use rights and responsibilities, subject to a conservation clause. There appears to be little choice but to establish these rights and to act on the Protocol before increasing demands over the resource and user group conflicts make it all but impossible to establish an allocation mechanism that will be basically acceptable to all.

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Berkes, Fikret

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goose hunt comprising hunting territories and rules which are designed to minimize disturbance of goose populations. The best management strategy may be to bring native peoples (as well as other user-groups) into the management process. This must involve the legal definition of native resource use rights and responsibilities, subject to a conservation clause. There appears to be little choice but to establish these rights and to act on the Protocol before increasing demands over the resource and user group conflicts make it all but impossible to establish an allocation mechanism that will be basically acceptable to all.

**KEYWORDS:**

**NOTES:**

Berkes, Fikret

**1983 Quantifying the harvest of native subsistence fisheries.** Resources and Dynamics of the Boreal Zone (Association of Canadian Universities for Northern Studies, Ottawa):346–363.

**ABSTRACT:** A number of questionnaire-based studies have been carried out in recent years to quantify native subsistence fisheries, along with other animal resource harvests, in the Canadian north. A major problem in quantifying fish catches is that harvesters usually have difficulty remembering the actual numbers of these relatively small and numerous prey animals caught over a yearly cycle. The present study is based on actual field checks of fish harvests of native fishermen over a six-year period in one native community, Chisasibi, in James Bay, northern Quebec. The data so obtained are compared with the results of questionnaire studies conducted under the provisions of the James Bay Agreement.

**KEYWORDS:**

**NOTES:**

Berkes, Fikret

**1984 Competition between commercial and sport fishermen: An ecological analysis.** Human Ecology 12(4):413–429.

**ABSTRACT:** The competition between the two major user groups of fishermen in northeastern Lake Erie is analyzed in terms of models of interspecific competition used in animal ecology. Treating the two user groups as two cultural species, neither the fishing areas used (geographical distribution of the species) nor the composition of the catch (food of the species) shows significant overlap. Nevertheless, both parties believe that a conflict exists. There are two possible explanations for this discrepancy: (1) the conflict may be real in some areas and seasons, even though on the whole there is no significant competition under the usual standards used in ecological niche overlap studies, and (2) the conflict may be due to perceptions, and may therefore be of cultural rather than of ecological origin, suggesting that biological models provide incomplete tools for the analysis of problems in human ecology.

**KEYWORDS:**

**NOTES:**

Berkes, Fikret

**1993 Traditional ecological knowledge in perspective.** 1–9.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Berkes, Fikret

**1999 Sacred ecology: traditional ecological knowledge and resource management:** Hemisphere Pub.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Berkes, Fikret

**2004 Rethinking Community-Based Conservation.** Conservation Biology 18(3):621-630.

**ABSTRACT:** Community-based conservation (CBC) is based on the idea that if conservation and development could be simultaneously achieved, then the interests of both could be served. It has been controversial because community development objectives are not necessarily consistent with conservation objectives in a given case. I examined CBC from two angles. First, CBC can be seen in the context of paradigm shifts in ecology and applied ecology. **I identified three conceptual shifts—toward a systems view, toward the inclusion of humans in the ecosystem, and toward participatory approaches to ecosystem management—that are interrelated and pertain to an understanding of ecosystems as complex adaptive systems in which humans are an integral part.** Second, I investigated the feasibility of CBC, as informed by a number of emerging interdisciplinary fields that have been pursuing various aspects of coupled systems of humans and nature. These fields—common property, traditional ecological knowledge, environmental ethics, political ecology, and environmental history—provide insights for CBC. They may contribute to the development of an interdisciplinary conservation science with a more sophisticated understanding of social-ecological interactions. The lessons from these fields include the importance of cross-scale conservation, adaptive comanagement, the question of incentives and multiple stakeholders, the use of traditional ecological knowledge, and development of a cross-cultural conservation ethic.

**KEYWORDS:** adaptive management, comanagement, common property, community-based conservation, participation, scale, social-ecological systems, traditional ecological knowledge

**NOTES:**

Berkes, Fikret, and Derek Armitage

**2010 Co-management institutions, knowledge, and learning: Adapting to change in the Arctic.** Etudes/Inuit/Studies 34(1):109-131.

**ABSTRACT:** Jusqu'à quel point les peuples autochtones de l'Arctique sont-ils vulnérables au changement climatique? Comment s'y adaptent-ils et quelles sont leurs aptitudes potentielles à affronter les changements encore à venir? Le Intergovernmental Panel on Climate Change ne mentionne qu'à peine les peuples autochtones, et seulement sous l'aspect de victimes impuissantes de changements qui échappent à leur contrôle. Cette conception des peuples autochtones comme passifs et désarmés doit être sérieusement revue. Les peuples autochtones, y compris les Inuit du Canada, sont des observateurs avisés du changement environnemental et peuvent donner des leçons sur les possibilités de s'y adapter, idée qui s'accorde par ailleurs à l'image de créativité et d'adaptabilité que les Inuit ont d'eux-mêmes. Il existe trois fondements à ces adaptations aux impacts du changement climatique: 1) les adaptations culturelles autochtones à la variabilité de l'environnement arctique, dont nous discutons ici dans le cadre des communautés de Sachs Harbour et d'Arctic Bay; 2) des ajustements à court terme (stratégies au cas par cas) qui ont fait leur apparition au cours des dernières années en réponse au changement climatique; et 3) de nouvelles réponses adaptatives apparues dans la foulée de nouveaux processus institutionnels tels que la co-gestion. Certaines institutions en lien avec le développement de la connaissance et l'apprentissage social peuvent contribuer à accroître le potentiel d'adaptation et à réduire la vulnérabilité. Deux institutions de co-gestion qui ont le potentiel d'accroître la capacité adaptative des Inuit sont le Comité mixte de gestion des pêches (établi par le ) et le Conseil de gestion des ressources fauniques du Nunavut. How vulnerable are Arctic Indigenous peoples to climate change? What are their relevant adaptations, and what are the prospects for increasing their ability to deal with further change? The Intergovernmental Panel on Climate Change makes little mention of Indigenous peoples, and then only as victims of changes beyond their control. This view of Indigenous peoples as passive and helpless needs to be challenged. Indigenous peoples, including the Canadian Inuit, are keen observers of environmental change and have lessons to offer about how to adapt, a view consistent with the Inuit self-image of being creative

and adaptable. There are three sources of adaptations to impacts of climate change: 1) Indigenous cultural adaptations to the variability of the Arctic environment, discussed here in the context of the communities of Sachs Harbour and Arctic Bay; 2) short-term adjustments (coping strategies) that are beginning to appear in recent years in response to climate change; and 3) new adaptive responses that may become available through new institutional processes such as co-management. Institutions are related to knowledge development and social learning that can help increase adaptive capacity and reduce vulnerability. Two co-management institutions that have the potential to build Inuit adaptive capacity are the Fisheries Joint Management Committee (established under the ), and the Nunavut Wildlife Management Board.

**KEYWORDS:**

**NOTES:**

Berkes, Fikret, Johan Colding, and Carl Folke

**2000 Rediscovery of traditional ecological knowledge as adaptive management.**

Ecological Applications 10(5):1251-1262.

**ABSTRACT:** Indigenous groups offer alternative knowledge and perspectives based on their own locally developed practices of resource use. We surveyed the international literature to focus on the role of Traditional Ecological Knowledge in monitoring, responding to, and managing ecosystem processes and functions, with special attention to ecological resilience. Case studies revealed that there exists a diversity of local or traditional practices for ecosystem management. These include multiple species management, resource rotation, succession management, landscape patchiness management, and other ways of responding to and managing pulses and ecological surprises. Social mechanisms behind these traditional practices include a number of adaptations for the generation, accumulation, and transmission of knowledge; the use of local institutions to provide leaders/stewards and rules for social regulation; mechanisms for cultural internalization of traditional practices; and the development of appropriate world views and cultural values. Some traditional knowledge and management systems were characterized by the use of local ecological knowledge to interpret and respond to feedbacks from the environment to guide the direction of resource management. These traditional systems had certain similarities to adaptive management with its emphasis on feedback learning, and its treatment of uncertainty and unpredictability intrinsic to all ecosystems.

**KEYWORDS:** adaptive management; human ecology; resilience; Resource management; social learning; traditional ecological knowledge

**NOTES:**

Berkes, F., D. Feeny, B. J. McCay, and J. M. Acheson

**1989 The benefits of the commons.** Nature 340(6229):91-93.

**ABSTRACT:** Conventional wisdom holds that resources held in common will invariably be overexploited - the "tragedy of the commons". A number of examples show that this is not necessarily so.

**KEYWORDS:** Common-pool resources

**NOTES:** "Sustainable common-property resource management is not intrinsically associated with any particular property rights regime. Successes and failures are found in private, state and communal property systems. Recent research highlights the potential viability and continued relevance of communal-property regimes, nested systems and co-management. Studies after that of Hardin have shown the dangers of trying to explain resource use in complex socio-ecological systems with simple deterministic models." (p. 93)

Berkes, Fikret, Peter George, and Richard J. Preston

**1991 Co-management: The evolution in theory and practice of the joint administration of living resources.** *Alternatives(Canada)* 18(2):12-18.

**ABSTRACT:** The joint administration or cooperative management (comanagement) of living resources is the potential solution to the contentious divergence between two alternative systems: centralized, state-level versus local-level and community-based systems of resource management. But co-management does not have a simple prescription. There are 'levels' of co-management, from informing and consultation, through degrees of power-sharing between the central government and local resource users." "Studies in the James Bay area indicate that the capability of local-level management or self-management is important not only from a fish and wildlife management point of view. It is also important to the social and economic health of many native communities. Because of the continuing importance of living resources, the economic development of native communities is linked to their ability to manage their own resources. This, in turn, is linked to larger questions of self-government.

**KEYWORDS:**

**NOTES:**

Berkes, Fikret, Peter J. George, Richard J. Preston, A. Hughes, J. Turner, and B. D. Cummins

**1994 Wildlife harvesting and sustainable regional native economy in the Hudson and James Bay Lowland, Ontario.** *Arctic* 47(4):350-360.

**ABSTRACT:** To assist the Omushkego Cree in planning a community and regional economic development strategy that takes into account the traditional economy, we developed appropriate methodologies to investigate the quantitative importance and economic value of hunting and fishing for the Mushkegowuk region, Hudson and James Bay Lowland. Harvests of wildlife by the 6500 aboriginal residents of eight communities—Moose Factory, Moosonee, New Post, Fort Albany, Kashechewan, Attawapiskat, Peawanuck and Fort Severn—were estimated by means of a questionnaire study. A total of 925 persons were interviewed for 56% coverage in a stratified sampling design. Four species (moose, Canada goose, caribou, lesser snow goose) accounted for about two-thirds of the 1990 bush food harvest of 687 000 kg, the equivalent of 402 g meat or 97 g protein per adult per day. The replacement value of the bush food harvested in the region was about \$7.8 million in 1990. Including other products of the land (fur, fuelwood, berries), the total value of the traditional economy, \$9.4 million for the region or \$8400 per household per year, was about one-third as large as the total cash economy. The results show that the traditional economy is a cornerstone of the regional mixed economy, and that such a mixed economy may persist as a culturally and environmentally sustainable base for the region.

**KEYWORDS:** Hudson Bay and James Bay Lowland

Canadian subarctic

Cree

sustainable development

subsistence

wildlife

fisheries

**NOTES:**

Berkes, F., T. P. Hughes, R. S. Steneck, J. A. Wilson, D. R. Bellwood, B. Crona, C. Folke, L. H.

Gunderson, H. M. Leslie, J. Norberg, M. Nystrom, P. Olsson, H. Osterblom, M. Scheffer, and B. Worm

**2006 Globalization, roving bandits, and marine resources.** *Science* 311(5767):1557-1558.

**ABSTRACT:** Marine resource exploitation can deplete stocks faster than regulatory agencies can respond. Institutions with broad authority and a global perspective are needed to create a system with incentives for conservation.

**KEYWORDS:**

**NOTES:** The flip side of co-management. No-management.

Berkes, Fikret, and Dorothy Pocock

**1981 Self-regulation of commercial fisheries of the outer Long Point Bay, Lake Erie.** Journal of Great Lakes Research 7(2):111-116.

**ABSTRACT:** We examined self-regulation among commercial fishermen of Outer Long Point Bay, and found evidence of it with respect to avoidance of crowding among gillnets, avoidance of gillnet-trawl conflicts, fishermen's attitudes toward smelt and perch quotas, fish size limits, and gillnet mesh size. Some of these are primary fishermen-controlled, and many are industry-controlled, for example, through the processors. While the fishermen and the fishing industry have some ability to self-regulate, fishermen may not be able to manage fisheries successfully because of conflicts among themselves and factors external to their control. Given the scope of management issues discussed in this paper, it is clear that self-regulation alone cannot meet the need for resource protection. Rather, we are suggesting that fishery regulations be designed to take account of existing self-regulation, and biological objectives for stock protection be reconciled with socio-economic objectives for the industry.

**KEYWORDS:**

**NOTES:**

Berkes, Fikret, and Dorothy Pocock

**1983 The Ontario Native Fishing Agreement in perspective: A study in user-group ecology.** Environments 15(3):17-26.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Berman, Matthew

**2009 Moving or staying for the best part of life: theory and evidence for the role of subsistence in migration and well-being of Arctic Inupiat residents.** Polar Geography 32:3-16.

**ABSTRACT:** Although subsistence harvesting plays an important role in cultural identity and struggles for political autonomy among indigenous peoples of the Arctic, its role in local economies remains unclear. One view sees subsistence as the employer of last resort for people unable to find paying jobs, while another sees it as a productive activity contributing to the quality of life in rural Arctic communities. Migration provides a mechanism for determining which of these views has more empirical support, based on the theory that people consider moving to improve expected well-being. Data from the Survey of Living Conditions in the Arctic can be used to assess the extent that subsistence opportunities and wage-earning opportunities comparatively affect willingness to move from the community. The results provide insight into the value Arctic Inupiat residents place on subsistence opportunities, and the potential sensitivity of migration to changes in subsistence resource availability.

**KEYWORDS:** Alaska; subsistence; migration; economics; SLiCA;

**NOTES:** "The elasticity of the dependent variable with respect to place-level subsistence opportunities is about 1.25. That is, a 1% reduction in household meat and fish harvests, other things equal, would increase the probability that a respondent would consider moving away from the community by 1.25%. This is about the same effect on migration as a \$2000 change in earnings. While the response to subsistence opportunities seems modest, it nevertheless suggests that an environmental or policy change that substantially eliminates subsistence opportunities could have the same effect on well-being and migration as the loss of employment opportunities. It is not possible from the SLiCA results to determine how many people actually would move, but the results suggest that subsistence opportunities could be as important a



factor as income-earning opportunities for out-migration from rural Alaska." (p.13)

"Empirical results suggest that Inupiat respondents to the SLiCA living in small Alaska communities place a high value on local subsistence opportunities as a factor influencing their place of residence. Opportunities to earn wage income and quality of life factors such as housing and crime are also significant factors explaining whether the respondent has considered moving away from their community. However, variation in subsistence opportunities explains more of the variation in moving preferences than variation in any other place specific factor." (p.14)

Berman, M., and G. Kofinas

**2004 Hunting for models: grounded and rational choice approaches to analyzing climate effects on subsistence hunting in an Arctic community.** Ecological Economics 49(1):31-46.

**ABSTRACT:** Climate change and uncertain economies challenge small Native communities of the North American Arctic, with their reliance on local fish and wildlife resources. Methodological boundaries of single-discipline analyses limit the contribution of academic research to the real-world questions facing Arctic residents. Oversimplified assumptions and lack of data hamper mainstream economic approaches based on rational choice, while more grounded approaches suffer from inability to generalize. We attempt to integrate these two approaches to project the effects of climate change on subsistence hunting in a Canadian Arctic community. In our collaboration, we find that rational choice modeling suggests specific questions that help direct the grounded research. Grounded methods provide general relationships and hypotheses as well as data for economic modeling. Using local knowledge (LK) obtained from grounded methods, we estimate a discrete-choice travel-cost model of subsistence hunting, projecting that climate warming may cost a typical household the equivalent of a half day of lost time during a hunting season. Besides providing data needed to make rational choice applications realistic, grounded methods reveal qualitative information essential for understanding relationships. We conclude that integration and synthesis of these disparate analytical approaches provides insights that neither method alone could have produced. (C) 2004 Elsevier B.V. All rights reserved.

**KEYWORDS:**

**NOTES:** Times Cited: 8

Berman, M., C. Nicolson, G. Kofinas, J. Tetlich, and S. Martin

**2004 Adaptation and sustainability in a small Arctic community: Results of an agent-based simulation model.** Arctic 57(4):401-414.

**ABSTRACT:** Climate warming and resource development could alter key Arctic ecosystem functions that support fish and wildlife resources harvested by local indigenous communities. A different set of global forces-government policies and tourism markets-increasingly directs local cash economies that communities use to support subsistence activities. Agent-based computational models (ABMs) contribute to an integrated assessment of community sustainability by simulating how people interact with each other and adapt to changing economic and environmental conditions. Relying on research and local knowledge to provide rules and parameters for individual and collective decision making, our ABM generates hypothetical social histories as adaptations to scenario-driven changes in environmental and economic conditions. The model generates projections for wage employment, cash income, subsistence harvests, and demographic change over four decades based on a set of user-defined scenarios for climate change, subsistence resources, development, and government spending. Model outcomes assess how scenarios associated with economic and climate change might affect the local economy, resource harvests, and the well-being of residents for the Western Arctic Canadian community of Old Crow, Yukon. The economic and demographic outcomes suggest implications for less quantifiable social and cultural changes. The model can serve as a discussion tool for a fuller exploration of community sustainability and adaptation issues.

**KEYWORDS:****NOTES:** Times Cited: 4

Berman, Matthew D.

**1998 Sustainability and subsistence in Arctic communities.** Western Regional Science Association, Monterey, CA, 1998, pp. 18–22.

**ABSTRACT:** In this paper, I address economic conditions necessary for sustainability of the mixed subsistence-market economy of the North American Arctic. In the next section I introduce a general household production model of the modern subsistence economy and discuss how one might use the model to test hypotheses about sustainability. Then I elaborate a formal economic model to define relationships that may be empirically estimated and to generate statistical tests of sustainability hypotheses. Next, I estimate the main relationships of the model with data on residents of the northern Alaska and formally test sustainability hypotheses. I conclude by summarizing the implications of the analysis for sustainability of Arctic communities, and discuss important issues left for further research.

**KEYWORDS:****NOTES:**

Berman, Matthew D.

**2011 Next steps toward an Arctic human dimensions observing system.** Polar Geography 34(1-2):125-143.

**ABSTRACT:** The goal of The Arctic Observing Network Social Indicators Project (AON-SIP) was to develop a system of social observations that can answer the question, "Is the arctic system moving to a new state?" Much of the project effort focused on compiling data on human activities in the arctic that might interact with climate change and social indicators of arctic well-being. This paper reviews the adequacy of the data analyzed in the project for three objectives: observing changes in well-being of arctic residents, observing arctic changes relevant to global society, and understanding ongoing social change in the arctic. The review highlights issues of comparability of data across different scales in different nations, as well as key observation gaps. Understanding change in well-being of arctic residents also requires observing additional less-climate-related drivers of change that the AON-SIP did not address, many of which also suffer from the same issues of comparability and data gaps. Two types of recommendations are offered for developing the arctic social observation system: (1) recommendations through the Arctic Council to national statistical agencies to achieve internationally comparable data, and (2) recommendations for essential new primary data collection.

**KEYWORDS:****NOTES:**

Bernard, H. Russell

**1994 Methods belong to all of us.** In *Assessing Cultural Anthropology*. R. Borofsky, ed. Pp. 168-179: McGraw Hill.**ABSTRACT:****KEYWORDS:** Anthropology; method**NOTES:**

Berner, J. E.

**2010 Climate change, contaminants, and Alaska native health.** Toxicology Letters 196(Supplement 1):S7-S7.**ABSTRACT:**

**KEYWORDS:****NOTES:**

Berrang-Ford, Lea

**2009 Climate change and health in Canada.** McGill Journal of Medicine 12(1):78-84.

**ABSTRACT:****KEYWORDS:****NOTES:**

Bersamin, A, BR Luick, E Ruppert, JS Stern, and S Zidenberg-Cherr

**2006 Diet quality among Yup'ik Eskimos living in rural communities is low: the Center for Alaska Native Health Research Pilot Study.** Journal of the American Dietetic Association 106(7):1055-1063.

**ABSTRACT: Objective** The objectives of this pilot study were to describe the nutrient intake of Yup'ik Eskimos in comparison with national intake, identify dietary sources of key nutrients, and assess the utility of the Healthy Eating Index (HEI) to measure diet quality of Yup'ik Eskimos living in rural Alaskan Native communities. **Participants and design** A single 24-hour recall was collected from 48 male and 44 female Yup'ik Eskimos (aged 14 to 81 years), who resided in three villages in the Yukon Kuskokwim River Delta, AK, during September 2003. **Main outcome measures** HEI scores, nutrient intake, and traditional food intake. **Statistical analyses performed** Spearman correlations for associations between variables. **Results** Youth scored higher than elders despite similar nutrient intakes. Overall diet quality was generally low; 63% of all participants' diets were classified as poor. Although the HEI serves to identify areas of concern with respect to diet quality, it is limited in its ability to detect the positive value of traditional foods. **Conclusions** Traditional foods and healthful market foods, including rich sources of fiber and calcium, should be encouraged. Although traditional foods were important sources of energy and nutrients, market foods composed the preponderance of the diet, emphasizing the importance of appropriately modifying a diet quality index based on a Western framework, such as the HEI

**KEYWORDS:****NOTES:**

Bersamin, Andrea, Bret R. Luick, Irena B. King, Judith S. Stern, and Sheri Zidenberg-Cherr

**2008 Westernizing Diets Influence Fat Intake, Red Blood Cell Fatty Acid Composition, and Health in Remote Alaskan Native Communities in the Center for Alaska Native Health Study.** Journal of the American Dietetic Association 108(2):266-273.

**ABSTRACT: Objective** To investigate the impact of a Westernizing diet on fat intake, red blood cell fatty acid composition, and health risks among Yup'ik Eskimos living in rural Alaskan Native communities. **Design** Diet data and blood specimens were collected from 530 Yup'ik Eskimos aged 14 to 94 years old. Height, weight, and waist circumference were measured. **Statistical analyses** Comparisons of select fatty acid intake between participants in quintiles of traditional food intake (percent energy) were made using analyses of variance and post hoc Bonferroni tests. General linear models were used to determine the association between traditional food intake and health outcomes. **Results** Fatty acid composition of the diet differed according to the level of traditional food intake. Traditional food intake was positively associated with higher total fat, eicosapentaenoic acid, and docosahexaenoic acid intake. No association was observed between traditional food intake and saturated fatty acid intake; indeed, participants consuming more traditional foods derived a substantially smaller proportion of their dietary fatty acids from saturated fatty acids ( $P < 0.001$ ). Analyses of red blood cell fatty acid composition supported these findings. After multivariable adjustment, traditional food intake was significantly positively associated with high-density lipoprotein cholesterol concentration and significantly negatively associated with triglyceride concentration ( $P < 0.001$ ). **Conclusions** Diets emphasizing traditional Alaskan Native foods were associated with a fatty acid profile promoting

**greater cardiovascular health than diets emphasizing Western foods.** Further research needs to evaluate the effects of a Westernizing diet on the overall diet of Alaskan Natives.

**KEYWORDS:**

**NOTES:**

Bersamin, Andrea, Sheri Zidenberg-Cherr, Judith S. Stern, and Bret R. Luick

**2007 Nutrient intakes are associated with adherence to a traditional diet among Yup'ik Eskimos living in remote Alaska Native communities: the CANHR Study.** International Journal of Circumpolar Health 66(1):62.

**ABSTRACT: Objectives.** To determine whether dietary westernization is associated with intake of select nutrients among Alaska Natives living in remote communities. To investigate participant characteristics associated with adherence to the traditional Alaska Native diet. **Study Design.** Cross-sectional survey. **Methods.** A 24-hour recall was collected from 241 men and 307 women aged 14-94 years living in seven remote communities of Western Alaska. Bivariate analyses and ANOVA were used to examine the relationship between energy from traditional foods (the primary variable of interest), participant characteristics and intake of select nutrients. **Results.** Traditional foods accounted for 22 % of energy intake overall. This estimate varied by age, educational attainment, and geographic location. Participants in the highest quintile of traditional food intake consumed significantly more vitamin A, vitamin D, Vitamin E, Iron, and n-3 fatty acids than participants in the lowest quintile ( $p < 0.001$ ). Intake of vitamin C, calcium, and total dietary fiber decreased with increased consumption of traditional foods ( $p < 0.001$ ). **Conclusions.** The degree of dietary westernization contributes to nutrient intake, both positively and negatively, in a dose response manner. Participant characteristics, particularly age, must be addressed in the development of a nutrition education program since they are associated with distinct dietary intakes.

**KEYWORDS:**

**NOTES:**

Berti, P. R., S. E. Hamilton, O. Receveur, and H. V. Kuhnlein

**1999 Food Use and Nutrient Adequacy in Baffin Inuit Children and Adolescents.** Can J Diet Pract Res 60(2):63-70.

**ABSTRACT:** In evaluating adequacy of nutrient intake and relative contribution of locally harvested food (i.e., "traditional" food) and imported market food for 164 Baffin Inuit children and adolescents, 604 24-hour recalls were obtained over a one-year period (1987 to 1988). Market food contributed an average of 84% of dietary energy and traditional food, 16%. Total and saturated fat intakes corresponded closely to current recommendations, while sucrose intakes were higher than recommended. Most age and gender categories had a low prevalence of inadequate intakes of iron, zinc, and protein; over 50% of dietary iron and zinc was provided by traditional food. Calcium and vitamin A were obtained largely through market food, and there was a high risk of inadequacy for both nutrients in all age groups. The diets of 16-18-year-old girls were the most often inadequate, due to high consumption of low nutrient-dense food and low consumption of traditional food. Food items rich in vitamin A and calcium should be promoted, and 16-18-year-old girls specifically targeted for education on food choices and health.

**KEYWORDS:**

**NOTES:** Canadian journal of dietetic practice and research : a publication of Dietitians of Canada = Revue canadienne de la pratique et de la recherche en dietetique : une publication des Dietetistes du Canada

Can J Diet Pract Res. 1999 Summer;60(2):63-70.

Berti, P. R., R. Soueida, and H. V. Kuhnlein

**2008 Dietary assessment of Indigenous Canadian Arctic women with a focus on pregnancy and lactation.** International Journal of Circumpolar Health 67(4):349-362.

**ABSTRACT:** OBJECTIVES: To assess the diet of Indigenous women, including pregnant and lactating women, in the Canadian Arctic in terms of dietary adequacy, and to assess the contribution of traditional food to the diet. STUDY DESIGN: Population-based cross-sectional design, using 24-hour dietary recalls. METHODS: Twenty-four hour quantitative dietary recalls were collected in 47 communities in 5 surveys between 1987 and 1999, including non-pregnant and non-lactating women (n = 1300), pregnant women (n = 74) and lactating women (n = 117). Unique methods of assessment were undertaken using Software for Intake Distribution Assessment (SIDE) partitioned intra- and interindividual variance that allowed the estimation of the distribution of usual daily nutrient intakes for comparison to North American dietary reference intakes. RESULTS: Contributions of traditional Arctic food to energy intakes varied and the prevalence of inadequacies were generally high for magnesium, vitamin A, folate, vitamin C and vitamin E. Supplement use was infrequent. Many women met their needs for iron, and some exceeded the recommended upper limit for iron with food alone. Average intakes of manganese and vitamin D met recommended levels, but calcium did not. CONCLUSIONS: These results are the only data to date reporting an assessment of the dietary intakes of pregnant and lactating Canadian Arctic Indigenous women. Special attention is required for inadequacies of magnesium, zinc, calcium, folate, and vitamins E, A and C; and for use of supplements during pregnancy. Most pregnant and lactating women met iron needs without supplements.

**KEYWORDS:** Arctic Regions

Canada  
Diet  
Evaluation Studies as Topic  
Female  
Food Habits/ ethnology  
Humans  
Inuits  
Lactation/ethnology/ metabolism  
Maternal Nutritional Physiological Phenomena/ethnology  
Nutrition Surveys  
Pregnancy/ metabolism

**NOTES:**

Betts, Martha F.

**1994 The subsistence hooligan fishery of the Chilkat and Chilkoot rivers, Southeast Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report documents the traditional Tlingit hooligan (eulachon, smelt) fishery of the Chilkat and Chilkoot rivers in Southeast Alaska. Topics include the regional extent of eulachon harvest on the Northwest Coast, the eulachon life cycle, historical and contemporary methods of harvest and processing, location and ownership of Chilkat and Chilkoot eulachon camps, and distribution and exchange of eulachon. Local legendary and empirical knowledge of eulachon is discussed as it influenced harvest and processing methods. Observation of the fishery and interviews with the primary users, Tlingit residents of Klukwan and Haines, provided the information on which the report is based. Findings from a literature review of biologic and ethnographic sources are also reported.

**KEYWORDS:**

**NOTES:**

Betts, Martha F., and Robert J. Wolfe

**1992 Commercialization of fisheries and the subsistence economies of the Alaska Tlingit.** Society & Natural Resources 5(3):277-295.

**ABSTRACT:** The commercialization of salmon in southeast Alaska has affected the traditional subsistence economies of the Tlingit Indians. Over the past hundred years, a mixed subsistence-market economy that combines subsistence and market sectors has developed in Tlingit communities. Contemporary fishing households in two Tlingit communities are shown to participate in both subsistence and commercial fisheries using various strategies. In the 1980s, commercial salmon fishing households produced more subsistence fish and game than households without commercial permits. Certain factors in commercial fisheries development have exerted negative pressures on the traditional subsistence sector of the Tlingit economy: stock depletions; non-local, non-Native control of the fisheries; and restrictive subsistence fisheries management regimes. Resolution of these problems for the Tlingit depends on influencing historic processes stemming from legal and political structures that are not culturally responsive to indigenous subsistence economies.

**KEYWORDS:**

**NOTES:**

Betts, Martha F., and Robert J. Wolfe

**1992 Commercialization of fisheries and the subsistence economies of the Alaska Tlingit.** *Society & Natural Resources* 5(3):277-295.

**ABSTRACT:** The commercialization of salmon in southeast Alaska has affected the traditional subsistence economies of the Tlingit Indians. Over the past hundred years, a mixed subsistence-market economy that combines subsistence and market sectors has developed in Tlingit communities. Contemporary fishing households in two Tlingit communities are shown to participate in both subsistence and commercial fisheries using various strategies. In the 1980s, commercial salmon fishing households produced more subsistence fish and game than households without commercial permits. Certain factors in commercial fisheries development have exerted negative pressures on the traditional subsistence sector of the Tlingit economy: stock depletions; non-local, non-Native control of the fisheries; and restrictive subsistence fisheries management regimes. Resolution of these problems for the Tlingit depends on influencing historic processes stemming from legal and political structures that are not culturally responsive to indigenous subsistence economies.

**KEYWORDS:**

**NOTES:**

Bickel, Gary, Mark Nord, Christofer Price, William Hamilton, and John Cook

**2000 Guide to Measuring Household Food Security.** Pp. 76. Washington: U.S. Department of Agriculture.

**ABSTRACT:** Since publication of the *Guide to Implementing the Core Food Security Module* in 1997 by the Food and Nutrition Service (FNS, previously Food and Consumer Service) of the U.S. Department of Agriculture (USDA), the standard procedures for measuring food insecurity and hunger have undergone further refinement and development based on ongoing research within the federal interagency Food Security Measurement Project. This new edition of the *Guide* documents minor corrections and changes, bringing the procedures described in the original publication up to date.

**KEYWORDS:** food security; method

**NOTES:**

Bigsten, A., P. Collier, S. Dercon, Marcel Fafchamps, B. Gauthier, J. W. Gunning, A. Oduro, R. Oostendorp, C. Patillo, and M. Soderbom

**2000 Contract flexibility and dispute resolution in African manufacturing.** *Journal of Development Studies* 36(4):1-37.

**ABSTRACT:**

**KEYWORDS:****NOTES:**

Bigsten, A., A. Isaksson, M. Soderbom, P. Collier, A. Zeufack, S. Dercon, Marcel Fafchamps, J. W. Gunning, F. Teal, and S. Appleton

**2000 Rates of return on physical and human capital in Africa's manufacturing sector.**

Economic Development and Cultural Change 48(4):801-827.

**ABSTRACT:****KEYWORDS:****NOTES:**

Binmore, K.

**2005 Economic man—or straw man? A commentary on Henrich et al.** Behavioral and brain sciences 28:817-818.

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Binmore, Ken

**2006 Why do people cooperate?** Politics, Philosophy & Economics 5(1):81.

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Binmore, Ken

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Binmore, Ken, and K. G. Binmore

**1998 Game theory and the social contract. Volume 2: Just playing:** The MIT Press.

**ABSTRACT:****KEYWORDS:****NOTES:**

Binmore, Ken, and E. Rasmusen

**1995 Game theory and the social contract. Volume 1. Playing fair.** Journal of Economic Literature 33(4):1979-1979.

**ABSTRACT:****KEYWORDS:****NOTES:**

Bird, Kenneth J., Ronald R. Charpentier, Donald L. Gautier, David W. Houseknecht, Timothy R. Klett, Janet K. Pitman, Thomas E. Moore, Christopher J. Schenk, Marilyn E. Tennyson, and Craig J. Wandrey

**2008 Circum-Arctic resource appraisal: estimates of undiscovered oil and gas north of the Arctic Circle.** Pp. 4. Washington, D.C.: U.S. Geological Survey.

**ABSTRACT:****KEYWORDS:****NOTES:**

Bird-David, N., A. Abramson, J. Altman, M. G. Bicchieri, Ernest S. Burch, Jr., C. R. Ember, K. M. Endicott, R. R. Grinker, S. Gudeman, and M. Ichikawa

**1992 Beyond" The Original Affluent Society": A Culturalist Reformulation [and Comments and Reply].** Current Anthropology:25-47.

**ABSTRACT:****KEYWORDS:****NOTES:**

Bista, Yupiktak

**1974** **A report on subsistence and the conservation of the Yup'ik lifestyle.** A. Davidson, ed. Pp. 1-80.

**ABSTRACT:****KEYWORDS:****NOTES:**

Bjerregaard, P., E. Dewailly, T. K. Young, C. Blanchet, R. A. Hegele, S. E. Ebbesson, P. M. Risica, and G. Mulvad

**2003** **Blood pressure among the Inuit (Eskimo) populations in the Arctic.** Scand J Public Health 31(2):92-9.

**ABSTRACT:** AIMS: Studies of blood pressure among various Inuit (Eskimo) populations in the Arctic have given inconsistent results. Most studies reported lower blood pressure among the Inuit as compared with the predominantly white national populations. This has been attributed to traditional subsistence practices and lifestyle. This study compared the blood pressure among the major Inuit population groups with other populations and examined the associations with factors like age, gender, obesity and smoking. **METHODS:** The study comprised four Inuit populations from Alaska, Canada, and Greenland with participation rates ranging from 51% to 73%. In a cross-sectional design, 2,509 randomly selected adults from 31 villages were examined. Blood pressure, anthropometric measurements, smoking, and medication were recorded. **RESULTS:** Mean systolic blood pressures ranged from 116 to 124 mm Hg among men and 110 to 118 among women in the four populations. Mean diastolic blood pressures ranged from 75 to 78 mm Hg among men and from 71 to 73 among women. Systolic blood pressure increased with age. Male gender, obesity, being a non-smoker, and being on anti-hypertensive treatment were associated with high systolic and diastolic blood pressure. Adjusted for age, body mass index, smoking, and anti-hypertensive treatment, blood pressure differed among the populations ( $p \leq 0.001$ ). Mean systolic blood pressure was low among the Inuit compared with most European populations of the INTERSALT study, but higher than in several Asian populations and the Amazonian Indians. **CONCLUSIONS:** Inuit blood pressures rank intermediate on a global scale but low in comparison with most European populations. The Inuit population is not homogeneous, and this is reflected in blood pressure differences among the four regional subgroups. The role of the traditional diet, a rural lifestyle with a low level of psychosocial stress, and genetics must be further explored.

**KEYWORDS:** Adult

Age Factors

Aged

Alaska/epidemiology

Antihypertensive Agents/therapeutic use

Arctic Regions/epidemiology

Blood Pressure/\*physiology

Female

Greenland/epidemiology

Humans

Hypertension/drug therapy/\*ethnology/physiopathology

Inuits/genetics/\*statistics & numerical data

Male

Middle Aged

Obesity/complications/ethnology

Quebec/epidemiology

Risk Factors



Sex Factors  
Smoking/adverse effects/ethnology  
World Health

**NOTES:** Bjerregaard, Peter

Dewailly, Eric  
Young, T Kue  
Blanchet, Carole  
Hegele, Robert A  
Ebbesson, Sven E O  
Risica, Patricia M  
Mulvad, Gert  
Norway  
Scandinavian journal of public health  
Scand J Public Health. 2003;31(2):92-9.

Bjerregaard, Peter, T. Kue Young, Eric Dewailly, and Sven O.E. Ebbesson

**2004 Review Article: Indigenous health in the Arctic: an overview of the circumpolar Inuit population.** Scandinavian Journal of Public Health 32(5):390-395.

**ABSTRACT:** The health of the Inuit has undergone substantial changes over the past five centuries, as a result of social, cultural, and economic changes brought about by interactions with Europeans. This process was accelerated considerably in the second half of the twentieth century. The incidence of infectious diseases has declined considerably but is still high compared with Western societies. Chronic diseases such as diabetes and cardiovascular disease are on the increase, while accidents, suicides, violence, and substance abuse are of major importance for the pattern of ill health in most Inuit communities. Lifestyle changes, social change, and changes in society and the environment are major determinants of health among the Inuit.

**KEYWORDS:**

**NOTES:** "Traditionally, the Inuit appeared to have been protected from atherosclerotic diseases and diabetes, the result of a particular genetic endowment and/or their high dietary intake of marine mammals and fish, and vigorous physical activity. **The apparent "protection" from these diseases is disappearing, primarily because of the rapid change in lifestyles.** Existing data are discouraging in that the Inuit have acquired an unfavourable health risk profile compared with other contemporary populations and with Inuit in the past, especially the high prevalence of smoking. Traditional food system use is declining rapidly, though not uniformly across the Arctic. In some areas, dietary fat from market foods now exceeds that from traditional, marine mammal-based sources.

"The Arctic is often assumed to be a pristine, unpolluted area. While there are few industries, there are mining activities, especially in Alaska and Canada, which may have a serious effect on the immediate environment. In the Russian Arctic, large-scale industrialization powered by coal has resulted in substantial, often visible, pollution. The invisible contamination of traditional foods with man-made chemicals such as polychlorinated biphenyls (PCBs), dioxins, toxaphenes, and other pesticides, which are transported to the Arctic by ocean and atmospheric currents and then are biomagnified in the marine food web, ultimately end up in humans. There is also evidence of exposure to heavy metals such as mercury and lead. Of particular concern is the prenatal exposure of infants. There may be adverse effects of exposure to organochlorines and mercury on the neuropsychological development of children and of organochlorines on the susceptibility to infections and the immune status." (P. 393-394)

Black, Inez Ayagiao

**1977 Kiana, Alaska.** *In* Lore of the Iñupiat: The elders speak. L.P. Lee, R.T. Sampson, and E. Tennant, eds. Pp. 101-129, Vol. III. Kotzebue, AK: Northwest Arctic Borough School District.

**ABSTRACT:****KEYWORDS:****NOTES:**

Blackman, Margaret B.

**2008 Anaktuvuk Pass goes to town.** *Etudes/Inuit/Studies* 32(1):107-115.

**ABSTRACT:** Voilà longtemps que d'une manière ou d'une autre, les Nunamiut d'Anaktuvuk Pass, Alaska, vont en ville et ce, avant même qu'ils n'aient abandonné, en 1949-1950, leur vie de nomades pour se sédentariser dans un village à 100 milles de la route la plus proche et à 250 milles de Fairbanks. Des années avant qu'ils ne mettent pied en ville, quelques-uns avaient déjà des comptes créditeurs à la . Au milieu des années cinquante, quelques hommes du village furent recrutés pour participer à des expériences d'adaptation au froid menées par le Ladd AFB dans les environs de Fairbanks. Ce fut leur premier vol en avion et leur première expérience de la vie citadine. Les urgences médicales -une épidémie de grippe, la tuberculose et d'autres maladies demandant soins médicaux- constituaient, dans les années cinquante, l'autre ticket pour la ville, et dans ce cas, il fallait habituellement attendre l'arrivée du vol mensuel pour pouvoir être transporté. Mais dès les années soixante, les services médicaux pour autochtones firent en sorte que les femmes d'Anaktuvuk venaient en ville pour accoucher à l'hôpital. Aujourd'hui, Fairbanks n'est pas seulement un cabinet médical, c'est aussi un centre commercial et un supermarché pour les villages isolés comme Anaktuvuk Pass. C'est encore beaucoup d'autres choses pour les Nunamiut -le site des jeux olympiques annuels eskimos-indiens, le festival des arts autochtones de l'Université d'Alaska à Fairbanks et la foire estivale de la vallée de la Tanana (). C'est la deuxième avenue avec sa succession de bars défraîchis. Cet article examine plus de 50 ans de voyages en ville, l'importance de la «ville» dans la vie des villageois et les associations variées que Fairbanks représente pour les Nunamiut. The Nunamiut of Anaktuvuk Pass, Alaska have been going to town, one way or another, even before they relinquished their nomadic life in 1949-1950 to become settled in a village 100 miles from the nearest road and 250 miles from Fairbanks. Some years before they ever set foot in town, a few had credit accounts at the city's Northern Commercial Company. In the mid-1950s a few village men were recruited as human subjects for cold adaptation experiments carried out at Ladd AFB outside of Fairbanks. This was their first plane ride and their first taste of city life. Medical emergencies-a flu epidemic, TB, and other illnesses that demanded medical treatment were the other ticket to Fairbanks in the 1950s, and then one typically had to wait to be flown out until the monthly mail plane came in. But by the 1960s the Native health care system saw to it that Anaktuvuk women came to town to deliver their babies in the hospital. Today Fairbanks is not only the doctor's office but also the shopping mall and supermarket for outlying villages like Anaktuvuk Pass. It is many other things as well to the Nunamiut-site of the annual World Eskimo-Indian Olympics, the University of Alaska's annual Festival of Native Arts, and the summer Tanana Valley Fair. It is Second Avenue with its string of dingy bars. This paper looks at more than 50 years of going to town, the significance of "town" in villagers' lives, and the varied associations Fairbanks holds for the Nunamiut.

**KEYWORDS:****NOTES:**

Blaikie, Piers

**2006 Is Small Really Beautiful? Community-based Natural Resource Management in Malawi and Botswana.** *World Development* 34(11):1942-1957.

**ABSTRACT:** Community-based natural resource management (CBNRM) remains a popular policy with many international funding institutions, in spite of growing evidence of its disappointing outcomes. It is underpinned by theoretically justified benefits which serve to reproduce and market it. The paper explores approaches to understand and rectify these failures. The conclusion is that explanatory effort should be expanded from the "facilitating characteristics" of potentially successful CBNRM sites to include two sets of interfaces--those

between donors and recipient states, and between the state (especially the local state) and CBNRMs at the local level. Illustrative examples in Botswana and Malawi are given throughout the discussion.

**KEYWORDS:** community-based natural resource management, Africa

**NOTES:** "For all the theoretical benefits it promises, by and large, CBNRM policy has failed to deliver, in terms of its stated aims (Campbell et al., 2001). Shackleton, Campbell, Wollenberg, and Edmunds (2002) conclude from 13 case studies in Africa that "most devolved natural resources management reflects rhetoric more than substance" and that "the ways in which local people realize the benefits of devolution differ widely, and negative trade-offs, mostly felt by the poor, are common." Shackleton and Campbell (2001), in an evaluation of 14 case studies in eight countries of Africa, assessed the outlook for CBNRM as poor overall, although they identify a number of CBNRM projects which show some signs of success. They take the well-trodden path towards the conclusion that the less the state and its line ministries impose and limit local NRM, the more local people can reshape social-environmental relationships in ways which suit them, which usually differs from CBNRM policy agendas. Murphree (1997, p. 3) summarizes a range of criticisms of CBNRM made by those supportive of the idea but with "concerns and reservations" through to vigorous, aggressive academic critique, and concludes that CBNRM initiatives show mixed and inconclusive results. A major review of CBNRM projects in Botswana concluded that "CBOs tend to have more weaknesses than strengths at present," and the weaknesses of CBNRM are found to be many, compared to its strengths (Arntzen et al., 2003, p. 14). Finally, Jere, Varela, and Voysey (2000) review the presence and absence of problems in eight CBNRM sites in Malawi. "Weak leadership," "uneven participation," "corruption," "problematic lack of official recognition," and "inadequate income alternatives" were listed along with others and, except for two sites, most of these problems existed in the other six." (p. 1946)

Blanchet, C., E. Dewailly, P. Ayotte, S. Bruneau, O. Receveur, and B. J. Holub

**2000 Contribution of selected traditional and market foods to the diet of Nunavik Inuit women.** Canadian Journal of Dietetic Practice and Research 61(2):50-59.

**ABSTRACT:** Food composition data were determined for food consumed by 226 Inuit women in Nunavik, estimating the relative contribution of traditional and market food for energy, protein, lipid, carbohydrate, vitamin A, vitamin D, iron, calcium, magnesium, phosphorus, selenium, zinc, and eicosapentaenoic and docosahexaenoic acids. Traditional Inuit food was an important source of protein, vitamin D, iron, selenium, and phosphorus, as well as the main source of eicosapentaenoic and docosahexaenoic acids. The mean contribution of traditional and market food to energy and nutrients was analyzed according to age groups (18-39 and 40-74). Analysis of Inuit women's nutrient intake showed that the contribution of traditional food was greater in the older group than in the younger group, for whom the contribution of market food was greater. Market food contributed the most to Inuit women's energy intake, while 40% of the intake of several nutrients, including protein, vitamin D, iron, phosphorus, and zinc, was derived from traditional food. Inuit women had low vitamin A and calcium intakes. Traditional food had low calcium and vitamin A concentrations, and the Inuit infrequently consumed market food such as milk, dairy products, and yellow and green vegetables. Thus, even though the present study showed that traditional food was the major source of many nutrients in the Inuit diet, market food was also important for the nutritional status of this population, particularly young women. In promoting safe nutritional habits among the Inuit, dietitians must help them maintain traditional food use, which has provided some health advantages (e.g., a lower incidence of cardiovascular disease); encourage consumption of nutritious market foods; and consider the societal values reflected in the traditional diet.

**KEYWORDS:** fatty-acid composition

greenland eskimos  
plasma-lipids  
island inuit

supplementation  
lipoproteins  
populations

**NOTES:** ISI Document Delivery No.: 322JC

Blanchet, C Dewailly, E Ayotte, P Bruneau, S Receveur, O Holub, BJ  
Dietitians canada  
Toronto

Blanchette, Robert A., Caroline C. Renner, Benjamin W. Held, Carrie Enoch, and Sarah Angstman

**2002 The current use of Phellinus igniarius by the Eskimos of Western Alaska.**

Mycologist 16(4):142-145.

**ABSTRACT:** The Inupiaq and Yup'ik Eskimos of western Alaska have used *Phellinus igniarius* for hundreds of years by burning the basidiocarps and mixing the ashes with tobacco. A previous publication (Mycologist 15: p.4) reported the historic use of this fungus and documented natural history museum collections of sporophores and special ornate boxes for holding the fungus ashes. When the ashes of *P. igniarius* were mixed with tobacco it added "a powerful kick" to the chewing tobacco. We now report new information that is disconcerting about the current widespread use of *P. igniarius* in many Alaska native communities. The use of the mixture of fungus ash and tobacco is being studied and treated as a serious health concern.

**KEYWORDS:** Ethnomycology

forest fungi  
basidio-mycetes  
*Phellinus igniarius*  
nicotine  
tobacco  
Native Americans  
Eskimo culture

**NOTES:**

Blanchette, Robert A., Caroline C. Renner, Benjamin W. Held, Carrie Enoch, and Sarah Angstman

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**KEYWORDS:** Ethnomycology

forest fungi  
basidio-mycetes  
*Phellinus igniarius*  
nicotine  
tobacco  
Native Americans  
Eskimo culture

**NOTES:**

Bliss, K. J.

**1979 International Whaling Commission regulations and the Alaskan Eskimo.** Natural Resources Journal 19(4):943-956.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Bloom, Joseph D.

**1971 Recent population trends of Alaska Natives.** Alaska Medicine:3-5.

**ABSTRACT:** The object of this paper is to examine current population distribution of Alaska natives and to raise some questions regarding the relationship of this distribution to planning of services. There has grown in recent years an increased awareness of the dangers of the population explosion. Nowhere are these dangers more acute than in the Arctic and Subarctic areas of North America where increasing population pressure is putting great stresses on the delicate balance which has existed for thousands of years between man and the limited resources of his northern environment.

**KEYWORDS:**

**NOTES:**

Bloom, Joseph D.

**1973 Migration, psychopathology of Eskimo women.** American Psychiatric Association 130(4):446-449.

**ABSTRACT:** The purpose of this paper is to examine certain possible differences between Eskimo men and women in terms of migration and manifest psychopathology. Available evidence seems to point to Eskimo women migrating toward urban areas more frequently than men and showing a greater number of psychopathological symptoms. I will offer explanations for and explore the implications of these statements in light of traditional Eskimo culture and personality development.

**KEYWORDS:**

**NOTES:**

Blurton, D.M.

**1996 ANCSA Corporation Lands and the Dependent Indian Community Category of Indian Country.** Alaska Law Review 13:211.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Boaz, Frank

**1894 Notes on the Eskimo of Port Clarence, Alaska.** Journal of American Folk-Lore:205-208.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Bockstoce, JR

**1979 The archaeology of Cape Nome, Alaska:** University of Pennsylvania Museum of Archaeology & Anthropology.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Bockstoce, John, Milton M. R. Freeman, William S. Laughlin, Richard K. Nelson, Michael Orbach, Robert Peterson, J. Garth Taylor, and Rosita Worl

**1979 Report of the panel to consider cultural aspects of aboriginal whaling in North America.** In International Whaling Commission. Seattle, WA.

**ABSTRACT:** This report analyzes the role of subsistence hunting of bowhead whales in contemporary culture, society and economy of northern Alaskan Eskimos. It focuses on bowhead whaling as the most important single element of northern Alaskan whale hunting, particularly in the face of technological changes. The authors conclude that direct and formal participation of Eskimo whalers is of critical importance in scientific studies and in the formation of management policies for bowhead whales.

**KEYWORDS:**

**NOTES:**

Bockstoce, John R.

**1973 A prehistoric population change in the Bering Strait region.** Polar Record 16(105):793-803.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Bockstoce, John R.

**1975 Contacts between American Whalers and the Copper Eskimos.** Arctic: Journal of the Arctic Institute of North America 28(4).

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Bockstoce, John R.

**1976 On the development of whaling in the Western Thule Culture.** Folk: dansk etnografisk tidsskrift:41-46.

**ABSTRACT:** In this essay the development of intensive whaling in the Western Thule culture of Arctic Alaska is considered in regard to several postulated preconditions. The constraints of technology, human organization, food resources, population, climate and landforms are briefly discussed.

**KEYWORDS:**

**NOTES:**

Bockstoce, John R.

**1977 The Arctic whaling disaster of 1897.** Arctic Whaling:27-42.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** Early in August 1897, the loss of the steam auxiliary whaling bark *Navarch* provided a gloomy harbinger of the events of September. The sturdy and powerful *Navarch*, built in Bath, Maine, only five years earlier, was the handsomest of the steam whalers. Her raking bow and clean, graceful lines belied the strength of her hull; she had been designed solely for the arctic fishery and consequently her hull had been reinforced to withstand the pressures of the ice floes she was to ram. In fact the *Navarch* was typical of the design innovations incorporated in such steam auxiliaries. The first had been launched in 1879, part of the industry's response to the elusiveness and the declining number of bowhead whales. Instead of skirting the ice fields as sailing vessels did, the steamers, with their massive structural reinforcements and auxiliary power, were capable of forcing their way into the arctic fastnesses in pursuit of the increasingly valuable baleen found in the mouths of the bowheads. And when they had returned to San

Francisco at the end of a cruise and their cargoes had been sold - to be made into corset stays and buggy whips- the profits more than compensated for the great expense of building them.

Bockstoce, John R.

**1977 Eskimo whaling in Alaska.** *In* Alaska Magazine, Vol. 43.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Bockstoce, John R.

**1977 An issue of survival: Bowhead vs. tradition.** Audubon 79(5):142-145.

**ABSTRACT:** Until an informed judgment can be made about the status of the bowhead, a village-by-village quota should be imposed, based perhaps on each village's annual kill during the mid-1960s. At the heart of the bowhead controversy lies the argument of some preservationists that subsistence hunting died with the advent of welfare programs and well-paying jobs for native Americans. The Eskimos reply that traditional hunting including whaling, yields vital provender- both spiritual and caloric. It is a case of two vastly different cultures in conflict, and the resolution is not in sight.

**KEYWORDS:**

**NOTES:**

Bockstoce, John R.

**1978 History of commercial whaling in Arctic Alaska.** Alaska Geographic 5(4):17-25.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** The whaling industry left an indelible mark on Northern Alaska. Many places will forever be associated with the industry and with the ships that were lost there-Point Barrow, Point Franklin, Icy Cape, and Point Hope-and the names of whalers are perpetuated by their descendants in coastal Alaska who, like their ancestors, are whalers: Brower, Hopson, Gordon, Bodfish, Vincenl, Tuckfield, Koenig and many others. And while the whaling industry brought about the first commercial development of Northern Alaska, it also indirectly touched off the second, for Charles Brower discovered the oil seeps in the Sagavanirktok Delta near Prudhoe Bay.

Bockstoce, John R.

**1979 Arctic castaway: The stormy history of the Point Barrow refuge station.** 153-169.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** Planned hastily, staffed expediently, and closed prematurely, the Point Barrow Refuge Station gave little aid to the whalers it was built to assist. Sold to a private party after only seven years of operation, the station was abandoned by the government less than a year before a major disaster overtook the arctic whaling fleet, leaving more than one hundred destitute whalers to face the arctic winter. But if Map showing Smythe Whaling Company Station.

Bockstoce, John R.

**1980 Battle of the bowheads.** Natural history. New York NY 89(005).

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** Conventional law enforcement is, of course, based on a general public acceptance of laws and a disapproval of lawbreaking. In the bowhead problem, however, the government confronts a society that has, on this issue, lost most of whatever confidence it once had in the

government; to many Eskimos the issue is increasingly seen as racial. Some law enforcement officials concede that it would be exceedingly difficult to enforce any laws regarding whaling in northern Alaska.

Bockstoe, John R.

**1980 The consumption of caribou by whalers at Herschel Island, Yukon Territory, 1890 to 1908.** Arctic and Alpine Research 12(3):381-384.

**ABSTRACT:** It has been maintained by several writers that American whalers substantially depleted the Porcupine caribou herd while wintering at Herschel Island, Yukon Territory. My research, based on the logbooks and journals of their vessels, has led me to conclude that the hunting pressure was not deleterious to the herd.

**KEYWORDS:**

**NOTES:**

Bockstoe, John R.

**1980 A preliminary estimate of the reduction of the Western Arctic bowhead whale population by the pelagic whaling industry: 1848-1915.** Marine Fisheries Review 42(9-10):20-27.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** Today the bowhead whale, *Balaena mysticetus*, population of the Bering, Chukchi, and Beaufort Seas is at the center of a controversy about the effect of the Alaskan Eskimo hunt on its numbers. Although many observers believe the population has not recovered significantly from the low level at which it probably stood in 1915, hitherto no thorough attempt has been made to estimate the number of bowheads that were taken by the pelagic whaling industry. Based on primary resources (logbooks and maritime newspapers), this report presents the results of the first systematic endeavor to reach an estimate of the annual bowhead kill.

Bockstoe, John R.

**1984 From Davis Strait to Bering Strait: The arrival of the commercial whaling fleet in North America's Western Arctic.** Arctic 37(4):528-532.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** In the summer of 1848 Captain Thomas Roys, commanding a whaling vessel from Sag Harbor, Long Island, sailed into Bering Strait and discovered the vast herds of bowhead whales (*Balaena mysticetus*) that lived in those waters. He discovered the most important new whaling ground of the nineteenth century, and its richness supported the American whaling industry for more than 50 years. It may seem inappropriate to begin an essay thus - in a symposium on Arctic history which concludes with the eighteenth century - but in fact the discovery of the Bering Strait whaling ground was the conclusion of a whaling movement that had begun several centuries earlier, and that, for North America, commenced with the arrival of the first whaleships in Bering Strait's eastern counterpart, Davis Strait.

Bockstoe, John R.

**1984 The search for Sir John Franklin in Alaska.** 1-39.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** In January 1848 H.M.S. Plover sailed from England on a seven year voyage to Bering Strait and the western Arctic. She was sent in search of Sir John Franklin's expedition which nearly three years before had vanished into the Arctic while searching for a northwest passage. The Plover's was the first departure of the sixteen sea expeditions and five land expeditions that



took part in the search. Although more than three quarters of a million pounds were spent on the effort, at the beginning no one knew where Franklin had gone and at the end only one essential fact was confirmed: that Franklin and all his men had perished (Gibson, 1937:53).

Bockstoce, John R., and Charles F. Batchelder

**1978 A chronological list of commercial wintering voyages to the Bering Strait region and Western Arctic of North America: 1850-1910.** *The American Neptune* 38(2):81-91.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** From 1848, when the western Arctic whaling grounds were discovered, to 1910, when the collapsing market for baleen destroyed the industry, whaling vessels and a few small traders made wintering voyages to the Bering Strait region and western Arctic. Beyond the importance of these voyages as the first commercial development of the region during the period of its most intense exploration, a significant byproduct was the collection of valuable geographical and ethnographical information. But unlike voyages of exploration, these endeavors are not well known and our knowledge of them is probably incomplete; consequently this list is presented as an aid to researchers in the hope that it will stimulate further investigation and discussion.

Bockstoce, John R., and Charles F. Batchelder

**1978 A gazetteer of whalers' place names for the Bering Strait region and western Arctic.** *J. Amer. Name Soc* 26:258-70.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** From 1848, when the rich whaling grounds of Bering Strait were discovered, to 1910, when the industry collapsed, American whalers made more than 2,000 voyages to the Bering, Chukchi and Beaufort Seas in search of the bowhead whale. Because the cartography of these waters was rudimentary at best, the whalers quickly developed their own nomenclature for the geographical features of the area, or, where convenient, adopted or adapted nomenclature from Russian and British charts. Although the official committees for geographical names in the United States, Canada and the Soviet Union have not accepted many of these names for standard usage and others have been substantially changed through translation or transliteration, many survive in common parlance, and others are found widely in the literature of the late nineteenth and early twentieth centuries. I have compiled this gazetteer of obsolete and obscure names as an aid to historians and geographers in identifying the features designated by them. In the list that follows the whaler's name is first given, followed by the general regional position of the feature and its other colloquial names; the current name is then given with the feature's latitude and longitude and any remarks.

Bockstoce, John R. , and Daniel B. Botkin

**1982 The harvest of Pacific walrus by the pelagic whaling industry, 1848 to 1914.** *Arctic and Alpine Research* 14(3):183-188.

**ABSTRACT:** The most important agent in the historical reduction of the Pacific walrus (*Odobenus rosmarus*) population in the 19th century was the pelagic whaling industry. From 1848, when the whaling grounds of Bering Strait were discovered, to 1914, by which time the industry had collapsed, whaling vessels made more than 2700 cruises seeking bowhead whales in the waters of the western Arctic. Large numbers of walrus also were taken during those voyages. We present here the results of the first systematic attempt to determine the size of the pelagic whaling industry's walrus harvest. Our data are drawn from the best extant records: the logbooks of the whaling vessels. Our data indicate that in the course of their voyages, the whalers captured approximately 140,000 walrus.

**KEYWORDS:**

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**KEYWORDS:****NOTES:**

Bockstoce, John R., and Mark A. Fraker

**1980 Summer distribution of bowhead whales in the Eastern Beaufort Sea.** Marine Fisheries Review 42(9):57-64.

**ABSTRACT:****KEYWORDS:**

**NOTES:** Nearly all bowhead whales, *Balaena mysticetus*, of the western Arctic stock migrate each spring from wintering grounds in the Bering Sea to summering ground in the eastern Beaufort Sea and Amundsen Gulf where they stay for up to 4 months. The whales begin their spring journey soon after ice conditions permit (late April) and they remain on the summering grounds nearly until freeze-up. Although the summering area must be of major significance in the ecology of these animals, little is known about its geographical extent or the reason for its importance. Our purpose is to describe the geographical area used by the bowheads during the July-September period (based on the locations of sightings and kills made by commercial whalers near the turn of the century and on recent observations) and to suggest an explanation of the significance of this area to these animals.

Bockstoce, John R., and W.M. Marquette

**1980 Historical shore-based catch of bowhead whales in the Bering, Chukchi, and Beaufort Seas.** Marine Fisheries Review 42(9-10):5-19.

**ABSTRACT:****KEYWORDS:****NOTES:**

Bodenhorn, Barbara A.

**1988 Whales, souls, children, and other things that are good to share: Core metaphors in a contemporary whaling society.** Cambridge Anthropology 13(1):1-19.

**ABSTRACT:****KEYWORDS:****NOTES:**

Bodenhorn, Barbara A.

**1990 "I'm not the great hunter, my wife is": Iñupiat and anthropological models of gender.** Etudes/Inuit/Studies 14(1-2):55-74.

**ABSTRACT:**

**KEYWORDS:****NOTES:**

Bodenhorn, Barbara A.

**1993 Gendered spaces, public places: public and private revisited on the North Slope of Alaska.** Landscape: Politics and Perspectives, Oxford: Berg:169-203.

**ABSTRACT:****KEYWORDS:****NOTES:**

Bodenhorn, Barbara A.

**2000 He used to be my relative': Exploring the bases of relatedness among Iñupiat of northern Alaska.** Cultures of relatedness: New approaches to the study of kinship:128-148.

**ABSTRACT:****KEYWORDS:****NOTES:**

Bodenhorn, Barbara A.

**2000 It's good to know who your relatives are but we were taught to share with everybody: Shares and sharing among Inupiaq households.** Senri Ethnological Studies 53:27-60.

**ABSTRACT:****KEYWORDS:****NOTES:**

Bodenhorn, Barbara A.

**2003 Fall whaling in Barrow, Alaska: a consideration of strategic decision-making.** Indigenous ways to the present: native whaling in the Western Arctic:277.

**ABSTRACT:****KEYWORDS:****NOTES:**

Bodenhorn, Barbara A., and G. Vom Bruck

**2006 Entangled in histories: an introduction to the anthropology of names and naming.** An Anthropology of Names and Naming:1-30.

**ABSTRACT:****KEYWORDS:****NOTES:**

Bodin, Örjan, and Beatrice I. Crona

**2009 The role of social networks in natural resource governance: What relational patterns make a difference?** Global Environmental Change 19(3):366-374.

**ABSTRACT:** Recent research has identified the existence of social networks as a common and important denominator in cases where different stakeholders have come together to effectively deal with natural resource problems and dilemmas. It has even been shown that social networks can be more important than the existence of formal institutions for effective enforcement and compliance with environmental regulations. However, all social networks are not created equal. On the contrary, the structural pattern of relations (i.e. the topology) of a social network can have significant impact on how actors actually behave. This clearly has implications for actors' abilities to manage environmental challenges. This review aims to add more precision to initial insights and pending hypotheses about the positive impacts of social networks on governance processes and outcomes, by reviewing and synthesizing empirically based literature explicitly studying structural characteristics of social networks in natural resource governance settings. It is shown that significant differences in governance processes and outcomes can be expected among networks experiencing structural differences in terms of density of relations, degree of

cohesiveness, subgroup interconnectivity, and degree of network centralization. Furthermore, the review shows that none of these structural characteristics present a monotonically increasing positive effect on processes of importance for resource governance, and that favoring one characteristic likely occurs at the expense of another. Thus, assessing the most favorable level and mix of different network characteristics, where most of the positive governance effects are obtained while undesired effects are minimized, presents a key research and governance challenge.

**KEYWORDS:** Natural resource governance; Social networks; Network analysis; Environmental management; Social-ecological systems; Natural resource management

**NOTES:** doi: DOI: 10.1016/j.gloenvcha.2009.05.002

Bodin, Örjan, Maria Tengö, Anna Norman, Jakob Lundberg, and Thomas Elmqvist

**2006 The value of small size: Loss of forest patches and ecological thresholds in southern Madagascar.** Ecological Applications 16(2):440-451.

**ABSTRACT:** The article discusses the study on the role of fragmented forest habitat in generating ecosystem services in a human-dominated agricultural landscape and the loss of forest habitats on the ecosystem services in southern Madagascar. The authors addressed two ecosystem services dependent on the forest habitats such as the crop pollination services by wild and semi-domesticated bees and the seed dispersal services based on the presence of ring-tailed lemurs. The results of the study showed that, the fraction of the landscape presently the taboo system contributes to supporting the generation of these services by protecting the forest patches.

**KEYWORDS:** AGRICULTURAL landscape management

FRAGMENTED landscapes  
FORESTS & forestry  
NATURAL resources  
FOREST conservation  
ECOSYSTEM management  
ENVIRONMENTAL management  
HABITAT (Ecology)  
LEMURS  
MADAGASCAR  
forest fragmentation  
graph  
habitat loss  
pollination  
seed dispersal  
small habitats  
southern Madagascar

**NOTES:** Bodin, Örjan 1; Email Address: orjan@system.ecology.su.se; Tengö, Maria 1; Norman, Anna 1; Lundberg, Jakob 1; Elmqvist, Thomas 1; Affiliations: 1: Department of Systems Ecology, Stockholm University, 106 91 Stockholm, Sweden; Issue Info: Apr2006, Vol. 16 Issue 2, p440; Thesaurus Term: AGRICULTURAL landscape management; Thesaurus Term: FRAGMENTED landscapes; Thesaurus Term: FORESTS & forestry; Thesaurus Term: NATURAL resources; Thesaurus Term: FOREST conservation; Thesaurus Term: ECOSYSTEM management; Thesaurus Term: ENVIRONMENTAL management; Thesaurus Term: HABITAT (Ecology); Subject Term: LEMURS; Subject: MADAGASCAR; Author-Supplied Keyword: forest fragmentation; Author-Supplied Keyword: graph; Author-Supplied Keyword: habitat loss; Author-Supplied Keyword: pollination; Author-Supplied Keyword: seed dispersal; Author-Supplied Keyword: small habitats; Author-Supplied Keyword: southern Madagascar;

Number of Pages: 12p; Illustrations: 1 Black and White Photograph, 4 Diagrams, 1 Graph;  
Document Type: Article

Bogomolnaia, Anna, and Matthew O. Jackson

**2002 The Stability of Hedonic Coalition Structures.** Games and Economic Behavior 38(2):201-230.

**ABSTRACT:** We consider the partitioning of a society into coalitions in purely hedonic settings, i.e., where each player's payoff is completely determined by the identity of other members of her coalition. We first discuss how hedonic and nonhedonic settings differ and some sufficient conditions for the existence of core stable coalition partitions in hedonic settings. We then focus on a weaker stability condition: individual stability, where no player can benefit from moving to another coalition while not hurting the members of that new coalition. We show that if coalitions can be ordered according to some characteristic over which players have single-peaked preferences, or where players have symmetric and additively separable preferences, then there exists an individually stable coalition partition. Examples show that without these conditions, individually stable coalition partitions may not exist. We also discuss some other stability concepts, and the incompatibility of stability with other normative properties. Journal of Economic Literature Classification Numbers: C71, A14, D20.

**KEYWORDS:** hedonic game

coalition  
individual stability  
cooperative game

**NOTES:**

Bolze, D. A., and M. B. Lee

**1989 Offshore oil and gas development : Implications for wildlife in Alaska.** Marine Policy 13(3):231-248.

**ABSTRACT:** The offshore oil and gas resources in Alaska, though having undergone extensive exploration, are still in the primary stages of development. The environmental impacts of offshore production would extend beyond the platform into the coastal zone and on land, as oil and gas are extracted, piped and shipped, and refined. This article discusses the vulnerabilities of the fish and wildlife species to oil and gas development activities. By determining the risks to wildlife before the onslaught of development, environmentally responsible management of the energy resources of Alaska and elsewhere can be accomplished.

**KEYWORDS:**

**NOTES:**

Bonacich, Phillip

**1972 Factoring and weighting approaches to status scores and clique identification.** Journal of Mathematical Sociology 2:113-120.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Book, Patricia A., Mim Dixon, and Scott Kirchner

**1983 Native Healing in Alaska—Report From Serpentine Hot Springs.** Western Journal of Medicine 139(6):923.

**ABSTRACT:** Traditional Alaskan Native healing practices, specifically sweat bathing and hot springs bathing, have medical connotations in that they involve sociocultural factors important to practicing medicine among Alaskan Native people. At Serpentine Hot Springs in northwest Alaska, relief for arthritis, back pain, hip pain, headaches, skin rashes and other disorders was

sought. The "treatment setting" was an informal bathhouse and bunkhouse and Eskimo tribal doctors and patients were assigned tasks related to healing. Continuity with traditional cultural patterns was achieved in several ways: meals tended to be traditional Eskimo fare, the predominant language spoken was Inupiaq and styles of interaction were Inupiat in character. All patients showed improvement. The experience reported herein is instructive for those seeking innovative approaches treating Native American groups.

**KEYWORDS:** Alaska Native; medicine; hot spring; sweat bath; Serpentine Hot Springs

**NOTES:** "Evidence suggests that the therapeutic value of hot springs use by the Maniilaq group is enhanced by the interplay of cultural, social and spiritual components. Simple heat treatments or whirlpool therapy lacks this important context: an informal setting, group participation and continuity with traditional cultural patterns. This interplay between the content and context of healing reflects the importance of cultural revitalization to the spirit of the Native people of northwest Alaska. Programs like that sponsored by Maniilaq at Serpentine Hot Springs provide an opportunity for Western-trained physicians to refer patients for physical therapy in a context that is culturally appropriate and meets their psychosocial needs." (p. 139)

Borgatti, Jean

**2009 Reclaiming Heritage: Alternative Imaginaries of Memory in West Africa.** International Journal of African Historical Studies 42(1):123-125.

**ABSTRACT:** The article reviews the book "Reclaiming Heritage: Alternative Imaginaries of Memory in West Africa," edited by Ferdinand de Jong and Michael Rowlands.

**KEYWORDS:** DE Jong

Ferdinand

ROWLANDS

Michael

RECLAIMING Heritage: Alternative Imaginaries of Memory in West Africa (Book)

AFRICA

West

BOOKS -- Reviews

NONFICTION

**NOTES:**

Borgatti, Stephen P.

**2002 NetDraw: Graph Visualization Software.:** Harvard: Analytic Technologies.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Borgatti, S. P., and I. Carboni

**2007 On measuring individual knowledge in organizations.** Organizational Research Methods 10(3):449-462.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** Times Cited: 1

Boyce, Daniel G., Marlon R. Lewis, and Boris Worm

**2010 Global phytoplankton decline over the past century.** Nature 466(7306):591-596.

**ABSTRACT:** In the oceans, ubiquitous microscopic phototrophs (phytoplankton) account for approximately half the production of organic matter on Earth. Analyses of satellite-derived

phytoplankton concentration (available since 1979) have suggested decadal-scale fluctuations linked to climate forcing, but the length of this record is insufficient to resolve longer-term trends. Here we combine available ocean transparency measurements and in situ chlorophyll observations to estimate the time dependence of phytoplankton biomass at local, regional and global scales since 1899. We observe declines in eight out of ten ocean regions, and estimate a global rate of decline of ~1% of the global median per year. Our analyses further reveal interannual to decadal phytoplankton fluctuations superimposed on long-term trends. These fluctuations are strongly correlated with basin-scale climate indices, whereas long-term declining trends are related to increasing sea surface temperatures. We conclude that global phytoplankton concentration has declined over the past century; this decline will need to be considered in future studies of marine ecosystems, geochemical cycling, ocean circulation and fisheries.

**KEYWORDS:** plant sciences; environmental science; climate science; mathematics; statistics

**NOTES:** COMMENTS QUOTED FROM WALL STREET JOURNAL STORY 2010-07-28:

"Researchers have long debated whether phytoplankton concentrations have increased or declined. The algae have flourished in many coastal areas because increased runoff from rivers brings nutrients that the algae gorge on. However, no one has properly assessed whether the global oceans are losing or gaining phytoplankton, which forms the base of the marine food chain, from crustaceans to fish and ultimately to humans.

"Consistent satellite-based measurements exist only from 1997, so scientists at Dalhousie University in Nova Scotia, Canada instead used data obtained with a simple oceanography device known as a Secchi. Used by scientists since the late 1800s, a Secchi is a disk lowered into the water to provide an estimate of water clarity and thus serves as a proxy measure of phytoplankton abundance.

"By collating and analyzing about half a million Secchi observations, plus other direct measurements of algae, the Dalhousie team estimated that phytoplankton levels declined by about 1% of the global average each year from 1899 onward. The data are more reliable for recent decades, translating into a 40% decline in algae since 1950.

"The team investigated several factors that could have caused the decline, including wind intensity, cyclical climate changes and sea-surface temperature. "We found that temperature had the best power to explain the changes," said Boris Worm, a marine biologist at Dalhousie and co-author of the study.

"Marine algae live in the upper layers of the ocean but rely on nutrients that circulate up from lower layers. Rising temperatures mean the different water layers mix less with each other, so fewer nutrients reach the algae. However, Dr. Worm notes that algal abundance can be affected by other factors, such as shifts in predator-prey populations.

"Mike Behrenfeld, an expert on phytoplankton who has read the Nature paper, said it was similar to a 1992 study which also used Secchi data to show a long-term decline in marine algae in the north Pacific. "But this paper covers the globe," said Dr. Behrenfeld of Oregon State University. "And the scientists also took the next step of relating the [algal decline] to sea temperatures."

Boyce, J.R., M. Herrmann, D. Bischak, and J.A. Greenberg

**1993 The Alaska salmon enhancement program: a cost/benefit analysis.** Marine Resource Economics 8(4).

**ABSTRACT:** In May 1991, the Alaska Senate's Special Committee on Domestic and International Commercial Fisheries initiated the first review of the state's salmon enhancement program since its inception 20 years ago. As part of this review, a cost/benefit analysis of the State's enhancement program for salmon was performed with cooperation from the Fisheries Research Enhancement Division of the Alaska Department of Fish and Game. **The main results are that the additional producer's surplus generated by the pink and sockeye hatchery programs are estimated to be less than the costs of running these programs.** Eliminating the entire pink or sockeye salmon programs is estimated to increase net benefits by about 8%

and 6%, respectively. A 15% increase in either program is estimated to result in a reduction in net benefits and a 15% decrease in either program is estimated to result in a slight increase in net benefits. Estimates of the confidence intervals for net benefits suggest that the gains from the elimination of either the pink program or the sockeye program are statistically different from zero. However, changes of plus or minus 15% of current hatchery production are found not to statistically affect net benefits.

**KEYWORDS:**

**NOTES:**

Braem, Nicole S., Sverre Pedersen, James J. Simon, David S. Koster, Tina Kalkeak, Price Leavitt, James Patkotak, and Patsy Neakok

**2011 Monitoring of annual caribou harvests in the National Petroleum Reserve in Alaska: Atqasuk, Barrow, and Nuiqsut, 2003–2007.** Fairbanks, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report summarizes the results of a 5-year community-based research project conducted cooperatively by the Alaska Department of Fish and Game (ADF&G) Division of Subsistence, the Inupiat Community of the Arctic Slope (ICAS), and the United States Bureau of Land Management (BLM). Through harvest surveys and key respondent interviews, the cooperators sought to document community caribou harvest, harvest areas, and select contextual information in 3 North Slope communities, Atqasuk, Barrow and Nuiqsut, from 2003 through 2007. Over the course of the 5-year time period, Atqasuk caribou harvests showed an overall decline. Barrow and Nuiqsut's harvests were stable. The majority of community harvest occurred in June through September. Patterns emerged in the intensity of use and productivity of hunt areas by season.

**KEYWORDS:** Caribou, subsistence hunting, Inupiat Community of the Arctic Slope, National Petroleum Reserve, North Slope, Bureau of Land Management, Barrow, Nuiqsut, Atqasuk

**NOTES:**

Brander, K. M.

**2007 Global fish production and climate change.** Proceedings of the National Academy of Sciences 104(50):19709-19714.

**ABSTRACT:** Current global fisheries production of ~160 million tons is rising as a result of increases in aquaculture production. A number of climate-related threats to both capture fisheries and aquaculture are identified, but we have low confidence in predictions of future fisheries production because of uncertainty over future global aquatic net primary production and the transfer of this production through the food chain to human consumption. Recent changes in the distribution and productivity of a number of fish species can be ascribed with high confidence to regional climate variability, such as the El Niño-Southern Oscillation. Future production may increase in some high-latitude regions because of warming and decreased ice cover, but the dynamics in low-latitude regions are governed by different processes, and production may decline as a result of reduced vertical mixing of the water column and, hence, reduced recycling of nutrients. There are strong interactions between the effects of fishing and the effects of climate because fishing reduces the age, size, and geographic diversity of populations and the biodiversity of marine ecosystems, making both more sensitive to additional stresses such as climate change. Inland fisheries are additionally threatened by changes in precipitation and water management. The frequency and intensity of extreme climate events is likely to have a major impact on future fisheries production in both inland and marine systems. Reducing fishing mortality in the majority of fisheries, which are currently fully exploited or overexploited, is the principal feasible means of reducing the impacts of climate change.

**KEYWORDS:**

**NOTES:**



Branson, D.M.

**1978 Square Pegs in Round Holes: Alaska Native Claims Settlement Corporations Under Corporate Law.** Alaska Law Review 8:103.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Braund, Stephen R.

**1980 Cook Inlet subsistence salmon fishery.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report presents a detailed analysis of the users of the subsistence salmon fishery in Cook Inlet. The report discusses the problems imposed on noncommercial fishers by increasingly restrictive regulations which allocate Pacific salmon between commercial, sport, and subsistence uses.

**KEYWORDS:**

**NOTES:**

Braund, Stephen R.

**1983 Report on nutritional, subsistence, and cultural needs relating to the catch of bowhead whales by Alaskan Natives.** Pp. 1-60.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Braund, Stephen R., K. Brewster, Lisa Moorehead, Timothy P. Holmes, John A. Kruse, Sam Stoker, M. Glen, Eve Witten, David C. Burnham, and William E. Simeone

**1993 North Slope Subsistence Study Barrow, 1987, 1988 and 1989.** Anchorage: U.S. Department of the Interior, Minerals Management Service, Alaska OCS Region.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** As conceived by the MMS, this study had two objectives. "First, to collect, analyze, and report harvest data by species for the North Slope communities of Barrow and Wainwright. A second objective is to provide comprehensive and accurate mapped subsistence ranges for these communities' during the study period (three years in Barrow and two years in Wainwright.) The MMS's data collection goal was to gather "a reliable and accurate measure of yearly and seasonal subsistence harvests for each community by species and location." And, finally, the MMS envisioned "general use area" maps for each community. Thus, the MMS conceived of the mapping portion of this project as having "mapped subsistence ranges," subsistence harvest "locations," and mapped "general use areas."

Braund, Stephen R., David Burnham, Lisa Moorehead, Randall Hagenstein, Timothy Holmes, John A. Kruse, Phil Rowe, and Frank Andrews

**1985 A Social Indicators System for OCS Impact Monitoring.** Anchorage: U.S. Department of the Interior, Minerals Management Service, Alaska OCS Region.

**ABSTRACT:** This report describes the design of a data collection system to monitor changes in the individual well-being of Alaska residents who may be affected by OCS development activities. The system employs a limited set of indicators to provide a comprehensive description of individual well-being over time. The indicators are derived from existing data and from formal interviews with random samples of individuals. The justification for designing and implementing this data collection system is found in Section 256.82 of Title 30 of the Code of Federal Regulations. The system is designed to contribute to pre-lease assessments and to help fulfill the responsibilities of the Minerals Management Service to monitor the effects of development.

The first stage of the design effort consisted of a preliminary identification of social goals recognized by Alaska's rural coastal residents. These goals included universally recognized concerns such as housing, health, and income as well as regionally and culturally specific social goals. These initially identified goals were then field tested through key informant interviews and a comparison of goals with current issues. The goals were modified on the basis of field test results and used as a framework for the identification of indicators of individual well-being. Individual social indicators of well-being were developed according to explicit rules. At least one indicator had to be included for each of the most detailed goals identified (subgoals). The meaning of each indicator had to correspond with the meaning of one, and only one, subgoal. All indicators had to directly measure individual well-being and must accurately reflect reality and actual change. Researchers sought to develop both objective and subjective indicators for each subgoal. Existing data sources were reviewed for potential indicators. Researchers found that existing data sources are inadequate as the sole basis for a social indicators system. Therefore, indicators based on primary data were developed, repeatedly tested and modified, and incorporated into a single questionnaire. The report describes the steps necessary to implement the Alaska OCS Social Indicators System. Data collection efforts are scheduled to coincide with the current leasing schedule. Key subpopulations are identified as the targets for primary data collection. The report concludes with a discussion of how the social indicator data can be effects used in pre-lease of OCS development assessments and in studies of the actual activities on individual well-being.

**KEYWORDS:****NOTES:**

Braund, Stephen R., David C. Burnham, Timothy P. Holmes, Lisa Moorehead, and John A. Kruse  
**1988 North Slope Subsistence Study, Barrow, 1987.** Anchorage: U.S. Department of the Interior, Minerals Management Service, Alaska OCS Region.

**ABSTRACT:****KEYWORDS:****NOTES:**

Braund, Stephen R., David C. Burnham, Eric Lining, Lisa Moorehead, Timothy P. Holmes, Eve Witten, and John A. Kruse  
**1989 North Slope Subsistence Study, Wainwright, 1988.** Anchorage: U.S. Department of the Interior, Minerals Management Service, Alaska OCS Region.

**ABSTRACT:****KEYWORDS:****NOTES:**

Braund, Stephen R., Timothy P. Holmes, John A. Kruse, Lisa Moorehead, Eve Witten, David C. Burnham, and Sam Stoker  
**1989 North Slope Subsistence Study, Barrow, 1988.** Anchorage: U.S. Department of the Interior, Minerals Management Service, Alaska OCS Region.

**ABSTRACT:****KEYWORDS:****NOTES:**

Braund, Stephen R., Eric Loring, Lisa Moorehead, David C. Burnham, and John A. Kruse  
**1993 North Slope Subsistence Study, Wainwright, 1988-1989.** Anchorage: U.S. Department of the Interior, Minerals Management Service, Alaska OCS Region.

**ABSTRACT:****KEYWORDS:**

**NOTES:** The North Slope Subsistence Study, sponsored by the Minerals Management Service (MMS), was a three year study of Barrow and Wainwright residents' subsistence harvests. The major focus of the study was to collect harvest and location data for species used in these

communities. This report is the second of two annual reports on the findings of the Wainwright research. The first year of Wainwright data collection began on April 1, 1988 and continued through March 31, 1989. Throughout this report, this time period is referred to as "Year One." The second and final year, Year Two, continued from April 1, 1989 through March 31, 1990. In addition to presenting the Year Two data for the first time, this report contains the Year One data. The current presentation of Year One data contains some revisions to the data published in the previous report (S.R. Braund & Associates [SRB&A] and Institute of Social and Economic Research [ISER] 1989b) based on new or corrected information gathered in the course of Year Two data collection.

Braund, Stephen R., Eric Loring, Lisa Moorehead, David C. Burnham, and John A. Kruse  
**1993 North Slope Subsistence Study, Wainwright, 1988-1989 Appendices.** Anchorage: U.S. Department of the Interior, Minerals Management Service, Alaska OCS Region.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** Appendices A and B include seasonal rounds, calendar listings of activities and events, data tables, data figures (charts and graphs), and subsistence harvest site maps of Year One and Year Two. Appendix C describes methodology used in Wainwright to collect comprehensive community harvest data by species and location as well as a small set of household characteristics.

Braund, Stephen R., William E. Simeone, and Lisa Moorehead  
**1991 Subsistence and cultural need for bowhead whales by the village of Little Diomedé, Alaska.** Pp. 1-49: Alaska Eskimo Whaling Commission.

**ABSTRACT:** The purpose of this report is twofold. First, this report documents the whaling history of Little Diomedé to facilitate an informed decision in the matter of Little Diomedé's request for a bowhead whale quota. Second, this report addresses the issue of quantifying Little Diomedé's cultural and subsistence need for bowhead whale.

**KEYWORDS:**

**NOTES:**

Bravo, Michael T.

**2006 Against determinism: A reassessment of Marcel Mauss's essay on seasonal variations.** *Etudes/Inuit/Studies* 30(2):33-49.

**ABSTRACT:** Le célèbre «Essai sur les variations saisonnières des sociétés Eskimos» de Marcel Mauss est traditionnellement compris comme un texte sur la prééminence du monde social dans le fait de déterminer et d'imposer une organisation saisonnière au monde physique. De telles interprétations de la saisonnalité ne parviennent pas d'ordinaire à prendre correctement en compte les débats actuels sur la terre et sur la société dans l'Europe et l'Amérique du Nord contemporaines. En examinant attentivement le contexte historique de l'essai, on découvre la forte possibilité d'une lecture alternative: qu'il ait été rédigé dans un but polémique à l'encontre de la théorie anthropogéographique de l'école de Friedrich Ratzel. La cible première était Hans-Peder Steensby, disciple de Ratzel. En décrivant Steensby comme n'étant préoccupé exclusivement que de géographie physique, Mauss a réinterprété les données de celui-ci à l'intérieur de ses propres données contextuelles de morphologie sociale. Il en a conclu que le principe crucial qui gouvernait la vie saisonnière des Inuit était la symbiose entre le monde social et le monde physique, et non pas la détermination physique ou les adaptations technologiques identifiées par les anthropogéographes. Le fait de comprendre que Mauss cherchait à distancier sa propre sociologie/anthropologie de la géographie nous donne la possibilité de réfléchir à la divergence dans l'orientation théorique et le choix des questions de recherche dans la communauté des chercheurs en études inuit. The famous "Seasonal Variations of the Eskimo" by Marcel Mauss has traditionally been understood as a text about the

dominance of the social world in determining and imposing seasonal organisation on the physical world. Such interpretations of seasonality typically fail to take adequate account of contemporary European and North American debates about land and society. Paying close attention to the historical context of the essay reveals strong evidence for an alternative reading: that it was written as a polemic against anthropogeographical theory from the school of Friedrich Ratzel. The prime target was Hans-Peder Steensby, an intellectual disciple of Ratzel. Depicting Steensby as exclusively concerned with physical geography, Mauss reinterpreted his evidence within his own evidential context of social morphology. He concludes that the crucial principle governing Inuit seasonal life is the between the social and physical worlds-and not the physical determination or technological adaptations diagnosed by the anthropogeographers. Understanding that Mauss was seeking to distance his own sociology/anthropology from geography provides an opportunity to reflect on the divergence in theoretical orientation and choice of research problems amongst the community of Inuit studies.

**KEYWORDS:****NOTES:**

Brelsford, Taylor

**1982 Equality and science: A thematic analysis of sportsmen's opposition to the Alaskan subsistence priority.** *The Beaver*:1-62.

**ABSTRACT:** This paper examines the public reaction to a law granting special regulatory status to subsistence harvest of wildlife in Alaska, a form of harvest defined in terms of rural residency, customary and direct dependence, and lack of economic alternatives, not in terms of ethnicity. In Alaska, by mid-1981 this reaction had taken the form of an organized movement of sportsmen's associations, the history of which is traced in Section 2 of the present paper. From this account it is clear that the principal strategy of the sportsmen's account it is clear that the principal strategy of the sportsmen's movement involves an appeal directly to public opinion, and as a result, the perspective which they present and the means by which thier views are made persuasive form an important topic for analysis...

**KEYWORDS:****NOTES:**

Brelsford, Taylor

**1983 A theoretical and methodological review of the Alaska subsistence literature.** Pp. 1-35: Northern Research and Science Advisor, Department of Indian and Northern Affairs.

**ABSTRACT:****KEYWORDS:****NOTES:**

Brelsford, Taylor

**1992 Cooperative management: Bridging cultural gulfs between managers and users.** *In* Gates of the Arctic Subsistence Resource Commission meeting. Pp. 14-16. Fairbanks, Alaska.

**ABSTRACT:****KEYWORDS:****NOTES:**

Brelsford, Taylor

**1995 A compilation and summary of ethical principles for Arctic research conservation of Arctic Flora and Fauna International Working Group.** Pp. 1-22. Iqaluit, Canada: Senior Arctic Affairs Officials.

**ABSTRACT:****KEYWORDS:****NOTES:**

Brelsford, Taylor

**1998 A meaningful voice: Federal regional councils and subsistence management.** *In* Cultural survival quarterly, Vol. 22.

**ABSTRACT:**

**KEYWORDS:** Alaska, law, legislation, subsistence, economy, management,

**NOTES:**

Brelsford, Taylor, Ann Fienup-Riordan, Joseph G. Jorgensen, Steven McNabb, Patricia Petrivelli, Lynn Robbins, and Michael Galginaitis

**1992 Social Indicators Study of Alaskan Coastal Villages I. Key Informant Summaries, Volume 1 Schedule A Regions (North Slope, NANA, Calista, Aleutian-Pribilof).** Vol. 1. Anchorage: U.S. Department of the Interior, Minerals Management Service, Alaska OCS Region.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** The focus of this document, and in fact the entire Social Indicators study, is on Alaska Natives--Inupiaq and Yupik Eskimos, Athabascans, and Aleuts--for two important reasons: (1) Alaska Natives are numerically dominant populations in rural areas closest to potential offshore oil development sites and (2) their economic adjustments are most vulnerable to potential impacts from such development.

Brelsford, Taylor, Raymond Peterson, and Terry L. Haynes

**1986 An overview of resource use patterns in three Central Kuskokwim communities: Aniak, Crooked Creek, and Red Devil.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report documents the contemporary subsistence harvest areas, seasonal rounds, and resource and regulatory concerns of the residents of Aniak, Crooked Creek, and Red Devil, Alaska. Conducted under contract to the ADF&G Division of Subsistence, the project originated in response to local requests that such documentation be provided for consideration as the state developed its Kuskokwim Area Plan. Blueline maps depicting resource harvest areas for the 3 communities are described in this report, but the maps themselves appear under separate cover.

**KEYWORDS:**

**NOTES:**

Bridges, Karen

**1998 Uncooperative Federalism: The Struggle over Subsistence and Sovereignty in Alaska Continues.** Pub. Land & Resources L. Rev. 19:131.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Briggs, JL

**1985 Socialization, family conflicts and responses to culture change among Canadian Inuit.** Arctic Medical Research 40:40.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Briggs, Jean L.

**1970 Never in anger: portrait of an Eskimo family.** Cambridge: Harvard University Press.

**ABSTRACT:** Describes emotional patterning of the *Utkuhikhalingmiut*, a small group of Eskimos who live at the mouth of the Back River, in the context of their life as seen as lived by the author. Based on field work conducted between June 1963 and March 1965.

**KEYWORDS:** Eskimos, Inuit, Psychology

**NOTES:**

Briggs, Jean L.

**1991 Expecting the unexpected: Canadian Inuit training for an experimental lifestyle.**  
Ethos 19(3):259-287.

**ABSTRACT:**

**KEYWORDS:** Descriptor: Play -- Psychological aspects -- Canada.

Ethnopsychology -- Canada.

Eskimos -- Canada -- Socialization.

Child psychology -- Canada.

Socialization -- Research -- Canada.

**NOTES:** Additional Info: Washington, D.C

Source of data: Anthropological Literature, Harvard University.

Jean L. Briggs.

Briggs, Jean L.

**1997 From trait to emblem and back: living and representing culture in everyday Inuit life.** Arctic anthropology 34(1):227-235.

**ABSTRACT:**

**KEYWORDS:** Descriptor: Ethnicity -- Canada.

Inuit -- Canada -- Social conditions.

Canada -- Population.

Personality and culture -- Canada.

Emblems -- Canada -- Symbolic aspects.

**NOTES:** Additional Info: Madison

Source of data: Anthropological Literature, Harvard University.

Jean L. Briggs.

Briggs, Jean L.

**1998 Inuit morality play : the emotional education of a three-year-old.** New Haven CT  
Yale University Press.

**ABSTRACT:** Jean L. Briggs takes us through six months of dramatic interactions in the life of Chubby Maata, a three-year-old girl growing up in a Baffin Island hunting camp. The book examines the issues that engaged the child - belonging, possession, love - and shows the process of her growing. Briggs questions the nature of "sharedness" in culture and assumptions about how culture is transmitted. She suggests that both cultural meanings and strong personal commitment to one's world can be (and perhaps must be) acquired not by straightforwardly learning attitudes, rules, and habits in a dependent mode but by experiencing oneself as an agent engaged in productive conflict in emotionally problematic situations. Briggs finds that dramatic play is an essential force in Inuit social life. It creates and supports values; engenders and manages attachments and conflicts; and teaches and maintains an alert, experimental, constantly testing approach to social relationships.

**KEYWORDS:** Inuit, children, Psychology, Attitudes, social life, customs, socialization, Nunavut, Baffin Island

**NOTES:**

Briggs, Jean L.

**2000 Emotions have many faces : Inuit lessons.** Anthropologica 42(2):157-164.

**ABSTRACT:**

**KEYWORDS:** Descriptor: Emotions -- Research.

Inuit -- Conduct of life.

Ethnology -- Canada -- Arctic regions.

Socialization -- Arctic regions.

Social learning -- Arctic regions.

**NOTES:** Using Smart Source Parsing

( ), p. Additional Info: Waterloo Wilfrid Laurier University Press

Source of data: Anthropological Literature, Harvard University.

by Jean L. Briggs.

Briggs, Jean L.

**2001 "Qallunaat run on rails; Inuit do that they want to do" : 'autonomies' in camp and town.** Etudes/Inuit/Studies 25:1-2.

**ABSTRACT:**

**KEYWORDS:** Descriptor: Autonomy.

Inuit -- Ethnic identity.

Canadians

English-speaking -- Ethnic identity.

Ethnicity -- Canada.

Child rearing -- Canada -- Ethnic aspects.

**NOTES:** Using Smart Source Parsing

( ), p. 229-247 Additional Info: Quebec Association Inuksiutiit Katimajit

Source of data: Anthropological Literature, Harvard University.

by Jean L. Briggs.

Briggs, Jean L.

**2008 Daughter and pawn: one ethnographer's routes to understanding children.** Ethos 36:449-56.

**ABSTRACT:**

**KEYWORDS:** Children, Empathy, Emotion, Ethnopsychology, Informant-researcher relationship, Cultural Ethnography, Inuit, Americas, North America, Canada

**NOTES:**

Brinkman, T. J., T. Chapin, G. Kofinas, and D. K. Person

**2009 Linking Hunter Knowledge with Forest Change to Understand Changing Deer Harvest Opportunities in Intensively Logged Landscapes.** Ecology and Society 14(1).

**ABSTRACT:** The effects of landscape changes caused by intensive logging on the availability of wild game are important when the harvest of wild game is a critical cultural practice, food source, and recreational activity. We assessed the influence of extensive industrial logging on the availability of wild game by drawing on local knowledge and ecological science to evaluate the relationship between forest change and opportunities to harvest Sitka black-tailed deer (*Odocoileus hemionus sitkensis*) on Prince of Wales Island, Alaska. We used data collected through interviews with local deer hunters and GIS analysis of land cover to determine relationships among landscape change, hunter access, and habitat for deer hunting over the last 50 yr. We then used these relationships to predict how harvest opportunities may change in the future. Intensive logging from 1950 into the 1990s provided better access to deer and habitat that facilitated deer hunting. However, successional changes in intensively logged forests in

combination with a decline in current logging activity have reduced access to deer and increased undesirable habitat for deer hunting. In this new landscape, harvest opportunities in previously logged landscapes have declined, and hunters identify second-growth forest as one of the least popular habitats for hunting. Given the current state of the logging industry in Alaska, it is unlikely that the logging of the remaining old-growth forests or intensive management of second-growth forests will cause hunter opportunities to rebound to historic levels. Instead, hunter opportunities may continue to decline for at least another human generation, even if the long-term impacts of logging activity and deer harvest on deer numbers are minimal. Adapting hunting strategies to focus on naturally open habitats such as alpine and muskeg that are less influenced by external market forces may require considerably more hunting effort but provide the best option for sustaining deer hunting as a local tradition over the long run. We speculate that managing deer habitat in accessible areas may be more important than managing the overall health of deer populations on a regional scale. We further suggest that the level of access to preferred hunting habitat may be just as important as deer densities in determining hunter efficiency.

**KEYWORDS:** access, forest change, hunting, local knowledge, logging, *Odocoileus hemionus sitkensis*, Sitka black-tailed deer, subsistence

**NOTES:**

Brinkman, Todd J., Gary P. Kofinas, F. S. Chapin, and David K. Person

**2007 Influence of hunter adaptability on resilience of subsistence hunting systems.**  
Journal of ecological anthropology 11(1):58-63.

**ABSTRACT:** The capacity of hunters to shape the fundamental properties of their lifestyle at times when extrinsic factors change the availability of subsistence foods is critical to subsistence cultures. Recent changes in deer hunting on Prince of Wales Island, Alaska illustrate the social-ecological challenges to the resilience of a rural subsistence hunting system and raise the broader question of whether efficient hunting strategies necessarily enhance resilience. During the latter half of the 20th century, indigenous people of Alaska's Prince of Wales Island adapted to changing subsistence opportunities by capitalizing on increased availability of deer due to clearcut logging and the construction of roads. Consequently, deer became a more important source of protein. Four decades later, a decline in logging activity is likely to reduce deer availability due to successional changes in habitat. In the face of this social-ecological change, the resilience of the deer hunting component of subsistence traditions will depend on hunters' capacity to adapt to irreversible landscape changes by adopting different harvest strategies that may require more effort to maintain sufficient levels of subsistence harvest. For example, hunters may return to pre-road hunting methods or reduce their reliance on deer for meat and re-emphasize marine resources. These ecologically driven changes in social harvesting practices suggest that adaptability protecting the fundamental properties of a subsistence system from one disturbance may increase vulnerability to another. We show that increased efficiency of a subsistence system did not necessarily enhance resilience if system flexibility is reduced.

**KEYWORDS:** subsistence, hunting, deer

**NOTES:** "Roads and clearcuts may represent a cultural trap analogous to ecological traps (*sensu* Kokko and Sutherland 2001) in which the long-term sustainability of that strategy is questionable and cultural resilience is diminished despite short-term gains in efficiency. Ultimately, building resilience into subsistence hunting of deer by indigenous and non-indigenous people of Prince of Wales will require careful reflection on the value of deer harvesting as a way of life and a concerted effort to modify and transform local traditions, perhaps to a less desirable strategy. This new strategy may be less efficient than during the period of intensive logging, but more efficient during the post-logging era and in the long term. Because of the continued abundance of marine resources, the fundamental properties of the subsistence system could potentially be maintained with reduced opportunities to harvest deer. Nonetheless, the level of effort to which hunters have become accustomed may have reduced system flexibility, resulting



in a subsistence lifestyle more vulnerable to state-altering shocks or perturbations. The implications of this case study to resilience thinking underscores the need to consider carefully the dynamics of tradition, the rate at which societies move towards greater efficiency, and the challenges associated with transforming those behavioral patterns." (p. 61-62)

Bristol, Tim

**1998 Subistence Alaska: important factor of the Native economy.** Native Americas 25:32-37.

**ABSTRACT:**

**KEYWORDS:** Descriptor: Alaska

Subsistence economy

Hunting and gathering societies

Economic anthropology

CULTURAL ETHNOGRAPHY

AMERICAS

NORTH AMERICA

Document Type: article

**NOTES:** Using Smart Source Parsing

no. 3 (), p. Journal Code: Native Amer

Britton, K., V. Grimes, J. Dau, and M. P. Richards

**2009 Reconstructing faunal migrations using intra-tooth sampling and strontium and oxygen isotope analyses: a case study of modern caribou (Rangifer tarandus granti).**

Journal of Archaeological Science 36(5):1163-1172.

**ABSTRACT:** Isotopic analyses of incrementally developed dental tissues can be used to reveal patterns of movement and diet in animals. However, the suitability of these methods for the reconstruction of herd movements has not yet been demonstrated. Inter-individual behavioural and isotopic variability at the herd scale, and the implications for archaeological and palaeocological applications, can only be demonstrated through the testing of modern animals. In this pilot study, dual-element isotopic profiles were created from incrementally developed dental tissues of five individuals selected from a modern herd of migratory Alaskan caribou (*Rangifer tarandus granti*). Enamel from second and third molars from the individuals was sequentially sampled in order to reconstruct time-series isotopic profiles. Variation in the strontium (Sr-87/Sr-86) and oxygen ( $\delta O-18(CARB)$ ) isotope ratios of sequentially sampled enamel were compared to documented herd movement patterns and local geological and environmental conditions. Four individuals displayed the same general trends, although absolute isotopic values varied. One individual displays a very different trend and may represent a behavioural outlier or an immigrant from a semi-domesticated reindeer herd. The implications of this study to herd movement reconstruction in the past are discussed. (C) 2009 Elsevier Ltd. All rights reserved.

**KEYWORDS:**

**NOTES:** Times Cited: 6

Britton, K., V. Grimes, J. Dau, and M. P. Richards

**2009 Reconstructing faunal migrations using intra-tooth sampling and strontium and oxygen isotope analyses: a case study of modern caribou (Rangifer tarandus granti).**

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**KEYWORDS:****NOTES:** Times Cited: 6

Brix, Kevin V., Robert Gerdes, Nathan Curry, Amanda Kasper, and Martin Grosell

**2010 The effects of total dissolved solids on egg fertilization and water hardening in two salmonids--Arctic Grayling (*Thymallus arcticus*) and Dolly Varden (*Salvelinus malma*).** Aquatic Toxicology 97(2):109-115.

**ABSTRACT:** Previous studies have indicated that salmonid fertilization success may be very sensitive to elevated concentrations of total dissolved solids (TDS) with effects at concentrations as low as 250 mg l<sup>-1</sup> being reported. However, interpretation of these studies is complicated by poor control performance and variable concentration response relationships. To address this, a series of experiments were performed to evaluate TDS effects on Arctic Grayling (*Thymallus arcticus*) and Dolly Varden (*Salvelinus malma*) fertilization success and identify possible mechanisms for previously observed test variability and any observed effects of TDS. Results indicate that some of the experiments reported here were likely confounded by extended milt holding times prior to experiment initiation. Milt holding times >6 h were shown to significantly reduce control fertilization and corresponding concentration response relationships were variable. When milt holding time was minimized during fertilization experiments, consistent control performance with >90% control fertilization was achieved and consistent concentration response relationships were observed for both species examined. Experiments performed under these conditions indicate that Arctic Grayling and Dolly Varden fertilization success is not sensitive to elevated TDS with EC20s (concentration causing 20% effect) of >2782 and >1817 mg l<sup>-1</sup> (the highest concentrations tested), respectively. However, TDS was shown to significantly affect embryo water absorption during the water hardening phase immediately following fertilization. The lowest observable effect concentrations (LOECs) for this endpoint were 1402 and 964 mg l<sup>-1</sup> for Arctic Grayling and Dolly Varden, respectively. The effect of reduced embryo turgidity, due to impaired water absorption, on resistance to mechanical damage under real world conditions needs further investigation in order to understand the implications of this observed effect.

**KEYWORDS:** Total dissolved solids

Salmonid

Fertilization success

Water hardening

**NOTES:**

Brix, Kevin V., Robert Gerdes, Nathan Curry, Amanda Kasper, and Martin Grosell

**2010 The effects of total dissolved solids on egg fertilization and water hardening in two salmonids--Arctic Grayling (*Thymallus arcticus*) and Dolly Varden (*Salvelinus malma*).** Aquatic Toxicology 97(2):109-115.

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**KEYWORDS:** Total dissolved solids

Salmonid

Fertilization success

Water hardening

**NOTES:**

Brock, Matthew, and Philippa A. Coiley-Kenner

**2009 A compilation of traditional knowledge about the fisheries of Southeast Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This study compiled and analyzed traditional ecological knowledge (TEK) for sockeye, coho, Chinook, pink, and chum salmon about subsistence fisheries in Southeast Alaska. Some TEK was also compiled and analyzed for Pacific herring, eulachon, steelhead trout, and Dolly Varden. Previously collected and documented knowledge was organized and made accessible in a textual database. This documentation of traditional knowledge demonstrated the continuing importance of sharing and trade of wild resources, especially fish, and the traditional conservation practices employed by Alaska Native subsistence users.

**KEYWORDS:** Traditional ecological knowledge, TEK, Pacific salmon, *Oncorhynchus*, sockeye salmon, Chinook salmon, coho salmon, pink salmon, chum salmon, Dolly Varden, steelhead trout, Pacific herring, eulachon, Southeast Alaska.

**NOTES:**

Brock, Matthew, and Michael F. Turek

**2007 Sitka Sound subsistence herring roe fishery, 2002, 2003, and 2006.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report presents the results of a 2006 survey performed as a cooperative effort between ADF&G and the Sitka Tribe of Alaska. The primary goal of this research project was to estimate the amount of Pacific herring *Clupea pallasii* roe harvested for subsistence in the 2006 fishery. The survey methodology used a face-to-face interview strategy to produce harvest

estimates of the total pounds taken of herring spawn on hemlock branches, hair seaweed, and other strata. The study found that 55% of Sitka households harvested a total of 219,356 lbs of herring roe. Of this total, 212,952 lbs were harvested on hemlock branches; 2,030 lbs on hair seaweed; and 4,372 lbs on *Macrocystis* kelp. Overall the harvest of herring roe by subsistence harvesters in Sitka in 2006 was less than the 2003 harvest, but greater than the 2002 harvest. Herring roe has been and continues to be an important subsistence resource for the residents of Sitka. It is recommended that the subsistence herring roe harvest survey be conducted jointly for several more survey years, to ascertain any trend in the harvest or stability in the fishery.

**KEYWORDS:** Pacific herring, *Clupea pallasii*, herring spawn on kelp, herring eggs, hair seaweed, *Macrocystis* kelp, Sitka, herring spawn on branches, subsistence fishing

**NOTES:**

Bromaghin, Jeffrey F.

**2005 A versatile net selectivity model, with application to Pacific salmon and freshwater species of the Yukon River, Alaska.** Fisheries Research 74(1-3):157-168.

**ABSTRACT:** Gillnet catch data from the lower Yukon River, AK, collected from 1990 to 2003 in conjunction with a sonar study to estimate the abundance of migrating fish, were assembled. The full dataset contained 92,029 records with complete species and length information. A subset of data for the eight most prevalent groups of fish was selected for the estimation of net selectivity. The reduced dataset contained 89,984 records for Chinook salmon (*Oncorhynchus tshawytscha*), summer and fall runs of chum salmon (*O. keta*), coho salmon (*O. kisutch*), pink salmon (*O. gorbuscha*), humpback whitefish (*Coregonus pidschian*), broad whitefish (*C. nasus*), and various cisco (*Coregonus*) species. A Pearson function was used as a net selectivity model for all eight groups of fish, though a parameter was added to accommodate the catch of fish that are relatively large for a particular mesh. Because most of these relatively large fish were probably not gilled, but rather caught by body parts other than the operculum, the extra parameter can be thought of as a tangling parameter. The parameters of the modified Pearson model were estimated using maximum likelihood, and variances were estimated through bootstrapping. Gillnets were found to be most efficient, for all eight groups of fish, when fish length is approximately twice as great as the perimeter of a mesh, and the corresponding location parameter of the Pearson model was estimated with high precision. As the Pearson function has apparently not been used previously as a net selectivity model, its suitability was compared to the normal, lognormal, gamma, inverse Gaussian, and bi-normal functions, which are commonly employed as net selectivity models. Model fit was evaluated on the basis of the value of the likelihood function obtained, Akaike's Information Criterion and scaled deviance statistics, and plots of estimated models and scaled catch data. The Pearson model was found to be quite flexible, and fit the data as well as or better than the other models for all eight groups of fish considered. Other researchers may wish to consider its use with their data.

**KEYWORDS:** Size selectivity

Unequal probability sampling

Gillnet

Catch-per-unit-effort

Maximum likelihood

SELECT

**NOTES:**

Bromaghin, Jeffrey F.

**2005 A versatile net selectivity model, with application to Pacific salmon and freshwater species of the Yukon River, Alaska.** Fisheries Research 74(1-3):157-168.

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**KEYWORDS:** Size selectivity

Unequal probability sampling

Gillnet

Catch-per-unit-effort

Maximum likelihood

SELECT

**NOTES:**

Brooks, Alfred H., George B. Richardson, and Arthur J. Collier

**1900 A reconnaissance of the Cape Nome and adjacent gold fields of Seward Peninsula, Alaska.** Reconnaissances in the Cape Nome and Norton Bay regions, Alaska in 1900:11-154.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Brooks, J.W.

**1953 The Pacific walrus and its importance to the Eskimo economy**, 1953. Vol. 18, pp. 503-510.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** Transactions of North American Wildlife and Natural Resource Conference

Brooks, J.W.

**1953 The Pacific walrus and its importance to the Eskimo economy**, 1953. Vol. 18, pp. 503-510.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** Transactions of North American Wildlife and Natural Resource Conference

Brooks, James W.

**1973 Subsistence report.** Pp. 6-7: The Alaska Department of Fish and Game.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Brower, C. D., A. Carpenter, M. L. Branigan, W. Calvert, T. Evans, A. S. Fischbach, J. A. Nagy, S. Schliebe, and I. Stirling

**2002 The polar bear management agreement for the southern Beaufort Sea: An evaluation of the first ten years of a unique conservation agreement.** *Arctic* 55(4):362-372.

**ABSTRACT:** Polar bears (*Ursus maritimus*) of the southern Beaufort Sea population, distributed from approximately Icy Cape, west of Point Barrow, Alaska, to Pearce Point, east of Paulatuk in Canada, are harvested by hunters from both countries. In Canada, quotas to control polar bear hunting have been in place, with periodic modifications, since 1968. In Alaska, passage of the United States Marine Mammal Protection Act (MMPA) of 1972 banned polarbear hunting unless done by Alaska Natives for subsistence. However, the MMPA placed no restrictions on numbers or composition of the subsistence hunt, leaving open the potential for an overharvest with no possible legal management response until the population was declared depleted. Recognizing that as a threat to the conservation of the shared polar bear population, the Inuvialuit Game Council from Canada and the North Slope Borough from Alaska negotiated and signed a user-to-user agreement, the Polar Bear Management Agreement for the Southern Beaufort Sea, in 1988. We reviewed the functioning of the agreement through its first 10 years and concluded that, overall, it has been successful because both the total harvest and the proportion of females in the harvest have been contained within sustainable limits. However, harvest monitoring needs to be improved in Alaska, and awareness of the need to prevent overharvest of females needs to be increased in both countries. This agreement is a useful model for other user-to-user conservation agreements.

**KEYWORDS:**

**NOTES:** Times Cited: 13

Brower jr, Harry

**1998 Subsistence hunting activities and the Inupiat Eskimo.** *In* Cultural survival quarterly. Pp. 37-9, Vol. 22.

**ABSTRACT:**

**KEYWORDS:** Descriptor: Taqulik Hepa

Alaska

Inupiat

Subsistence economy

Survival strategies (human ecology)

Hunting

CULTURAL ETHNOGRAPHY

AMERICAS

NORTH AMERICA

Document Type: article

**NOTES:** Using Smart Source Parsing

no. 3 (), p. Journal Code: Cult Survival Q

Brown, Caroline, and Lisa Rieger

**2001 Culture and Compliance: Locating the Indian Child Welfare Act in Practice.** *PoLAR: Political and Legal Anthropology Review* 24(2):58-75.

**ABSTRACT:**

**KEYWORDS:****NOTES:**

Brown, Caroline L.

**2007 Political and Legal Status of Alaska Natives.** *In* A Companion to the Anthropology of American Indians. T. Biolsi, ed. Pp. 248-267: Blackwell Publishing Ltd.

**ABSTRACT:**

**KEYWORDS:** natives, corporation, ANCSA, last frontier, education assistance act

**NOTES:**

Brown, Caroline L., John Burr, Kimberly Elkin, and Robert J. Walker

**2005 Contemporary subsistence uses and population distribution of non-salmon fish in Grayling, Anvik, Shageluk, and Holy Cross.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** Situated along the Innoko River and the lower Middle Yukon River, the communities of Grayling, Anvik, Shageluk, and Holy Cross (GASH) maintain a historically complex relationship with their land and the animals it supports, including nonsalmon fish species. Most participating key respondents continue to follow a seasonal, subsistence round based on availability of the resource itself and the availability of other resources. As such, the subsistence economies of the GASH area continue to be flexible systems. As contemporary Pacific salmon resources decrease, there is growing concern about similar effects on nonsalmon fish in the face of increasing reliance on these species. This study contains 3 approaches to understanding the role of nonsalmon fish species in the lives of GASH residents. First, this project begins to document traditional ecological knowledge of nonsalmon fish species through ethnographic interviews with area residents. Second, it produced estimates of village based use of nonsalmon fish species using a door-to-door harvest survey conducted in 2002. Finally, this project addresses ongoing user conflicts in the area that have led local people to be concerned about their ability to maintain important subsistence harvests of northern pike *Esox lucius*. Specifically, this component considers the effect of existing harvest levels on the northern pike population in the area, and also examines the degree of overlap between the northern pike populations targeted by sport and subsistence fishers.

**KEYWORDS:** Alaska blackfish, *Dallia pectoralis*, Anvik, Arctic grayling, *Thymallus arcticus*, Arctic lamprey, *Lamprologus japonica*, burbot, *Lota lota*, Grayling, inconnu, sheefish, *Stenodus leucichthys*, Holy Cross, longnose sucker, *Catostomus catostomus*, northern pike,

**NOTES:**

Brown, Caroline L., David Caylor, Jesse A. Dizard, James A. Fall, Susan E. Georgette, Tracie Krauthoefer, and Michael F. Turek

**2005 Alaska subsistence salmon fisheries 2003 annual report.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This is the fifth in a series of annual reports on Alaska's subsistence salmon fisheries. Every year, many thousands of Alaskans participate in subsistence fishing and processing activities for Pacific salmon. These practices represent an important part of Alaska's social and cultural heritage, as well as a crucial component of the state's noncash subsistence economy. This report summarizes Alaska's 2003 subsistence salmon fishing season based upon subsistence permit data and harvest assessment surveys from across the state. This report compares this new information to previous years' findings and discusses these results. Where appropriate, harvest information from personal use fisheries is included from areas designated by the Alaska Board of Fisheries (BOF) as nonsubsistence areas. In addition, federal agencies now regulate and administer several subsistence fisheries in Alaska; where these harvest data are available, these fisheries are also included.

**KEYWORDS:** Pacific salmon, sheefish, inconnu, *Stenodus leucichthys*, whitefish, *Coregonus* spp., Arctic char, *Salvelinus malma*, Chinook salmon, *Oncorhynchus tshawytscha*, coho salmon *Oncorhynchus kisutch*, sockeye salmon, *Oncorhynchus nerka*, pink salmon, *Oncorhynchus*

**NOTES:**

Brown, Caroline L., and David S. Koster

**2005 The 2003-2004 harvest of moose, caribou, bear and wolves in the Lower-Middle Yukon River communities of Grayling, Anvik, Shageluk, and Holy Cross.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report summarizes the harvest and uses of moose, caribou, black bears, brown bears, and wolves during the 12-month period April 2003-March 2004 in select communities along the lower Middle Yukon River. This was the second year of data collection in the communities of Grayling, Anvik, Shageluk, and Holy Cross. Information on the number of animals harvested; the sex, location and month of harvests; and the percentage of households hunting, harvesting, and sharing each resource is presented. The research was funded in part by the USFWS through an ANILCA Section 809 agreement and performed by the ADF&G Division of Subsistence. Data were collected through household surveys administered by locally hired research assistants in each community.

**KEYWORDS:** Grayling, Anvik, Shageluk, Holy Cross, Yukon River, moose, *Alces alces*, caribou, *Rangifer tarandus*, black bears, *Ursus americanus*, brown bears, *Ursus arctos*, wolves, *Canis lupis*, Middle Yukon River, subsistence hunting.

**NOTES:**

Brown, Caroline L., David S. Koster, and Phil Koontz

**2010 Traditional ecological knowledge and harvest survey of nonsalmon fish in the middle Yukon River region, Alaska, 2005–2008.** Anchorage, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** Nonsalmon fish species are an important year-round subsistence resource in the Middle Yukon River communities of Tanana, Ruby, Galena, Nulato and Kaltag and residents have developed a complex generational body of knowledge about these species, which include whitefishes *Coregonus* spp. and *Prosopium* spp., sheefish *Stenodus leucichthys*, northern pike *Esox lucius*, Arctic grayling *Thymallus arcticus*, burbot *Lota lota*, and Alaska blackfish *Dallia pectoralis*, among others. Residents have expressed concerns about the availability and health of nonsalmon fish species in light of decreasing abundance of Pacific salmon *Oncorhynchus* spp. and other environmental factors. However, baseline harvest information for some communities does not exist or is at least 20 years old, and there has been little effort to document traditional ecological knowledge (TEK) in these communities. Through household surveys and key respondent interviews, this project expanded existing harvest information for nonsalmon fishes and captured local concerns. Themes emergent from this research indicated that the harvest and uses of nonsalmon fishes appear to be linked to several factors, including the presence of elders, the maintenance of dog teams, and cultural events. Additionally, residents placed importance on place and placename information to understand the seasonal movements of nonsalmon fish species and other environmental factors.

**KEYWORDS:** Nonsalmon fish, Middle Yukon River, Galena, Kaltag, Nulato, Ruby, Tanana, traditional ecological knowledge, TEK, harvest survey, whitefish, *Coregonus* spp., *Prosopium* spp. sheefish, *Stenodus leucichthys*, northern pike, *Esox lucius*, Arctic grayling, *Thyma*

**NOTES:**

Brown, Caroline L., Robert J. Walker, and Susan B. Vanek



**2003 The 2002-2003 harvest of moose, caribou, bear, and wolves in the Lower-Middle Yukon River communities of Grayling, Anvik, Shageluk, and Holy Cross.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report summarizes the harvest and use of moose, caribou, black bears, brown bears, and wolves for the 12-month period April 2002-March 2003 in the communities of the lower Middle Yukon River. This was the first year of data collection in the communities of Grayling, Anvik, Shageluk, and Holy Cross. Information is presented on the number of animals harvested; the sex, location and month of harvests; and the percentage of households hunting, harvesting, and sharing each resource. The research was funded in part by the U.S. Fish and Wildlife Service through an ANILCA 809 agreement and performed by the ADF&G Division of Subsistence. During this first year of research, the project received approval from village or tribal councils in each survey community. Data were collected through household surveys administered by locally hired research assistants in each community.

**KEYWORDS:**

**NOTES:**

Brown, Caroline L., Robert J. Walker, and Susan B. Vanek

**2004 The 2002-2003 harvest of moose, caribou, and bear in Middle Yukon and Koyukuk River communities.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report summarizes the harvest and uses of moose, caribou, black bears, and brown bears for the 12-month period April 2002-March 2003 in selected communities along the Middle Yukon and Koyukuk rivers. Information is presented on the number of animals harvested; the sex, location and month of harvests; and the percentage of households hunting, harvesting, and sharing each resource. The research was funded in part by the U.S. Fish and Wildlife Service through an ANILCA 809 agreement and performed by the ADF&G Division of Subsistence. During the first year of research, the project received approval from village or tribal councils in each survey community. Data were collected through household surveys administered by locally-hired research assistants in each community.

**KEYWORDS:**

**NOTES:**

Bruemmer, Fred

**1977 The gregarious but contentious walrus.** Natural History:52-60.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Bruemmer, Fred

**1977 The gregarious but contentious walrus.** Natural History:52-60.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Bruemmer, Fred

**1977 Life on a cold rock** Natural History:54-65.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Bubier, Jill L., and Alison Rieser

**1986 U.S. and Canadian groundfish management in the Gulf of Maine-Georges Bank region.** Ocean Management 10(2):83-124.

**ABSTRACT:** This article examines groundfish management philosophies and practices of the United States and Canada in the Gulf of Maine-Georges Bank region. The authors conclude that significant differences in the legal, administrative, and philosophical framework of the two countries' fisheries regimes must be recognized and accommodated before effective management of transboundary stocks can occur.

**KEYWORDS:**

**NOTES:**

Budge, S. M., A. M. Springer, S. J. Iverson, G. Sheffield, and C. Rosa

**2008 Blubber fatty acid composition of bowhead whales, *Balaena mysticetus*: Implications for diet assessment and ecosystem monitoring.** *Journal of Experimental Marine Biology and Ecology* 359(1):40-46.

**ABSTRACT:** Fatty acids (FA) have a diversity of structures that are transferred with little modification through food webs, making them valuable in assessing diets of animals that cannot be directly observed feeding. Before using FA to estimate diets, it is necessary to evaluate variation in FA signatures within and among individuals of a given species. To begin assessing diets and foraging of western Arctic bowhead whales (*Balaena mysticetus*), we examined the FA in blubber of 64 bowheads taken in the spring and fall subsistence hunts in 1997-2002 at Barrow and Kaktovik, Alaska. We found no significant differences in FA characteristics of inner blubber layers taken from either duplicate samples on the dorsal surface, or between dorsal and ventral sites. Significant differences were found in the FA composition between inner and outer layers of blubber at the same body site. We also found age, season and year to have significant effects on FA composition; however, gender was not found to be significant. While the importance of the Beaufort Sea as a feeding ground of bowhead whales remains uncertain, our results indicate that adults and sub-adults foraged to some extent on different prey and that both age classes consumed copepods there in summer at sufficient levels to significantly alter their blubber FA profiles. Both of these findings correspond with dietary conclusions reached from the analysis of stomach contents. Furthermore, we found compelling evidence that yearly variation in bowhead FA reflect changes in FA compositions of phytoplankton at the base of the food web, probably in response to climate variation. Variability in phytoplankton-derived FA in blubber was correlated significantly with yearly mean values of the Pacific Decadal Oscillation. FA in bowhead whale blubber, therefore, might be used to monitor effects of climate change on lower trophic levels and production processes in the western Arctic. (c) 2008 Elsevier B.V. All rights reserved.

**KEYWORDS:**

**NOTES:** Times Cited: 1

Buklis, L. S.

**1999 A description of economic changes in commercial salmon fisheries in a region of mixed subsistence and market economies.** *Arctic* 52(1):40-48.

**ABSTRACT:** Commercial salmon fisheries in the Arctic-Yukon-Kuskokwim (AYK) region of Alaska generally provide a cash supplement to the subsistence way of life of the rural residents, who make up the bulk of the commercial fishers. Changes have occurred in commercial salmon fishery sales and ex vessel values in the region during the period 1976-97. While commercial sales of chum salmon have declined in recent years, chinook salmon sales have been more stable, and those of coho salmon were on an increasing trend until the weak return in 1997. Price drops have been most pronounced for chum salmon. These changes have brought shifts in composition of commercial salmon fishery ex vessel values. Ex vessel value grew from \$4.4 million in 1976 to relatively stable levels during the 1980s and early 1990s, except for a record value of \$29.2 million in 1988; values then declined in the mid 1990s to only \$7.5 million in 1997. The 1993-97 ex vessel values, when adjusted for inflation, are the lowest since 1976. It is not known whether ex vessel values will rebound, making the current downturn temporary, or whether the declines will persist. However, impacts of supply on a broader scale pose a serious

problem for the commercial salmon fisheries in this remote region of Alaska, where the areas with the largest commercial salmon fisheries also have the lowest per capita incomes in the state. World supply trends for salmon area supply-side factor in these economic changes. Impacts to the fishers at the local level are described in practical terms.

**KEYWORDS:**

**NOTES:** Times Cited: 6

Buklis, L. S.

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**ABSTRACT:** Commercial salmon fisheries in the Arctic-Yukon-Kuskokwim (AYK) region of Alaska generally provide a cash supplement to the subsistence way of life of the rural residents, who make up the bulk of the commercial fishers. Changes have occurred in commercial salmon fishery sales and ex vessel values in the region during the period 1976-97. While commercial sales of chum salmon have declined in recent years, chinook salmon sales have been more stable, and those of coho salmon were on an increasing trend until the weak return in 1997. Price drops have been most pronounced for chum salmon. These changes have brought shifts in composition of commercial salmon fishery ex vessel values. Ex vessel value grew from \$4.4 million in 1976 to relatively stable levels during the 1980s and early 1990s, except for a record value of \$29.2 million in 1988; values then declined in the mid 1990s to only \$7.5 million in 1997. The 1993-97 ex vessel values, when adjusted for inflation, are the lowest since 1976. It is not known whether ex vessel values will rebound, making the current downturn temporary, or whether the declines will persist. However, impacts of supply on a broader scale pose a serious problem for the commercial salmon fisheries in this remote region of Alaska, where the areas with the largest commercial salmon fisheries also have the lowest per capita incomes in the state. World supply trends for salmon area supply-side factor in these economic changes. Impacts to the fishers at the local level are described in practical terms.

**KEYWORDS:**

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Buklis, L. S.

**2002 Subsistence fisheries management on federal public lands in Alaska.** Fisheries 27(7):10-18.

**ABSTRACT:** On 1 October 1999, the federal government assumed responsibility for subsistence fisheries management in inland navigable waters on federal public lands in Alaska, which comprise 60% of the state. Such responsibility in non-navigable waters on federal public lands was established in 1990. Often described as a "federal takeover" in the media, confusion continues as to authorities and jurisdictions in the resulting dual management system. Historical considerations leading up to federal management are briefly highlighted, and the current federal regulatory and management system is described. The federal program has contributed to the development of improved approaches for subsistence fisheries management in Alaska, and these developments should continue, regardless of how the legal and political aspects of the current situation are resolved.

**KEYWORDS:**

**NOTES:** Times Cited: 3

Bulman-Pozen, Jessica , and Heather K. Gerken

**2009 Uncooperative Federalism.** The Yale Law Journal 118:1256-1310.

**ABSTRACT:** This essay addresses a gap in the federalism literature. Scholars have offered two distinct visions of federal-state relations. The first depicts states as rivals and challengers to the federal government, roles they play by virtue of being autonomous policymakers outside the federal system. A second vision is offered by scholars of cooperative federalism, who argue that in most areas states serve not as autonomous outsiders, but supportive insiders—servants and allies carrying out federal policy. Legal scholarship has not connected these competing visions to consider how the state's status as servant, insider, and ally might enable it to be a sometime dissenter, rival, and challenger. The literature has not developed a vocabulary for describing how states use regulatory power conferred by the government to resist federal policy, let alone a full account of the implications of this practice. It has thus neglected the possibilities associated with what we call "uncooperative federalism." In this Essay, we provide an initial descriptive and normative account of this undertheorized aspect of our federalism. We also explore what a strong commitment to uncooperative federalism would mean for the doctrines on commandeering and preemption, offering some counterintuitive conclusions about the ways in which weakening the protections for state autonomy might push states to engage in stronger forms of dissent.

**KEYWORDS:** law

**NOTES:**

Burch, Ernest S., Jr.

**1970 The Eskimo Trading Partnership in North Alaska: A Study in "Balanced Reciprocity".** *Anthropological Papers of the University of Alaska* 15(1):51-79.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Burch, Ernest S., Jr.

**1970 Marriage and divorce among the north Alaskan Eskimos.** *In* *Divorce and after*: Doubleday Books.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Burch, Ernest S., Jr.

**1971 The caribou/wild reindeer as a human resource.** *American Antiquity* 37(3):339-354, 362-368.

**ABSTRACT:** The caribou/wild reindeer (*Rangifer tarandus*) has been a major resource for many human populations in northern North America and Eurasia for tens of thousands of years. The species is generally represented by prehistorians as providing an ample, easily exploited, and highly reliable resource base for humans. In this paper a number of specific assumptions leading to this view are examined in the light of new data on North American caribou and caribou-hunting Eskimo groups. The conventional picture is found to be largely untenable.

**KEYWORDS:**

**NOTES:**

Burch, Ernest S., Jr.

**1971 The caribou/wild reindeer as a human resource.** *American Antiquity* 37(3):339-354, 362-368.

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**KEYWORDS:**

**NOTES:**

Burch, Ernest S., Jr.

**1971 The Nonempirical Environment of the Arctic Alaskan Eskimos.** Southwestern Journal of Anthropology 27(2):148-165.

**ABSTRACT:** A variety of nonempirical phenomena, which included ghosts, dragons, and giant birds, significantly influenced Eskimo life in Arctic Alaska during the mid-19th century. Many otherwise excellent hunting and camping areas were avoided because of the activities of these "creatures." Although the orientation of the Eskimos toward nonempirical phenomena has been altered by the widespread social changes in Arctic Alaska during the past century, belief in their existence was not eliminated from the Eskimos' world view. It seems that the beliefs of the early Christian missionaries were compatible with indigenous Eskimo beliefs, and thus it was possible for the two world views to fuse or syncretize rather than for one to replace the other.

**KEYWORDS:**

**NOTES:**

Burch, Ernest S., Jr.

**1972 Alliance and conflict: Inter-regional relations in north Alaska.** Alliance in Eskimo society:17-39.

**ABSTRACT:**

**KEYWORDS:**

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**1972 The Caribou/Wild Reindeer as a Human Resource.** American Antiquity 37(3):339-368.

**ABSTRACT:**

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**1972 The Caribou/Wild Reindeer as a Human Resource.** American Antiquity 37(3):339-368.

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**1974 Eskimo Warfare in Northwest Alaska.**

**ABSTRACT:**

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**1975 Inter-regional Transportation in Traditional Northwest Alaska.**

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Burch, Ernest S., Jr.

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Burch, Ernest S., Jr.

**1976 Overland travel routes in Northwest Alaska.** Anthropological Papers of the University of Alaska 18(1):1-10.

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Burch, Ernest S., Jr.

**1977 Muskox and man in the central Canadian subarctic 1689-1974.** Arctic 30(3):135-154.

**ABSTRACT:**  
**KEYWORDS:**  
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Burch, Ernest S., Jr.

**1978 Caribou Eskimo origins: An old problem reconsidered.** Arctic anthropology:1-35.

**ABSTRACT:** The question of Caribou Eskimo origins has been debated for more than 50 years. The generally accepted view today is one originally elaborated by Elmer Harp: the historic Caribou Eskimos are descended from Thule Eskimos who migrated south along the west coast of Hudson Bay early in the present millennium. A competing view, originally stated by William Taylor, is that the Caribou Eskimos are descended from people who migrated overland from the Copper Eskimo area sometime in the 19th century A. D. In this paper I review the relevant evidence and conclude that both views are correct in part, Taylor's more so than Harp's. I then present a new hypothesis in which the discrepancies between the two are resolved.

**KEYWORDS:**  
**NOTES:**

Burch, Ernest S., Jr.

**1978 Cultural revitalization among the northwest Alaskan Eskimos.** In International Symposium, Division of Ethnology, the Taniguchi Foundation "Culture History of the Alaska Natives -- Eskimos and Indians". Pp. 1-26. Osaka, Kyoto, and Otsu, Japan.

**ABSTRACT:** Since 1960 the Northwest Alaskan Eskimos have been involved in a growing revitalization movement. In contrast to revitalization movements in other parts of the world, this one has been broadly cultural instead of narrowly religious in emphasis. Like revitalization movements elsewhere, however, the Northwest Alaskan case does manifest a number of nativistic as well as innovative tendencies. Ironically, even the Eskimos appear to be unaware of just how traditional some of the major features of the movement really are. This paper outlines the course the movement has taken so far, and describes its status as of 1978. Special

emphasis throughout is placed on continuities with the past since these elements are frequently overlooked or misunderstood in analyses of contemporary life among the Northwest Alaskan Eskimos.

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**1979** **Indians and Eskimos in North Alaska, 1816-1977: a study in changing ethnic relations.** *Arctic anthropology* 16(2):123-151.

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Burch, Ernest S., Jr.

**1979** **Native claims in Alaska: An overview.** *Etudes/Inuit/Studies* 3(1):7-30.

**ABSTRACT:** The Alaska Native Claims Settlement Act (ANCSA) of 1971 concluded a decade of intense political activity by Alaska Natives. Seven years later it appears that ANCSA did not settle as much as many originally thought it would, although it certainly marked a major turning point in the history of Alaska's Native peoples. This paper presents an overview of Native claims in Alaska with emphasis on the major provisions of ANCSA and their implementation.

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**1979** **The Thule-Historic Eskimo transition on the west coast of Hudson Bay.** *In* Thule Eskimo Culture: An Archaeological Perspective. Pp. 189-211. Archaeological Survey of Canada, Mercury Series Paper 88. Ottawa National Museum of Man.

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**1980** **Traditional Eskimo Societies in Northwest Alaska in Alaska Native Culture and History.** *In* Senri Ethnological Studies. Pp. 253-304, Vol. 4. Osaka.

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Burch, Ernest S., Jr.

**1985** **Toward a sociology of the prehistoric Inupiat.** *In* Symposium on Late Prehistoric Coastal Development in Alaska, as part of the Annual Meetings of the Alaska Anthropological Association. Anchorage, Alaska.

**ABSTRACT:** The several early historic Inupiat societies of northern Alaska were segmental systems comprised of a network of inter-related families. They exhibited precise adaptations to their respective environments, and a complex pattern of inter-societal relations and inter-regional movements. The development of these social systems over the previous 1500 years could be investigated through a combination of upstreaming, ethnographic analogy, settlement analysis and regional analysis.

**KEYWORDS:** network

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**1988** **Modes of exchange in northwest Alaska.** *In* Hunters and gatherers: Property, power, and ideology. T. Ingold, D. Riches, and J. Woodburn, eds. Pp. 95-109, Vol. 2. Oxford, UK: Berg Publishers.

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**1998 The Iñupiaq Eskimo Nations of Northwest Alaska:** University of Alaska Press.

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**2005 Alliance and conflict: The world system of the Iñupiaq Eskimos:** Univ of Nebraska Pr.

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**2006 Social life in northwest Alaska: the structure of Iñupiaq Eskimo nations.** Fairbanks, Alaska: University of Alaska Press.

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Burch, Ernest S., Jr.

**2009 Smithsonian Contributions to Alaskan Ethnography: The IPY Expedition to Barrow, 1881-1883.** *In* Smithsonian at the Poles - Contributions to International Polar Year Science. I. Krupnik, M.A. Long, and S.E. Miller, eds. Pp. 90-98. Washington, DC: Smithsonian Institution Scholarly Press.

**ABSTRACT:** From 1881 to 1883, as part of the First International Polar Year, an expedition sponsored by the U.S. Signal Corps and the Smithsonian Institution operated a research station a short distance north of where the modern city of Barrow now stands. The 10 members of the expedition had the primary task of making an unbroken series of weather and magnetic observations over the two-year period, and the secondary task of studying the natural history of the Barrow area. "Natural history" included descriptions of native life and collections of material culture, in addition to studies of the fauna and flora. In this paper, I summarize the substantial contributions to our knowledge of North Alaskan Eskimo life made by members of the expedition, and evaluate them in the light of work that has been done since.

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Burch, Ernest S., Jr., and O. Blehr

**1991 Herd following reconsidered.** *Current Anthropology*:439-445.

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Burch, Ernest S., Jr., and T. C. Correll

**1972 Alliance and conflict: Interregional relations in north Alaska.** *In* Alliance in Eskimo Society: Proceedings of the American Ethnological Society, 1971. D.L. Guemple, ed. Seattle: University of Washington Press.

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Burch, Ernest S., Jr., and Linda J. Ellanna, eds.

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Burch, Ernest S., Jr., Eliza Jones, Hannah P. Loon, and Lawrence D. Kaplan

**1999 The ethnogenesis of the Kuuvauum Kanjaŋmiut** Ethnohistory 46(2):291-327.

**ABSTRACT:** The Native inhabitants of the upper Kobuk River, Alaska, are identified in the ethnographic record as Inupiaq Eskimos. This article presents evidence showing that they were actually Koyukon-speaking Athapaskans in the early nineteenth century. Between about 1860 and 1880 they were rapidly and peacefully assimilated, and they are Inupiaq Eskimos today.

**KEYWORDS:****NOTES:**

Burch, Ernest S., Jr., and Craig W. Mishler

**1995 The di'hail Gwich'in: mystery people of Northern Alaska.** Arctic anthropology 32(1):147-172.

**ABSTRACT:****KEYWORDS:****NOTES:**

Burch, Jr Ernest S.

**1998 Boundaries and borders in early contact north-central Alaska.** Arctic anthropology 35(2):19.

**ABSTRACT:** Recent research has yielded data which call into question several elements in the standard anthropological view of social and linguistic borders in early contact north-central Alaska. This is particularly true of the region where the Iliupiaq, Koyukon, and Kutchin language areas converge. This paper reviews the issues involved and summarizes the evidence relating to them, most of which is not widely known. Conclusions based on that evidence are expressed in maps of early contact social and linguistic borders in north-central and northern Alaska.

**KEYWORDS:** ANTHROPOLOGY, ANTHROPOLOGICAL linguistics, ETHNOLOGY, Alaska

**NOTES:** Proposes an alternative anthropological view of social and linguistic borders in early contact north-central and northern Alaska. Convergence of the Inupiaq, Koyukon, and Kutchin language areas; Conceptual distinction between local and regional bands; Construction of family and society; Distinction between 'estate' and 'range'; Development of languages and sub-dialects.

Burch Jr., Ernest S.

**1985 Subsistence production in Kivalina, Alaska: a twenty-year perspective.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** Detailed records of the subsistence harvest in Kivalina, Alaska, are presented for 2 2-year periods, 1964-1966 and 1982-1984. The years between the two study periods saw tremendous changes in the village, including the construction of a high school, the shift from dog teams to snowmobiles, the introduction of electricity, and major improvements in the method of heating houses, among many others. This report compares in detail the size, content, and timing of the subsistence harvest for the four years. Harvests, weather conditions, and village hunting activities are presented, on a weekly basis, in a series of appendices. Surprisingly few changes in the total subsistence harvest were found to have occurred between the two study periods:

Native food was just as important in 1984 as it was in 1964. However, substantial variation in timing and species contribution to the overall harvest were documented between the 4 years.

**KEYWORDS:** Arctic Region, Kivalina, village hunting activities, subsistence hunting, Alaska Native food.

**NOTES:**

Burger, Joanna, and Michael Gochfeld

**2007 Risk to consumers from mercury in Pacific cod (*Gadus macrocephalus*) from the Aleutians: Fish age and size effects.** Environmental Research 105(2):276-284.

**ABSTRACT:** While there has been considerable attention devoted to the risks to high level consumers from mercury in freshwater fish, relatively little attention has been devoted to saltwater fish. Although the U.S. Food and Drug Administration has issued advisories based on mercury for four saltwater species or groups of fish, there are few data on mercury levels generally, or on the risk these levels pose to the fish themselves or to consumers of marine fish. We examined total mercury levels in liver and muscle of Pacific cod (*Gadus macrocephalus*) collected from the northern Pacific and Bering Sea waters around Nikolski, Amchitka, and Kiska Islands in the Aleutian Chain (Alaska). We were interested in whether there were differences in mercury levels as a function of location, weight, length, and age of the fish, and what risk mercury posed to the food chain, including people. Fish were aged by examining otoliths, and we measured selenium because of its reported protective effects against mercury. Regression models indicated that 27% of the variation in levels of mercury was due to tissue examined and age, while 67% of the variation in levels of selenium was due to tissue, length, and age. Mercury levels were significantly higher in the muscle than the liver, and the reverse was true for selenium. Mercury levels were negatively correlated with selenium levels, and positively correlated with length, weight, and age. There were no gender differences in mercury or selenium levels. The mean levels of mercury in muscle (0.17 ppm wet weight) are within the range known to cause adverse effects in sensitive birds and mammals. Only 4% of the Pacific cod samples had mercury levels above 0.5 ppm, the action level promulgated by many states and countries, and none were above the 1 ppm action level of the U.S. FDA.

**KEYWORDS:** Mercury

Fish  
Pacific Ocean  
Bering Sea  
Aleutian Islands  
Consumption  
Risk assessment  
U.S. FDA

**NOTES:**

Burger, J., and M. Gochfeld

**2009 Mercury and other metals in feathers of common eider (*Somateria mollissima*) and tufted puffin (*Fratercula cirrhata*) from the Aleutian chain of Alaska.** Archives of Environmental Contamination and Toxicology 56(3):596-606.

**ABSTRACT:** We analyzed arsenic, cadmium, chromium, lead, manganese, mercury, and selenium in the feathers of common eiders (*Somateria mollissima*) and tufted puffins (*Fratercula cirrhata*) from Amchitka and Kiska islands (Aleutians). Between species, puffins had 10 times higher chromium (arithmetic mean = 1820 ppb), 7.5 times higher selenium (mean = 6600 ppb), and 3 times higher mercury (mean = 2540 ppb) than eiders. Eiders had significantly higher levels of manganese than puffins. Puffins are higher on the food chain than eiders, which is reflected in their generally higher levels of metals in their feathers. Interisland differences were generally small, and there were few significant differences as a function of the three nuclear test locations

on Amchitka. The only sex-related difference was that female puffins had higher mercury than males (arithmetic mean of 3060 ppb vs. 2270 ppb). Mean levels of metals in the feathers of puffins and eiders from the Aleutians were low compared with comparable studies elsewhere, and the relatively low levels of metals do not indicate the potential for adverse behavioral or reproductive effects in the birds themselves, nor pose concern for other consumers, including subsistence hunters.

**KEYWORDS:****NOTES:** Times Cited: 3

Burger, J., M. Gochfeld, S. Burke, C. W. Jeitner, S. Jewett, D. Snigaroff, R. Snigaroff, T. Stamm, S. Harper, M. Hoberg, H. Chenelot, R. Patrick, C. D. Volz, and J. Weston

**2006 Do scientists and fishermen collect the same size fish? Possible implications for exposure assessment.** Environ Res 101(1):34-41.

**ABSTRACT:** Recreational and subsistence fishing plays a major role in the lives of many people, although most Americans obtain their fish from supermarkets or other commercial sources. Fish consumption has generally increased in recent years, largely because of the nutritional benefits. Recent concerns about contaminants in fish have prompted federal and state agencies to analyze fish (especially freshwater fish targeted by recreational anglers) for contaminants, such as mercury and polychlorinated biphenyls (PCBs), and to issue fish consumption advisories to help reduce the public health risks, where warranted. Scientists engaged in environmental sampling collect fish by a variety of means, and analyze the contaminants in those fish. Risk assessors use these levels as the basis for their advisories. Two assumptions of this methodology are that scientists collect the same size (and types) of fish that fishermen catch, and that, for some contaminants (such as methylmercury and PCBs), levels increase with the size and age of the fish. While many studies demonstrate a positive relationship between size and mercury levels in a wide range of different species of fish, the assumption that scientists collect the same size fish as fishermen has not been examined. The assumption that scientists collect the same size fish as those caught (and eaten) by recreationalists or subsistence fishermen is extremely important because contaminant levels are different in different size fish. In this article, we test the null hypothesis that there are no differences in the sizes of fish collected by Aleut fishermen, scientists (including divers), and commercial trawlers in the Bering Sea from Adak to Kiska. Aleut fishermen caught fish using rod-and-reel (fishing rods, hook, and fresh bait) from boats, as they would in their Aleutian villages. The scientists collected fish using rod-and-reel, as well as by scuba divers using spears up to 90 ft depths. A fisheries biologist collected fish from a research/commercial trawler operated under charter to the National Oceanographic and Atmospheric Administration (NOAA). The fish selected for sampling, including those caught commercially in the Bering Sea, represented different trophic levels, and are species regularly caught by Aleuts while fishing near their villages. Not all fish were caught by all three groups. There were no significant differences in length and weight for five species of fish caught by Aleuts, scientists, and fisheries trawls, and for an additional 3 species caught only by the Aleut and scientist teams. There were small, but significant, differences in the sizes of rock greenling (*Hexagrammos lagocephalus*) and red Irish lord (*Hemilepidotus hemilepidotus*) caught by the scientist and Aleut fishermen. No scientists caught rock greenling using poles; those speared by the divers were significantly smaller than those caught by the Aleuts. Further, there were no differences in the percent of males in the samples as a function of fishing method or type of fishermen, except for rockfish and red Irish lord. These data suggest that if scientists collect fish in the same manner as subsistence fishermen (in this case, using fishing rods from boats), they can collect the same-sized fish. The implications for exposure and risk assessment are that scientists should either engage subsistence and recreational fishermen to collect fish for analysis, or mimic their fishing methods to ensure that the fish collected are similar in size and weight to those being caught and consumed by these groups. Further, total length, standard length, and weight were highly correlated for all species of fish, suggesting that risk assessors could rely on recreational and commercial fishermen to measure total lengths for the purpose of correlating mercury levels with

known size/mercury level relationships. Our data generally demonstrate that the scientists and trawlers can collect the same size fish as those caught by Aleuts, making contaminant analysis, and subsequent contaminant analysis, representative of the risks to fish consumers.

**KEYWORDS:** Alaska

Animals  
Body Size  
\*Environmental Exposure  
Female  
Fishes/\*anatomy & histology  
\*Food Contamination  
Humans  
Inuits  
Laboratory Personnel  
Male  
Recreation  
Risk Assessment  
Seafood  
Water Pollutants, Chemical

**NOTES:** Burger, Joanna

Gochfeld, Michael  
Burke, Sean  
Jeitner, Christian W  
Jewett, Stephen  
Snigaroff, Daniel  
Snigaroff, Ronald  
Stamm, Tim  
Harper, Shawn  
Hoberg, Max  
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Weston, James  
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United States  
Environmental research  
Environ Res. 2006 May;101(1):34-41. Epub 2005 Sep 19.

Burger, Joanna, Michael Gochfeld, Christian Jeitner, Sean Burke, Tim Stamm, Ronald Snigaroff, Dan Snigaroff, Robert Patrick, and Jim Weston

**2007 Mercury levels and potential risk from subsistence foods from the Aleutians.**  
Science of The Total Environment 384(1-3):93-105.

**ABSTRACT:** Considerable attention has been devoted to contaminants (mainly PCBs and mercury) in subsistence foods (particularly fish) from various parts of the world. However, relatively little attention has been devoted to examining mercury levels in a full range of subsistence foods from a particular region. While managers and scientists compute risk based on site-specific data on contaminant levels and consumption rates, a first step in making risk decisions by subsistence peoples is knowledge about the relative levels of mercury in the foods they eat. This study examined levels of mercury in subsistence foods (edible components) from several islands in the western Aleutians of Alaska, including algae (4 species), invertebrates (9 species), fish (15 species) and birds (5 species). Samples were gathered by both subsistence hunters/fishers and by scientists using the same equipment. Another objective was to determine if there were differences in mercury levels in subsistence foods gathered from different Aleutian islands. We tested the null hypotheses that there were no interspecific and interisland

differences in mercury levels. Because of variation in distribution and the nature of subsistence hunting and fishing, not all organisms were collected from each of the islands. There were significant and important differences in mercury levels among species, but the locational differences were rather small. There was an order of magnitude difference between algae/some invertebrates and fish/birds. Even within fish, there were significant differences. The highest mean mercury levels were in flathead sole (*Hippoglossoides elassodon*, 0.277 ppm), yellow Irish lord (*Hemilepidotus jardani*, 0.281 ppm), great sculpin (*Myoxocephalus polyacanthocephalus*, 0.366 ppm), glaucous-winged gull (*Larus glaucescens*, 0.329 ppm) and its eggs (0.364 ppm), and pigeon guillemot (*Cepphus columba*, 0.494 ppm). Mercury levels increased with increasing weight of the organisms for limpets (*Tectura scutum*), and for 11 of the 15 fish species examined. Nine of the 15 fish species had some samples over the 0.3 ppm level, and 7 of 15 fish had some samples over 0.5 ppm. For birds, 95% of the pigeon guillemot muscle samples were above the 0.3 ppm, and 43% were above 0.5 ppm. While health professionals may argue about the risk and benefits of eating fish, and of eating alternative protein sources, the public should be provided with enough information for them to make informed decisions. This is particularly true for subsistence people who consume large quantities of self-caught foods, particularly for sensitive sub-populations, such as pregnant women. We argue that rather than giving people blanket statements about the health benefits or risks from eating fish, information on mean and maximum mercury levels should also be provided on a wide range of subsistence foods, allowing informed decisions, especially by those most at risk.

**KEYWORDS:** Fisk management

Kelp  
Shellfish  
Fish  
Birds  
Eggs  
Mercury  
Methylmercury  
Aleutians  
Aleuts  
Subsistence

**NOTES:**

Burkett, Virginia R., Douglas A. Wilcox, Robert Stottlmyer, Wylie Barrow, Dan Fagre, Jill Baron, Jeff Price, Jennifer L. Nielsen, Craig D. Allen, David L. Peterson, Greg Ruggerone, and Thomas Doyle

**2005 Nonlinear dynamics in ecosystem response to climatic change: Case studies and policy implications.** *Ecological Complexity* 2(4):357-394.

**ABSTRACT:** Many biological, hydrological, and geological processes are interactively linked in ecosystems. These ecological phenomena normally vary within bounded ranges, but rapid, nonlinear changes to markedly different conditions can be triggered by even small differences if threshold values are exceeded. Intrinsic and extrinsic ecological thresholds can lead to effects that cascade among systems, precluding accurate modeling and prediction of system response to climate change. Ten case studies from North America illustrate how changes in climate can lead to rapid, threshold-type responses within ecological communities; the case studies also highlight the role of human activities that alter the rate or direction of system response to climate change. Understanding and anticipating nonlinear dynamics are important aspects of adaptation planning since responses of biological resources to changes in the physical climate system are not necessarily proportional and sometimes, as in the case of complex ecological systems, inherently nonlinear.

**KEYWORDS:** nonlinear dynamics, thresholds, ecosystems, climate change, natural resource management

**NOTES:**

Burns, John J.

**1979 Marine mammal management in Alaska: An update.** Alaska Seas and Coasts: A newsletter for the Alaska Commercial Fishing Company 7(5):1-4.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Burns, John J., Francis H. Fay, J. Scott Grundy, and Samuel W. Stoker

**1994 The struck-and-lost factor in Alaskan walrus harvests, 1952-1972.** Arctic 47(4):368-373.

**ABSTRACT:**

**KEYWORDS:** ECOLOGICAL surveys, METHODOLOGY, STATISTICS, HARVESTING, HUNTING, WALRUS, ALASKA, NORTH America, UNITED States, struck-and-lost , wildlife harvest

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Burns, John J., Francis H. Fay, J. Scott Grundy, and Samuel W. Stoker

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**KEYWORDS:** ECOLOGICAL surveys, METHODOLOGY, STATISTICS, HARVESTING, HUNTING, WALRUS, ALASKA, NORTH America, UNITED States, struck-and-lost , wildlife harvest

**NOTES:**

Burrell, D.C., and D.W. Hood

**1976 Assessment of the Arctic marine environment: Selected topics:** Institute of Marine Science, University of Alaska.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Burris, Oliver E., and Donald E. McKnight

**1973 Game transplants in Alaska.** Technical Bulletin 4:1-58.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** Because few opportunities remain for the successful introduction of game animals into unoccupied ranges in Alaska and because each proposed transplant will be preceded by intensive study to preclude predictably unsuccessful or detrimental introductions, the future transplant program will be limited. Some of the state's excellent game populations have resulted from past transplants, however, and it is the purpose of this report to consolidate all available information on this aspect of Alaska's brief but interesting history.

Burrows, Nilka R., Linda S. Geiss, Michael M. Engelgau, and Kelly J. Acton

**2000 Prevalence of diabetes among Native Americans and Alaska Natives, 1990-1997: an increasing burden.** Diabetes Care 23(12):1786-1790.

**ABSTRACT:** *OBJECTIVE*— To determine trends in diabetes prevalence among Native Americans and Alaska Natives. *RESEARCH DESIGN AND METHODS*— From 1990 to 1997, Native Americans and Alaska Natives with diabetes were identified from the Indian Health Service (IHS) national outpatient database, and prevalence was calculated using these cases and estimates of the Native American and Alaskan population served by IHS and tribal health facilities. Prevalence was ageadjusted by the direct method based on the 1980 U.S. population. *RESULTS*— Between 1990 and 1997, the number of Native

Americans and Alaska Natives of all ages with diagnosed diabetes increased from 43,262 to 64,474 individuals. Prevalence of diagnosed diabetes increased by 29%. By 1997, prevalence among Native Americans and Alaska Natives was 5.4%, and the age-adjusted prevalence was 8.0%. During the entire 1990–1997 period, prevalence among women was higher than that among men, but the rate of increase was higher among men than women (37 vs. 25%). In 1997, age-adjusted prevalence of diabetes varied by region and ranged from 3% in the Alaska region to 17% in the Atlantic region. The increase in prevalence between 1990 and 1997 ranged from 16% in the Northern Plains region to 76% in the Alaska region.

**CONCLUSIONS—** Diabetes is common among Native Americans and Alaska Natives, and it increased substantially during the 8-year period examined. Effective interventions for primary, secondary, and tertiary prevention are needed to address the substantial and rapidly growing burden of diabetes among Native Americans and Alaska Natives.

**KEYWORDS:**

**NOTES:**

Burt, Ronald S.

**2003 The social capital of structural holes.** The new economic sociology: Developments in an emerging field:148–190.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Busenberg, George J.

**2000 Resources, Political Support, and Citizen Participation in Environmental Policy: A Reexamination of Conventional Wisdom.** Society & Natural Resources 13(6):579-587.

**ABSTRACT:** A study of a citizens' advisory council is used to reexamine a long-standing proposition, referred to here as the resources hypothesis, drawn from the participation literature. The hypothesis proposes that the effectiveness of citizen participation mechanisms will be enhanced by increased access to resources (such as funding and technical assistance). The council considered here is involved in the environmental management of the marine oil trade in Alaska, and has greater access to resources than any other council examined in the extant literature. However, this council has experienced uneven success in securing the implementation of its proposals for policy change. The results suggest that the success of a participatory mechanism in a given policy domain depends not only on its internal resources, but also on external political support from other groups with authority (or influence) within that policy domain.

**KEYWORDS:** political participation, natural resources, environmental policy, offshore oil well drilling, Alaska, citizen participation, marine oil spills, political support

**NOTES:**

Busiahn, Thomas R., Neil Kmiecik, and Ronald J. Poff

**1985 Management of Indian treaty fisheries on inland waters of the north-central U.S., with special reference to the state of Wisconsin.** In 115th Annual Meeting of the American Fisheries Society. Pp. 1-8. Sun Valley, Idaho, September 1985.

**ABSTRACT:** U.S. Federal courts have determined that the Lake Superior Chippewas reserved through treaties the right to fish, hunt, trap, and gather in ceded territories in Wisconsin, and the rights likely extend to similarly ceded territories in Minnesota and Michigan. The legal extent of state regulatory authority has yet to be determined, but similar cases on the Great Lakes and in the Pacific Northwest suggest that state authority prevails only in cases where management by tribal governments is inadequate to prevent resource depletion. The 11 bands of Lake Superior Chippewas have developed fishery management capabilities jointly through the Great Lakes Indian Fish and Wildlife Commission and have negotiated interim agreements with the State allowing limited exercise of treaty rights (fishing, hunting, trapping, and gathering of wild rice) pending final resolution of legal questions. There are some fundamental differences between the strategies. Resolving the differences will require greater public understanding, as well as new



and more precise methods for inventory, assessment, and management of inland fisheries resources. The outcome of events in Wisconsin may bear greatly on the future of potential off-reservation treaty fisheries in northern Minnesota and Michigan.

**KEYWORDS:**

**NOTES:**

Byg, Anja, and Jan Salick

**2009 Local perspectives on a global phenomenon—Climate change in Eastern Tibetan villages.** *Global Environmental Change Part A: Human & Policy Dimensions* 19(2):156-166.

**ABSTRACT:** Tibetan villagers' perceptions of climate change and its impacts are very detailed and can give important insights into local concerns and processes of climate change. Perceived climate changes and impacts differed significantly even within a small geographic area. Furthermore, climate change was seen as a moral and spiritual issue. These interpretations affect how people deal with climate change and its impacts and which solutions are regarded as relevant. In order to effectively address climate change impacts at the local scale and to enable the process of adaptation, it is necessary to address a combination of perceptions, local variations, moral and spiritual interpretations, and locally relevant solutions.

**KEYWORDS:** climate change, villages, Tibet

**NOTES:**

Byron, R. F.

**1980 Skippers and strategies: Leadership and innovation in Shetland fishing crews.** *Human Organization* 39(3):227-249.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Caldwell, Bill

**1985 Let's go subsistence fishing.** 1-28.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** ...Is this possible? Well... apparently our state supreme court has conferred this fundamental right upon us. *Madison v. Alaska Dept. of Fish & Game* (22 Feb. 1985). Or so it is said by a number of distinguished observers and participants. These people have considerable experience dealing with the subsistence issue and deciphering opinions of the Supreme Court of Alaska, but I am not convinced. Nay, I am persuaded of the opposite.

Caldwell, William E.

**1991 Implementation of the state subsistence-priority law after McDowell: a profound mess.** 1-9.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** On remand from the Supreme Court's decision in *McDowell v. State*, 785 P.2d 1(1989) (declaring unconstitutional the rural-preference provisions of the 1986 State subsistence law), Judge Cutler, in *McDowell v. Collinsworth*, No. 3AN-83-1592 Civil, entered a decision on 20 June 1990, followed by clarification orders on 25 June and 12 July, and a final judgment on 29 August -- all to the effect, contrary to the position of the State and the McDowell plaintiffs, that the invalid rural-preference provisions of the 1986 State subsistence law are "severable" and, consequently, that State law continues to mandate a preference for subsistence uses of fish and wildlife resources, albeit one not limited to rural residents.

Caldwell, William E.

**1998 'Reasonable opportunity' v. [customary and traditional] in Lime village.** *In* Cultural survival quarterly. Pp. 63-5, Vol. 22.

**ABSTRACT:**

**KEYWORDS:** Descriptor: Alaska

Athapaskans

Subsistence economy

Tradition

Law and legislation

The State

CULTURAL ETHNOGRAPHY

AMERICAS

NORTH AMERICA

Document Type: article

**NOTES:** Using Smart Source Parsing

no. 3 (), p. Journal Code: Cult Survival Q

Calef, George W., Elmer A. DeBock, and Grant M. Lortie

**1976 The reaction of barren-ground caribou to aircraft.** *Arctic* 29:201-212.

**ABSTRACT:** The responses of barren-ground caribou to planes and helicopters were observed in the northern Yukon and Alaska. Effects of aircraft altitude, type of aircraft, season, and terrain were determined together with the activity and size group of the caribou. Panic or strong escape reactions were observed in a high percentage of all groups when aircraft flew at altitudes of less than 60 m. Flying at a minimal altitude of 150 m during spring and fall migrations and at 300 m at other periods would prevent the caribou from reacting in the ways most immediately injurious to them. Even if these altitude requirements were observed, long-term physiological or behavioral changes still might result from repeated aircraft disturbance. (15 graphs, 1 map, 7 references, 1 table)

**KEYWORDS:**

**NOTES:**

Callaway, Donald, J Eamer, E Edwardsen, C Jack, S Marcy, A Olrun, M Patkotak, D Rexford, and Alex V. Whiting

**1999 Effects of climate change on subsistence communities in Alaska.** *Assessing the Consequences of Climate Change for Alaska and the Bering Sea Region*:59-73.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Calle, P. P., D. J. Seagars, C. McClave, D. Senne, C. House, and J. A. House

**2008 Viral and bacterial serology of six free-ranging bearded seals *Erignathus barbatus*.** *Diseases of Aquatic Organisms* 81(1):77-80.

**ABSTRACT:** Serum or heparinized plasma samples were obtained from 3 male (2 adult and 1 weaned calf) and 3 adult female free-ranging bearded seals *Erignathus barbatus* in May of 1994, 1995, or 1996. Blood samples were obtained from animals taken in subsistence hunts near St. Lawrence Island, Alaska and screened for antibodies to a suite of bacteria and viruses potentially pathogenic for pinnipeds and/or humans. No samples had detectable antibodies to *Brucella* spp., *Phocine distemper virus*, influenza A virus or caliciviruses (San Miguel sea lion virus strains 1, 2, and 4 to 13, vesicular exanthema of swine serotypes A48, B51, C52, D53, E54, F55, G55, H54, 155, J56, K54, 1934B, and Tillamook and Walrus calicivirus). One seal had a low titer of 100 to *Leptospira interrogans* serovar grippotyphosa.

**KEYWORDS:****NOTES:** Times Cited: 1

Calle, P. P., D. J. Seagars, C. McClave, D. Senne, C. House, and J. A. House

**2008 Viral and bacterial serology of six free-ranging bearded seals *Erignathus barbatus*.** Diseases of Aquatic Organisms 81(1):77-80.

**ABSTRACT:** Serum or heparinized plasma samples were obtained from 3 male (2 adult and 1 weaned calf) and 3 adult female free-ranging bearded seals *Erignathus barbatus* in May of 1994, 1995, or 1996. Blood samples were obtained from animals taken in subsistence hunts near St. Lawrence Island, Alaska and screened for antibodies to a suite of bacteria and viruses potentially pathogenic for pinnipeds and/or humans. No samples had detectable antibodies to *Brucella* spp., Phocine distemper virus, influenza A virus or caliciviruses (San Miguel sea lion virus strains 1, 2, and 4 to 13, vesicular exanthema of swine serotypes A48, B51, C52, D53, E54, F55, G55, H54, 155, J56, K54, 1934B, and Tillamook and Walrus calicivirus). One seal had a low titer of 100 to *Leptospira interrogans* serovar grippityphosa.

**KEYWORDS:****NOTES:** Times Cited: 1

Camacho, Juan, Roger Guimerà, and Luís A. Nunes Amaral

**2002 Robust patterns in food web structure.** Physical Review Letters 88(22):228102.

**ABSTRACT:** We analyze the properties of seven community food webs from a variety of environments, including freshwater, marine-freshwater interfaces, and terrestrial environments. We uncover quantitative unifying patterns that describe the properties of the diverse trophic webs considered and suggest that statistical physics concepts such as scaling and universality may be useful in the description of ecosystems. Specifically, we find that several quantities characterizing these diverse food webs obey functional forms that are universal across the different environments considered. The empirical results are in remarkable agreement with the analytical solution of a recently proposed model for food webs.

**KEYWORDS:****NOTES:**

Camerino, Vicki

**1977 Subsistence in Alaska and the effect of H.R. 39.** American Indian journal 3:16-22.**ABSTRACT:****KEYWORDS:** subsistence**NOTES:**

Campbell, Cathy C.

**1991 Food Insecurity: A Nutritional Outcome or a Predictor Variable?** Journal of Nutrition 121(3):408-415.

**ABSTRACT:** The phenomenon loosely labeled hunger in the 1980s is now being discussed as food security or insecurity. Food security is defined as access by all people at all times to enough food for an active, healthy life, and at a minimum includes the following: 1) the ready availability of nutritionally adequate and safe foods and 2) the assured ability to acquire personally acceptable foods in a socially acceptable way. Food insecurity exists whenever food security is limited or uncertain. The measurement of food insecurity at the household or individual level involves the measurement of those quantitative, qualitative, psychological and social or normative constructs that are central to the experience of food insecurity, qualified by their involuntariness and periodicity. Risk factors for food insecurity include any factors that

affect household resources and the proportion of those resources available for food acquisition. Potential consequences of food insecurity include hunger, malnutrition and (either directly or indirectly) negative effects on health and quality of life. The precise relationships between food insecurity and its risk factors and potential consequences need much more research now that there is an emerging consensus on the definition and measurement of food insecurity. Indicators of food security or insecurity are proposed as a necessary component of the core measures of the nutritional state of individuals, communities or nations.

**KEYWORDS:****NOTES:**

Campbell, John M.

**1970 Effects of late prehistoric and early historic eskimo hunting of dall sheep in north Alaska: examples of aboriginal overkill.** *In* Northern Wild Sheep Conference. Pp. 108-127.

**ABSTRACT:** The data presented here refer to (1) modern day populations of Dall sheep (*Ovis dalli*) in the central Brooks Range, Alaska (figures 1 and 2); (2) relative numbers of Brooks Range Dall sheep as they have been observed over the past 90 years; (3) the economic history of the Nunamiut Eskimos; and (4) the effects of late prehistoric and early historic Nunamiut predations on Dall sheep.

**KEYWORDS:****NOTES:**

Cantwell, John C.

**1887 A narrative account of the exploration of the Kowak River, Alaska, under the direction of Capt. Michael Healy.** *In* Report of the cruise of the revenue marine steamer Corwin in the Arctic Ocean in the year 1885. M.A. Healy, ed. Pp. 21-52. Washington, D.C.: Government Printing Office.

**ABSTRACT:****KEYWORDS:****NOTES:** 153

Cantwell, John C.

**1889 A narrative account of the exploration of the Kowak River, Alaska.** *In* Report of the cruise of the Revenue Marine steamer Corwin in the Arctic Ocean in the year 1884. M.A. Healy, ed. Pp. 49-74. Washington, D.C.: United States Revenue-Cutter Service.

**ABSTRACT:****KEYWORDS:****NOTES:**

Cantwell, John C.

**1904 Report of the Operations of the US Revenue Steamer Nunivak on the Yukon River Station, Alaska, 1899-1901.** U.S.R.-C. Service, ed: Govt. Print. Off.

**ABSTRACT:****KEYWORDS:****NOTES:**

Carey, Michael J.

**1985 Save the salmon.** *The Alaska Journal*:33-39.

**ABSTRACT:****KEYWORDS:****NOTES:**

Carey, Michael J.

**1985 Save the salmon.** *The Alaska Journal*:33-39.

**ABSTRACT:****KEYWORDS:****NOTES:**

Carley, Kathleen M.

**1991 A Theory of Social Stability.** American Sociological Review 5-6:331-354.

**ABSTRACT:**

**KEYWORDS:** social interaction; simulation; theory

**NOTES:**

Carley, Kathleen M.

**1992 Organizational learning and personnel turnover.** Organization Science 3(1):20-46.

**ABSTRACT:**

**KEYWORDS:** OM OL KM

**NOTES:**

Carley, Kathleen M.

**2002 Smart agents and organizations of the future.** In Handbook of New Media. L. Lievrouw and S. Livingstone, eds. Pp. 206-220. London: Sage.

**ABSTRACT:****KEYWORDS:****NOTES:**

Carley, Kathleen M., and Michael J. Prietula

**1994 Computational organization theory.** Hillsdale: Lawrence Erlbaum Associates.

**ABSTRACT:**

**KEYWORDS:** Psychology, Industrial Simulation methods.; Organizational behavior Simulation methods.; Computer simulation.

**NOTES:** 93039364

edited by Kathleen M. Carley, Michael J. Prietula.

Includes bibliographical references and indexes.

Introduction : Computational organization theory / Kathleen M. Carley and Michael J. Prietula -- The "virtual design team" : simulating how organization structure and information processing tools affect team performance / Raymond E. Levitt ... [et al.] -- Evolving novel organizational forms Kevin Crowston -- TASCOS : a synthesis of double-AISS and plural-soar / Harko Verhagen and Michael Masuch -- ACTS theory : extending the model of bounded rationality / Kathleen M. Carley and Michael J. Prietula -- Graph theoretical dimensions of informal organizations / David Krackhardt -- A theoretical evaluation of measures of organizational design : interrelationship and performance predictability / Zhiang Lin -- Modeling and computational analysis of reactive behavior in organizations / Markku Verkama, Raimo P. Härmäläinen, and Harri Ehtamo. Validating an expert system that designs organizations / Helmy H. Baligh, Richard M. Burton, and Børge Obel -- Computer simulations of organizations as experiential learning systems : implications for organization theory / Theresa K. Lant -- Social dilemmas and fluid organizations / Natalie S. Glance and Bernardo A. Huberman -- Human and artificially intelligent traders in computer double auctions / Dhananjay K. Gode and Shyam Sunder -- Team coordination under individual and team goals / Ping Shi, Peter B. Luh, and David L. Kleinman -- A decision logic for operational risk management / Giampiero E.G. Beroggi and William A. Wallace.

Carlson, Leland H.

**1947 The first mining season at Nome, Alaska-1899.** The Pacific Historical Review 16(2):163-175.

**ABSTRACT:****KEYWORDS:****NOTES:**

Carlson, Leland H.

**1947 Nome: from mining camp to civilized community.** Pacific Northwest Quarterly:233-242.

**ABSTRACT:****KEYWORDS:****NOTES:**

Carlson, Stefanie Moreland

**2005 Economic impact of reindeer–caribou interactions on the Seward Peninsula,** University of Alaska.

**ABSTRACT:** The reindeer industry has persisted on the Seward Peninsula in western Alaska for more than 100 years. Since the mid 1990's the industry has been increasingly threatened by changes in Western Arctic Caribou Herd (WACH) migration paths and winter range. Free-range reindeer (*Rangifer tarandus tarandus*) intermingle with caribou (*Rangifer tarandus granti*) and migrate off designated reindeer ranges. As of spring 2003, eleven of fourteen Seward Peninsula reindeer operations were no longer commercially viable as a result of caribou induced reindeer losses. This loss is significant to an economically depressed region with few development opportunities. An economic input-output model was constructed in this study to analyze the reindeer industry's economic role in the regional economy prior to the loss of reindeer to caribou. Impact scenarios were used to estimate the effect of WACH on the regional economy through decreased output from the reindeer industry. Results show a per annum negative impact of \$1.4 million (2000 dollars) on the regional economy with 11 non-operational reindeer herds. If reindeer losses lead to complete elimination of the commercial reindeer industry on the Seward Peninsula, study results show the region would incur a total negative economic impact of more than \$17 million.

**KEYWORDS:** reindeer, Seward Peninsula, Alaska, economics, caribou

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Carlson, Stefanie Moreland

**2005 Economic impact of reindeer–caribou interactions on the Seward Peninsula,** University of Alaska.

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**KEYWORDS:** reindeer, Seward Peninsula, Alaska, economics, caribou

**NOTES:**

Carothers, Courtney, Daniel K. Lew, and Jennifer Sepez

**2010 Fishing rights and small communities: Alaska halibut IFQ transfer patterns.** Ocean & Coastal Management 53(9):518-523.

**ABSTRACT:** In the Alaska halibut individual fishing quota (IFQ) fishery, small remote fishing communities (SRFCs) have disproportionately lost fishing rights. Our analysis of quota market participation from 1995 to 1999 confirms that SRFC residents are more likely to sell than buy quota. Alaska Native heritage is another important predictor of quota market behavior. Residents of Alaska Native villages have an increased likelihood of selling quota. Loss of fisheries participation in small indigenous communities can be an unintended consequence of quota systems. Mitigation measures should take into account the social factors that can lead to such a redistribution of fishing rights in privatized access fisheries.

**KEYWORDS:**

**NOTES:**

Carpenter, Edmund

**1960 Ohnainewk, Eskimo hunter.** In the Company of Man: Twenty Portraits by Anthropologists:418-426.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** The RCMP constable's wire was brief: "OHNAINWK DIED JANUARY 29, 1954. TOWTOONGIE HAS TIIE BOAT." In the end, the boat, not the man, mattered. Months later, at a trading post, I heard the details of his death. The whites sat around, familiarly discussing a man they had shunned in life. His marriages and their failures, his troubles with the traders were all described, not from his point of view, but from the point of view of strangers. His association with the evangelist was sneered at. There was not one hint that he was strong and brilliant and complex, and (more exasperating still) not one hint that he was Eskimo.

Carpenter, Edmund

**1962 Hunters of Savoonga.** Natural History 71(10):17-27.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Carroll, Geoffrey M.

**1979 Utilization of the Bowhead whale.** Marine Fisheries Review 38(8):18-21.

**ABSTRACT:** The hunting of bowhead whales has been a very important part of Eskimo life since before 1800 B.C. (Oswalt, 1967). Prior to the introduction of manufactured products to these people by commercial whalers and traders, the entire whale was used in one form or another to make tools, weapons, homes, and toys. With the passage of time, however, whale products have gradually been replaced by manufactured goods. This paper describes how the use of various whale parts has changed through the years.

**KEYWORDS:**

**NOTES:**

Case, David

**1998 Will federal or state management afford Alaska Natives a more effective voice? In** Cultural survival quarterly. Pp. 73-6, Vol. 22.

**ABSTRACT:**

**KEYWORDS:** Descriptor: Alaska

The State

Law and legislation

Subsistence economy

Management

Social participation

Indigenous peoples

CULTURAL ETHNOGRAPHY

AMERICAS

NORTH AMERICA

Document Type: article

**NOTES:** Using Smart Source Parsing

no. 3 (), p. Journal Code: Cult Survival Q

Case, David, and Dalee Sambo Dorough

**2006 Tribes and self-determination in Alaska.** Human Rights: Journal of the Section of Individual Rights & Responsibilities 33(2):13-14.

**ABSTRACT:** The article focuses on the territorial rights of the Indian tribes in Alaska. When the U.S. Congress enacted the Alaska Native Claims Settlement Act on December 18, 1971, it was generally assumed that tribes did not exist in Alaska under the principles of what is generally called federal Indian law. Article III of the 1867 Treaty of Cession provided simply that the uncivilized tribes [of Alaska] will be subject to such laws and regulations as the U.S. may, from time to time adopt in regard to aboriginal tribes of that country. Despite its nineteenth-century ethnocentrism, the reference to the tribes of Alaska is significant, indicating that they are distinct peoples under principles of both international and federal domestic law. Alaska territorial leaders and courts generally ignored the treaty's mention of tribal existence, and post-Civil War federal Indian policy shifted from treaty making and segregation to assimilation of the Indian tribes.

**KEYWORDS:** INDIANS of North America -- Alaska; TREATIES; ETHNOCENTRISM; TRIBES; ASSIMILATION (Sociology); UNITED States -- History; 1865-



**NOTES:** Article

Accession Number: 22277648; Case, David 1 Dorough, Dalee Sambo; Affiliation: 1: Partner, Landye Bennett Blumstein LLP, Anchorage, Alaska; Source Info: Spring2006, Vol. 33 Issue 2, p13; Subject Term: INDIANS of North America -- Alaska; Subject Term: TREATIES; Subject Term: ETHNOCENTRISM; Subject Term: TRIBES; Subject Term: ASSIMILATION (Sociology); Subject Term: UNITED States -- History; Subject Term: 1865-; Number of Pages: 2p; Document Type: Article; Full Text Word Count: 1414

Case, David S.

**1978 The Special Relationship of Alaska Natives to the Federal Government. An Historical and Legal Analysis:** The Alaska Native Foundation. Anchorage.

**ABSTRACT:****KEYWORDS:****NOTES:**

Case, David S.

**1985 Book review of Alaska Natives and American Laws.** Alaska Law Review 2(435):435-440.

**ABSTRACT:****KEYWORDS:****NOTES:**

Case, David S.

**1989 Subsistence and self-determination: Can Alaska Natives have a more effective voice?** U. Colo. L. Rev. 60:1009.

**ABSTRACT:****KEYWORDS:****NOTES:**

Case, David S.

**2005 Commentary on sovereignty: The other Alaska Native claim.** Journal of Land, Resources, & Environmental Law 25:149.

**ABSTRACT:****KEYWORDS:****NOTES:**

Case, David S., and David Avraham Voluck

**2002 Alaska Natives and American laws.** Anchorage: University of Alaska Press.

**ABSTRACT:****KEYWORDS:****NOTES:**

Case, Martha F.

**1986 Wild resource use in Northway, Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes the contemporary wildlife resource harvest patterns among residents of the Upper Tanana community of Northway. Brief consideration is given to resource processing and distribution patterns, and descriptions are provided for the local environment, geographic land use areas, and current sociodemographic characteristics of the community. Historical land and resource use patterns of local residents are discussed. The report documents use of the Tetlin National Wildlife Refuge and harvest of Copper River salmon in Northway, both of which are current management concerns.

**KEYWORDS:**

**NOTES:**

Case, Martha F., and Libby Halpin

**1990 Contemporary wild resource use patterns in Tanana, Alaska, 1987.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes the contemporary harvest and uses of fish and wildlife resources by residents of Tanana. An overview of the local environment, history of the areas, and socioeconomic characteristics is presented. The relationship between salmon harvest and dog ownership is also discussed. Geographic areas used by Tanana residents are described. Research was conducted in cooperation with the U.S. Fish and Wildlife Service. Particular attention is paid to Tanana's use of the Nowitna National Wildlife Refuge.

**KEYWORDS:****NOTES:**

Castle, N. H.

**1912 A short history of Council and Cheenik.** The Alaska Pioneer 1(1):8-14.

**ABSTRACT:****KEYWORDS:****NOTES:**

Caulfield, RA

**1997 Greenlanders, whales, and whaling: sustainability and self-determination in the Arctic.** Dartmouth College.

**ABSTRACT:****KEYWORDS:****NOTES:**

Caulfield, RA

**2002 Food security in Arctic Alaska. A preliminary assessment.** Sustainable Food Security in the Arctic. State of Knowledge:75-94.

**ABSTRACT:****KEYWORDS:****NOTES:**

Caulfield, Richard A.

**1980 Interim report on the survey of permitholders in the Tanana subsistence permit fishery (Subunit Y6-C) 1980.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** Rapid growth in both the number of subsistence salmon permitholders and the harvest volume between 1978 and 1980 prompted this survey of Fairbanks-area permitholders. Questionnaire responses of 217 users are analyzed. Household characteristics, employment, income, utilization of subsistence-caught salmon, and patterns of fishing activity are examined and discussed.

**KEYWORDS:****NOTES:**

Caulfield, Richard A.

**1981 Final report on the survey of permitholders in the Tanana River subsistence salmon permit fishery.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** The subsistence use of Tanana River Pacific salmon is examined through the results of a questionnaire and personal interviews with fishery participants. Demographic information is presented, along with descriptions of household characteristics and the uses of subsistence-caught salmon.

**KEYWORDS:****NOTES:**

Caulfield, Richard A.

**1983 Subsistence land use in Upper Yukon Porcupine communities, Alaska: Dinjii Nats'aa Nan Kak Adagwaandaii.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This extensive report documents subsistence land use over time for the Upper Yukon-Porcupine communities of Arctic Village, Birch Creek, Chalkyitsik, Fort Yukon, and Venetie. Maps of village land use and resource-specific use areas are presented. Ecological, socioeconomic, and cultural factors influencing subsistence land use are examined.

**KEYWORDS:****NOTES:**

Caulfield, Richard A.

**1992 Alaska's subsistence management regimes.** Polar Record 28(164):23-32.

**ABSTRACT:** Alaskans disagree sharply over the issue of a subsistence priority for hunting and fishing by rural residents, including most Alaskan Eskimos, Aleuts, and Indians. The issue highlights competing visions of Alaska's future; one based upon Euroamerican values and the other on indigenous rights and customary law. Recent political and legal developments, particularly the Alaska Supreme Court's 1989 McDowell decision invalidating the state of Alaska's rural priority, have undermined significantly subsistence protections. Failure of the state to restore this priority led the US federal government to take over subsistence management under provisions of the Alaska National Interest Lands Conservation Act (PL 96&#8211;487). For Alaska's indigenous peoples, these events make clear the limitations of relying solely on state and federal governments for protecting subsistence. Efforts are underway to strengthen tribal governments and assert limited jurisdiction over hunting and fishing. A major goal is to achieve standing for negotiations with state and federal authorities over future co-management of subsistence resources.

**KEYWORDS:****NOTES:**

Caulfield, Richard A.

**1993 Aboriginal subsistence whaling in Greenland: the case of Qeqertarsuaq municipality in West Greenland.** Arctic 46(2):144-155.

**ABSTRACT:** Policy debates in the International Whaling Commission (IWC) about aboriginal subsistence whaling focus on the changing significance of whaling in the mixed economies of contemporary Inuit communities. In Greenland, Inuit hunters have taken whales for over 4000 years as part of a multispecies pattern of marine harvesting. However, ecological dynamics, Euroamerican exploitation of the North Atlantic bowhead whale (*Balaena mysticetus*), Danish colonial policies, and growing linkages to the world economy have drastically altered whaling practices. Instead of using the umiaq and hand-thrown harpoons, Greenlandic hunters today use harpoon cannons mounted on fishing vessels and fiberglass skiffs with powerful outboard motors. Products from minke whales (*Balaenoptera acutorostrata*) and fin whales (*Balaenoptera physalus*) provide both food for local consumption and limited amounts of cash, obtained through the sale of whale products for food to others. Greenlanders view this practice as a form of sustainable development, where local renewable resources are used to support livelihoods that would otherwise be dependent upon imported goods. Export of whale products from Greenland is prohibited by law. However, limited trade in whale products within the country is consistent with longstanding Inuit practices of distribution and exchange. Nevertheless, within the IWC critics argue that even limited commoditization of whale products could lead to overexploitation should hunters seek to pursue profit-maximization strategies. Debates continue about the appropriateness of cash and commoditization in subsistence whaling and about the ability of indigenous management regimes to ensure the protection of whale stocks. This case study

describes contemporary whaling in Qeqertarsuaq Municipality in West Greenland, demonstrating that despite significant changes, whaling is an integral part of Greenland's mixed economy and a vital component of Greenlandic Inuit cultural identity. The social organization of whaling continues to be kinship-based, and Greenlandic foods, including whale products, are prominent in local diets and in cultural celebrations. The research reveals that Greenlanders participate in whaling not to maximize profits but in order to sustain cultural traditions and to reduce dependency on tenuous links to the world economy.

**KEYWORDS:** Greenland; Qeqertarsuaq Municipality; aboriginal subsistence whaling; Inuit whaling; mixed economy; minke whale; fin whale; International Whaling Commission

**NOTES:**

Caulfield, Richard A., Walter J. Peter, and Clarence L. Alexander

**1983 Gwich'in Athabaskan place names of the Upper Yukon-Porcupine Region, Alaska: a preliminary report.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** As part of subsistence land use mapping in the Upper Yukon-Porcupine Region, Native place names were collected which provide considerable information regarding traditional resource uses. Five large maps depict documented place names for Arctic Village, Birch Creek, Chalkyitsik, Fort Yukon, and Venetie. A summary statement about the use of place names accompanies the maps.

**KEYWORDS:**

**NOTES:**

Chan, H. M., K. Fediuk, S. Hamilton, L. Rostas, A. Caughey, H. Kuhnlein, G. Egeland, and E. Loring

**2006 Food security in Nunavut, Canada: Barriers and recommendations.** International Journal of Circumpolar Health 65(5):416-431.

**ABSTRACT:** Objectives. The food supply of Inuit living in Nunavut, Canada, is characterized by market food of relatively low nutritional value and nutrient-dense traditional food. The objective of this study is to assess community perceptions about the availability and accessibility of traditional and market foods in Nunavut. Study Design. A qualitative study using focus group methodology. Methods. Focus groups were conducted in 6 communities in Nunavut in 2004 and collected information was analyzed. Results. Barriers to increased traditional food consumption included high costs of hunting and changes in lifestyle and cultural practices. Participants suggested that food security could be gained through increased economic support for local community hunts, freezers and education programs, as well as better access to cheaper and higher quality market food. Conclusions. Interventions to improve the dietary quality of Nunavut residents are discussed.

**KEYWORDS:**

**NOTES:** Times Cited: 17

Chan, H. M., C. Kim, K. Khoday, O. Receveur, and H. V. Kuhnlein

**1995 Assessment of dietary exposure to trace metals in Baffin Inuit food.** Environ Health Perspect 103(7-8):740-6.

**ABSTRACT:** Chronic metal toxicity is a concern in the Canadian Arctic because of the findings of high metal levels in wildlife animals and the fact that traditional food constitutes a major component of the diet of indigenous peoples. We examined exposure to trace metals through traditional food resources for Inuit living in the community of Qikiqtarjuaq on Baffin Island in the eastern Arctic. Mercury, cadmium, and lead were determined in local food resources as normally prepared and eaten. Elevated concentrations of mercury (> 50 micrograms/100 g) were found in ringed seal liver, narwhal mattak, beluga meat, and beluga mattak, and relatively high concentrations of cadmium and lead (> 100 micrograms/100 g) were found in ringed seal liver,

mussels, and kelp. Quantified dietary recalls taken seasonally reflected normal consumption patterns of these food resources by adult men and women ( > 20 years old) and children (3-12 years old). Based on traditional food consumption, the average daily intake levels of total mercury for both adults (65 micrograms for women and 97 micrograms for men) and children (38 micrograms) were higher than the Canadian average value (16 micrograms). The average weekly intake of mercury for all age groups exceeded the intake guidelines (5.0 micrograms/kg day) established by the Joint Food and Agriculture Organization/World Health Organization Expert Committee on Food Additives and Contaminants. The primary foods that contributed to metal intake for the Baffin Inuit were ringed seal meat, caribou meat, and kelp. We review the superior nutritional benefits and potential health risks of traditional food items and implications for monitoring metal contents of food, clinical symptoms, and food use.

**KEYWORDS:** Adult

Animals  
Cadmium/administration & dosage/ analysis  
Child  
Child  
Preschool  
Female  
Food Contamination/ analysis  
Humans  
Inuits  
Lead/administration & dosage/ analysis  
Male  
Meat/analysis  
Mercury/administration & dosage/ analysis  
Middle Aged  
Northwest Territories  
Seals  
Earless

**NOTES:** Chan, H M

Kim, C  
Khoday, K  
Receveur, O  
Kuhnlein, H V  
Research Support, Non-U.S. Gov't  
United states  
Environmental health perspectives  
Environ Health Perspect. 1995 Jul-Aug;103(7-8):740-6.

Chance, N.A.

**1960 Culture change and integration: An Eskimo example.** American Anthropologist 62(6):1028-1044.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Chance, N.A.

**1962 Conceptual and methodological problems in cross-cultural health research.** American Journal of Public Health 52(3):410.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Chance, Norman A.

**1964 The changing role of government among the North Alaskan Eskimo.** Arctic anthropology 2(2):41-44.

**ABSTRACT:** Under conditions of rapid change such as are now taking place among the north Alaskan Eskimo, the question of government policy and its implementation assume strategic importance in determining the course of future events. I would like to begin by briefly outlining the history of Eskimo-white contacts in north Alaska, paying particular attention to the role played by the U.S. Government; then assess the impact of recent government activities on Eskimo assimilation, and conclude by stating a few implications for the future.

**KEYWORDS:**

**NOTES:**

Chance, Norman A.

**1965 Acculturation, self-identification, and personality adjustment.** American Anthropologist 67(2):372-393.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** The data for this paper are drawn from a long-term project—Arctic Studies in Culture Change and Mental Health. Field work was undertaken during the summers of 1958, 1961, 1962, and the winter of 1960. Support for the study has been received from the Arctic Institute of North America, the U. S. Office of Naval Research, and the National Institute of Mental Health, United States Public Health Service (M-6177 [A]). Invaluable aid has also been given by the Arctic Research Laboratory, Barrow, Alaska, the Arctic Health Research Center of the U. S. Public Health Service and the Russell Sage Foundation.

Chance, N.A.

**1966 The Eskimo of North Alaska:** DTIC Document.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Chance, Norman A.

**1987 Subsistence research in Alaska: premises, practices and prospects.** Human Organization 46(1):85-89.

**ABSTRACT:**

**KEYWORDS:** Alaska; economic development; subsistence; policy analysis

**NOTES:** "Twelve years ago in writing about the Alaskan Inupiat and Yup'ik for the Smithsonian Institution's *Handbook of North American Indians*, I stated that, 'Although subsistence hunting and fishing are still available, few younger people have the interest or skills to engage in such activity' (Chance 1984: 656). At that time I equated subsistence with 'self-reliance,' 'independence,' and the ability to 'live off the land' fulltime. The older Inupiat I knew from my research in the 1950s and 1960s still had that skill, and although they didn't always use it, it was there when needed. Many younger people, however, did not. To me, this represented an irreversible change, the beginning of a transformational shift from one mode of life to another-as yet undefined-mode. Government bureaucracy being what it is, the article I wrote in 1972 was only recently published (Chance 1984). Unfortunately, the meaning I originally assigned to the word "subsistence" is not what most Inupiat and other Alaskans mean today; and so a number of readers will likely be confused by my statement." (p 85).

"Therefore. in light of contemporary meaning, it is indeed the case that many Inupiat, Yup'ik and

many other Alaskan Natives actively engage in 'subsistence hunting and fishing.' What should not be forgotten, however, is that they do so in a different context than previously. That is, in today's world particularly, the extent of their participation in the subsistence economy is very much influenced by their ability (and that of their kin) to purchase the necessary tools required to harvest the resource. (p. 85)

"What the future holds is unclear. What is clear is that the responsibility for enhancement of Native culture, quality of life, and the utilization of the environment in a manner that is beneficial to all, rests in large part with those leaders, Native and non-Native alike, whose commitments extend beyond their own self-interest-a quality continually in need of replenishment in today's highly competitive, modern world. **And one test of such a commitment is the effort that can be undertaken to ensure as far as possible through institutional means that communal, kin-based systems persist in their relationship to ancestral lands.**" (p. 88)

Chance, N.A.

**1990 The Inupiat and Arctic Alaska: An ethnography of development.** Fort Worth: Holt, Rinehart and Winston.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Chance, Norman A., and Elena N. Andreeva

**1995 Sustainability, equity, and natural resource development in Northwest Siberia and Arctic Alaska.** *Human Ecology* 23(2):217-240.

**ABSTRACT:** Today, the search for new energy sources continues unabated throughout the North. At the same time, scientists are increasingly concerned over the degradation of the Arctic and sub-Arctic environment stemming from fossil fuel and other large-scale energy projects already underway. Similar apprehensions are expressed by indigenous peoples who have often suffered from the impact of such development. While the most dramatic evidence of environmental devastation and social disruption is found in the Russian North, serious problems are by no means confined to that area alone. Nor are these negative effects necessarily limited to the borders of the country in which they originated. Indeed, the deleterious environmental impact of our global industrial economy has become sufficiently profound that social analysts are beginning to ask whether development strategies that cause such harm to the Arctic and sub-Arctic region should continue; and if not, what should replace them. This article addresses these issues as they relate to questions of sustainability, equity, political empowerment, and human rights in northwest Siberia and northern North America.

**KEYWORDS:** sustainable development, social equity, natural resources, Siberia, Arctic, Alaska, indigenous peoples

**NOTES:** "The vast intellectual divide presently separating physical and biological scientists from those involved in social science research must be bridged. Environmental impact assessment projects offer an excellent starting point for such endeavors. In place of the present preoccupation with procedures, ecologically-oriented biological and social scientists have a holistic orientation enabling them to confront the substantive issues associated with conflicts over development policy far more effectively than those involved in narrower specialties.

"And finally, it is essential to analyze in depth those aspects of the political economy that contribute to the present harm. To do otherwise is to promote increased competition over increasingly scarce resources, in which ever greater environmental risks are taken, only to generate greater differences between those who reap the benefits and those who carry the burdens. Thus, we not only need to address the limits which nature imposes on human beings. We also need to find more egalitarian forms of social development that are contained within those limits." (p.237)

Chance, Norman A., and John Trudeau

**1963 Social organization, acculturation, and integration among the Eskimo and the Cree: A comparative study.** *Anthropologica*:47-56.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Chapin, F. S., Michael Hoel, Steven R. Carpenter, Jane Lubchenco, Brian Walker, Terry V. Callaghan, Carl Folke, Simon A. Levin, Karl-Göran Mäler, Christer Nilsson, Scott Barrett, Fikret Berkes, Anne-Sophie Crépin, Kjell Danell, Thomas Rosswall, David Starrett, Anastasios Xepapadeas, and Sergey A. Zimov

**2006 Building Resilience and Adaptation to Manage Arctic Change.** *AMBIO: A Journal of the Human Environment* 35(4):198-202.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Chapin, F. Stuart, III, Amy L. Lovcraft, Erika S. Zavaleta, Joanna Nelson, Martin D. Robards, Gary P. Kofinas, Sarah F. Trainor, Garry D. Peterson, Henry P. Huntington, and Rosamond L. Naylor

**2006 Policy strategies to address sustainability of Alaskan boreal forests in response to a directionally changing climate.** *Proceedings of the National Academy of Sciences of the United States of America* 103(45):16637-16643.

**ABSTRACT:** Human activities are altering many factors that determine the fundamental properties of ecological and social systems. Is sustainability a realistic goal in a world in which many key process controls are directionally changing? To address this issue, we integrate several disparate sources of theory to address sustainability in directionally changing social-ecological systems, apply this framework to climate-warming impacts in Interior Alaska, and describe a suite of policy strategies that emerge from these analyses. Climate warming in Interior Alaska has profoundly affected factors that influence landscape processes (climate regulation and disturbance spread) and natural hazards, but has only indirectly influenced ecosystem goods such as food, water, and wood that receive most management attention. Warming has reduced cultural services provided by ecosystems, leading to some of the few institutional responses that directly address the causes of climate warming, e.g., indigenous initiatives to the Arctic Council. Four broad policy strategies emerge: (i) enhancing human adaptability through learning and innovation in the context of changes occurring at multiple scales; (ii) increasing resilience by strengthening negative (stabilizing) feedbacks that buffer the system from change and increasing options for adaptation through biological, cultural, and economic diversity; (iii) reducing vulnerability by strengthening institutions that link the high-latitude impacts of climate warming to their low-latitude causes; and (iv) facilitating transformation to new, potentially more beneficial states by taking advantage of opportunities created by crisis. Each strategy provides societal benefits, and we suggest that all of them be pursued simultaneously.

**KEYWORDS:** adaptability; Alaska; climate change; resilience; vulnerability

**NOTES:**

Chapin, F. S., A. D. McGuire, R. W. Ruess, T. N. Hollingsworth, M. C. Mack, J. F. Johnstone, E. S. Kasischke, E. S. Euskirchen, J. B. Jones, M. T. Jorgenson, K. Kielland, G. P. Kofinas, M. R. Turetsky, J. Yarie, A. H. Lloyd, and D. L. Taylor

**2010 Resilience of Alaska's boreal forest to climatic change.** *Canadian Journal of Forest Research-Revue Canadienne De Recherche Forestiere* 40(7):1360-1370.



**ABSTRACT:** This paper assesses the resilience of Alaska's boreal forest system to rapid climatic change. Recent warming is associated with reduced growth of dominant tree species, plant disease and insect outbreaks, warming and thawing of permafrost, drying of lakes, increased wildfire extent, increased postfire recruitment of deciduous trees, and reduced safety of hunters traveling on river ice. These changes have modified key structural features, feedbacks, and interactions in the boreal forest, including reduced effects of upland permafrost on regional hydrology, expansion of boreal forest into tundra, and amplification of climate warming because of reduced albedo (shorter winter season) and carbon release from wildfires. Other temperature-sensitive processes for which no trends have been detected include composition of plant and microbial communities, long-term landscape-scale change in carbon stocks, stream discharge, mammalian population dynamics, and river access and subsistence opportunities for rural indigenous communities. Projections of continued warming suggest that Alaska's boreal forest will undergo significant functional and structural changes within the next few decades that are unprecedented in the last 6000 years. The impact of these social-ecological changes will depend in part on the extent of landscape reorganization between uplands and lowlands and on policies regulating subsistence opportunities for rural communities.

**KEYWORDS:**

**NOTES:** Times Cited: 2

Chapin, F. S., G. Peterson, F. Berkes, T. V. Callaghan, P. Angelstam, M. Apps, C. Beier, Y. Bergeron, A. S. Crépin, K. Danell, T. Elmqvist, C. Folke, B. Forbes, N. Fresco, G. Juday, J. Niemelä, A. Shvidenko, and G. Whiteman

**2004 Resilience and Vulnerability of Northern Regions to Social and Environmental Change.** *AMBIO: A Journal of the Human Environment* 33(6):344-349.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Chapin, F. Stuart, T. Scott Rupp, Anthony M. Starfield, La-ona DeWilde, Erika S. Zavaleta, Nancy Fresco, Jonathon Henkelman, and A. David McGuire

**2003 Planning for resilience: modeling change in human-fire interactions in the Alaskan boreal forest.** *Frontiers in Ecology and the Environment* 1(5):255-261.

**ABSTRACT:** The development of policies that promote ecological, economic, and cultural sustainability requires collaboration between natural and social scientists. We present a modeling approach to facilitate this communication and illustrate its application to studies of wildfire in the interior of Alaska. We distill the essence of complex fire-vegetation interactions that occur in the real world into a simplified landscape model, and describe how equally complex fire-human interactions could be incorporated into a similar modeling framework. Simulations suggest that fire suppression is likely to increase the proportion of flammable vegetation on the landscape and reduce the long-term effectiveness of wildfire suppression. Simple models that test the consequences of assumptions help natural and social scientists to communicate objectively when exploring the long-term consequences of alternative policy scenarios.

**KEYWORDS:**

**NOTES:**

Chapin, F. S., S. F. Trainor, O. Huntington, A. L. Lovcraft, E. Zavaleta, D. C. Natcher, A. D. McGuire, J. L. Nelson, L. Ray, M. Calef, N. Fresco, H. Huntington, T. S. Rupp, L. Dewilde, and R. L. Naylor

**2008 Increasing wildfire in Alaska's boreal forest: Pathways to potential solutions of a wicked problem.** *Bioscience* 58(6):531-540.

**ABSTRACT:** Recent global environmental and social changes have created a set of "wicked problems" for which there are no optimal solutions. In this article, we illustrate the wicked nature of such problems by describing the effects of global warming on the wildfire regime and

indigenous communities in Alaska, and we suggest an approach for minimizing negative impacts and maximizing positive outcomes. Warming has led to an increase in the areal extent of wildfire in Alaska, which increases fire risk to rural indigenous communities and reduces short-term subsistence opportunities. Continuing the current fire suppression policy would minimize these negative impacts, but it would also create secondary problems near communities associated with fuel buildup and contribute to a continuing decline in subsistence opportunities.

Collaborations between communities and agencies to harvest flammable fuels for heating and electrical power generation near communities, and to use wild land fire for habitat enhancement in surrounding forests, could reduce community vulnerability to both the direct and the indirect effects of global climate change.

**KEYWORDS:**

**NOTES:** Times Cited: 17

Charbonneau-Roberts, G., H. Saudny-Unterberger, H. V. Kuhnlein, and G. M. Egeland

**2005 Body mass index may overestimate the prevalence of overweight and obesity among the Inuit.** International Journal of Circumpolar Health 64(2):163-9.

**ABSTRACT:** Body mass index (BMI) is a widely used body weight classification system but has known limitations, and may need to be adjusted for sitting height in order to be useful as an indicator of health risks in special populations. Data confirm that Inuit and Far East Asians have shorter legs and relatively higher sitting heights compared with all other populations. Using standing height alone to calculate the BMI may overestimate the number of individuals that are overweight and obese, and at risk for type 2 diabetes mellitus and cardiovascular disease among the Inuit. Measuring sitting height allows for the calculation of a sitting height-to-standing height ratio (SH/S) which can be used to correct the observed BMI. Incorporating sitting height measurements into health research could help formulate Inuit-specific screening guidelines.

**KEYWORDS:** Anthropometry/ methods

Arctic Regions  
Body Height  
Body Mass Index  
Body Weight  
Cardiovascular Diseases/ethnology  
Child  
Diabetes Mellitus  
Type 2/ethnology  
Female  
Humans  
Inuits/ statistics & numerical data  
Male  
Obesity/ ethnology  
Posture  
Practice Guidelines as Topic

**NOTES:** Charbonneau-Roberts, Guylaine

Saudny-Unterberger, Helga

Kuhnlein, Harriet V

Egeland, Grace M

Review

Finland

International journal of circumpolar health

Int J Circumpolar Health. 2005 Apr;64(2):163-9.

Charnley, Susan

**1982 Resource use areas in the Aniak and Oskawalik river drainages.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report discusses subsistence land uses along the Aniak and Oskawalik rivers in connection with proposed land disposals in those areas. Maps of use areas by resource are included.

**KEYWORDS:**

**NOTES:**

Charnley, Susan

**1983 Human ecology of two Central Kuskokwim communities: Chuathbaluk and Sleetmute.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report examines subsistence patterns and the ecological relationships established by these activities in the Central Kuskokwim River area. Patterns of resource utilization are described, including hunting, fishing, trapping, and gathering in the two communities of Chuathbaluk and Sleetmute.

**KEYWORDS:**

**NOTES:**

Charnley, Susan

**1983 Moose hunting in two Central Kuskokwim communities: Chuathbaluk and Sleetmute.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report provides information on several aspects of the use of moose by residents of Chuathbaluk and Sleetmute, including hunting methods, the ecological framework within which hunting occurs, production units, preservation and preparation methods, the distribution of moose meat, the importance of moose, and land use patterns.

**KEYWORDS:**

**NOTES:**

Chichlo, Boris

**1980 The Nevuqaghmiit, or the end of a tribe.** 1-9.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Childers, Robert, and Mary Kancewick

**1989 The Gwich'in (kutchin) conservation and cultural protection in the Arctic borderlands.** Unpublished essay, Gwich'in Steering Committee, Anchorage, Alaska:1-20.

**ABSTRACT:** This paper describes the role of the Porcupine Caribou Herd in Gwich'in culture and life, past and present. The paper documents the efforts of the Gwich'in to protect the caribou calving grounds and the ecosystem on which future generations of both the caribou and the Gwich'in depend. The paper further discusses the importance of various official measures and proposals -- and their logical extensions -- to protect the caribou, and to protect the future of the modern hunting culture of the Gwich'in -- the Caribou People.

**KEYWORDS:**

**NOTES:**

Chythlook, Molly B., and Philippa A. Cooley

**1994 The subsistence use of beluga whale in Bristol Bay by Alaska Natives, 1993.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes the subsistence uses of beluga whales by Alaska Natives in the Bristol Bay area of Southwest Alaska. Information derives from interviews with beluga hunters by the ADF&G Division of Subsistence, with funding from the National Marine Fisheries Service. As described in the report, residents of at least 12 communities in the Bristol Bay area are currently known to harvest or use beluga whales, including Aleknagik, Clark's Point, Dillingham, Igiugig, Iliamna, King Salmon, Levelock, Manokotak, Naknek, South Naknek, Togiak, and Twin Hills. Historical harvests also occurred at Kulukak and Kangirnaq, villages southeast of Platinum. Beluga are used for human consumption and dog food. Beluga meat, skin, and oil are shared between families.

**KEYWORDS:**

**NOTES:**

Clark, A. McFadyen

**1977 Trade at the cross roads.** Prehistory of the North American Sub-Arctic: The Athapaskan Question - proceedings of the Ninth Annual Conference, Calgary, Alberta, Canada, 1977, pp. 130-134.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Clark, A. McFadyen, and Donald W. Clark

**1976 Koyukuk Indian-Kobuk Eskimo interaction.** Contributions to anthropology: The interior peoples of northern Alaska. Edwin S. Hall Jr., ed:193-220.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Coady, John W.

**1994 Ethics and subsistence.** In 59th North American Wildlife & Natural Resource Conference. Pp. 1-20. Alaska.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Coates, Jennifer, Edward A. Frongillo, Beatrice Lorge Rogers, Patrick Webb, Parke E. Wilde, and Robert Houser

**2006 Commonalities in the Experience of Household Food Insecurity across Cultures: What Are Measures Missing?** Journal of Nutrition 136(5):1438S-1448.

**ABSTRACT:** This paper hypothesizes that there is a common "core" to the household food insecurity experience that goes beyond insufficient food quantity and that transcends culture. The paper for the first time employs an exploratory approach to identify cross-cultural commonalities of the food insecurity experience as captured in 22 scales and related ethnographies derived from 15 different countries. The constant comparative method was used to code elements of the food insecurity experience expressed in the ethnographies and to regroup them into domains and subdomains. This typology was then applied to ascertain which experiential domains and subdomains were measured (or not) across all 22 studies. Survey data from 11 of the studies were then analyzed to assess similarities in the relative frequency with which culturally diverse households responded to questionnaire items related to these common domains/subdomains. The analysis confirmed that insufficient food quantity, inadequate food quality, and uncertainty and worry about food were a significant part of the food insecurity experience in all sampled cultures; concerns about social unacceptability emerged in all ethnographic accounts. Several subdomains were identified, such as concern over food safety and meal pattern disruption, with potentially important consequences for physical and psychological well-being. The comparative survey data showed that the relative frequency at

which populations responded to domain-related questionnaire items was similar across all but a few cultures. Future food insecurity assessments should consider these core domains and subdomains as the starting point for measures that can generate rich information to inform food security policies and programs.

**KEYWORDS:**

**NOTES:**

Coates, Jennifer, Parke E. Wilde, Patrick Webb, Beatrice Lorge Rogers, and Robert F. Houser  
**2006 Comparison of a Qualitative and a Quantitative Approach to Developing a Household Food Insecurity Scale for Bangladesh.** Journal of Nutrition 136(5):1420S-1430.

**ABSTRACT:** This paper compares a qualitative and a quantitative (Rasch) method of item assessment for developing the content of a food insecurity scale for Bangladesh. Data are derived from the Bangladesh Food Insecurity Measurement and Validation Study, in which researchers collected 2 rounds of ethnographic information and 3 rounds of conventional household survey data between 2001 and 2003. The qualitative method of scale development relied on content experts and respondents themselves to evaluate household food insecurity items generated through ethnographic research. The quantitative method applied the Rasch model to assess the fit of the same items using representative survey data. The Rasch model was then used to test for differential item functioning (DIF) across diverse demographic and geographic subgroups. The qualitative assessment flagged and discarded 10 items, leaving 13. The Rasch assessment of infit and outfit flagged 3 items, and the Rasch DIF test discarded another 10 items, leaving a total of 10 items in the Rasch-derived scale. The 2 scales contained 8 of the same items. The qualitatively and quantitatively derived scales were highly correlated ( $r = 0.96$ ,  $P < 0.01$ ), and the 2 methods located 90% of households in the same food insecurity tercile. This convergence lends added confidence to the use of either scale for identifying food-insecure households in different regions of Bangladesh. Multiple methods should continue to be applied in a systematic and transparent way to lend additional credence to the results when they converge and to pinpoint directions for further clarification where they do not.

**KEYWORDS:**

**NOTES:**

Coffin, Ruth  
**1960 Changing food habits among Alaska Natives.** Alaska Medicine:5-7.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Coffing, Michael W.  
**1991 Kwethluk subsistence: contemporary land use patterns, wild resource harvest and use and the subsistence economy of a Lower Kuskokwim River Area community.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** Harvest and uses of wild resources by this Lower Kuskokwim River community are discussed. The report is based on field work and interviews conducted June 1986-April 1987. Subsistence salmon fishing families were interviewed to gather information on distribution and location of historical and contemporary fish camps, length of occupancy at specific camp sites, harvesting and processing methods, distribution of labor within salmon production workgroups, seasonality of harvest, types of gear used when fishing, and level of participation in both subsistence and commercial fishing activities. A second survey was administered to a stratified sample of community households to determine the type and levels of nonsalmon resources which were harvested September 1985-August 1986. Community demographics, wage employment, and income information is also provided. Maps that depict Kwethluk's resource harvest areas for 12 resource categories are included.

**KEYWORDS:****NOTES:**

Coffing, Michael W., Louis A. Brown, Gretchen Jennings, and Charles J. Utermohle

**2001 The subsistence harvest and use of wild resources in Akiachak, Alaska, 1998.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes the subsistence uses of fish and wildlife by residents of Akiachak, Alaska during 1998. Akiachak is a Yup'ik Eskimo community located on the Kuskokwim River in western Alaska. Data obtained through household surveys indicated that the harvest and uses of wild resources provided an important element to the community's economic foundation. Many households relied on subsistence harvests of wild resources for the majority of their food.

**KEYWORDS:** Akiachak, Kuskokwim River, Yup'ik, subsistence hunting, subsistence fishing, subsistence trapping, subsistence gathering, marine mammals.

**NOTES:**

Coffing, Michael W., and Sverre Pedersen

**1985 Caribou hunting: land use dimensions, harvest level and, selected aspects of the hunt during regulatory year 1983-84 in Kaktovik, Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** Caribou harvest information during the regulatory year 1983-84 is presented. Twenty-four hunting groups from Kaktovik harvested 102 caribou, derived equally from the Porcupine and Central Arctic caribou herds. All harvest sites were contained within the previously-defined community caribou hunting area. Sixty-seven percent of the harvest sites used during the 1983-84 season and 78% of the caribou harvest for the year lie within the Arctic National Wildlife Refuge, which is under study for possible withdrawal (or exchange) for oil and gas leasing.

**KEYWORDS:** Arctic Region, subsistence caribou harvest, Rangifer tarandus, Kaktovik, Porcupine Caribou Herd, Central Arctic Caribou Herds, Arctic National Wildlife Refuge.

**NOTES:**

Coffing, Michael W., Cheryl L. Scott, and Charles J. Utermohle

**1998 The subsistence harvest of seals and sea lions by Alaska Natives in three communities of the Yukon-Kuskokwim Delta, Alaska, 1997-98.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes the harvests of seals and sea lions in the communities of Emmonak, Hooper Bay, and Quinhagak, located on the coast of the Yukon-Kuskokwim Delta. The harvest information comes from household surveys conducted during late winter-early spring 1998 and interviews with key respondents in each community. The research was a joint effort between the ADF&G Division of Subsistence, the Emmonak Village, the Native Village of Hooper Bay, and the Native Village of Kwinhagak (the tribal governments of the 3 communities). The research was funded by the National Oceanic and Atmospheric Administration. Marine mammals, including seals, are important subsistence Marine mammals, including seals, are important subsistence resources in the coastal area of the Yukon-Kuskokwim Delta region (Fig. 1). This report describes the subsistence harvest and use of bearded seals *Erignathus barbatus*, ribbon seals *Phoca fasciata*, ringed seals *Phoca hispida*, spotted seals *Phoca largha*, and Steller sea lion *Eumetopias jubatus* over a 12-month period. It includes information on the number of animals harvested, sex and age of animals harvested, seasons that animals were taken, numbers of animals struck and lost, and the percentage of households harvesting, using, and sharing seals and sea lions. The research was modeled after previous seal research conducted by the Division of Subsistence in other communities throughout coastal areas of Alaska,

particularly in the Gulf of Alaska, Alaska Peninsula, Bristol Bay, and Bering Straits regions of Alaska.

**KEYWORDS:**

**NOTES:**

Coffing, Michael W., Cheryl L. Scott, and Charles J. Utermohle

**1999 The subsistence harvest of seals and sea lions by Alaska Natives in three communities of the Yukon-Kuskokwim Delta, Alaska, 1998-99.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes the results of seal and sea lion harvest surveys conducted in the communities of Emmonak, Hooper Bay and Quinhagak, located on the Bering Sea coast of the Yukon-Kuskokwim Delta. The household harvest surveys were conducted during late winter – early spring 1999. The research was a joint effort between the Alaska Department of Fish and Game, Division of Subsistence, the Emmonak Village, the Native Village of Hooper Bay, and the Native Village of Kwinhagak (the tribal governments of the three communities). The research was funded by the NOAA National Marine Fisheries Service.

**KEYWORDS:**

**NOTES:**

Cohen, Kathryn A.

**1988 Wrangell harvest study: a comprehensive study of wild resource harvest and use by Wrangell residents.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes and analyzes the hunting, fishing, and gathering activities of Wrangell residents. Information was collected using a formal survey administered to a stratified random sample of households, as well as open-ended interviews with key informants. The report includes a description of the local environment, a brief community history, and a discussion of the demography and contemporary economy of the study area. It describes the results of the survey and discusses wild resource harvest and uses by Wrangell residents for a 1-year period November 1, 1986-October 31, 1987. Maps of harvest areas for selected species are included.

**KEYWORDS:**

**NOTES:**

Cohen, Kathryn Koutsky

**1983 The noncommercial harvest and use of halibut in Southeast Alaska: a summary of current information.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This is a summary of information of historical and contemporary noncommercial halibut fishing in Southeast Alaska.

**KEYWORDS:**

**NOTES:**

Cohen, Norman A.

**1978 A history of the subsistence hunting law.** *In* Tundra Times.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Coiley-Kenner, Philippa A., Molly B. Chythlook, James A. Fall, Louis Brown, and Charles J. Utermohle

**1999 Harvest of fish other than salmon by the communities of Pedro Bay and Levelock, Southwest Alaska, April 1996–March 1997.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** The report presents findings of research conducted in 1997 on harvests of nonsalmon fish by residents of Pedro Bay and Levelock, two communities of the Bristol Bay Area

of Southwest Alaska. Study objectives included estimates of harvests of nonsalmon fish for home use for a 12-month study period April 1, 1996-March 31, 1997. Harvests by gear type and approximate location of harvest were also recorded. For Pedro Bay only, harvest and use data were collected for other resources as well, including Pacific salmon, land mammals, birds, and wild plants. Data were collected through face-to-face interviews using a standard survey instrument. Of 19 year-round households in Pedro Bay, 13 (68.4 percent) were interviewed. In Levelock, 14 of 26 year-round households were interviewed (53.9 percent).

**KEYWORDS:**

**NOTES:**

Coiley-Kenner, Philippa A., Molly B. Chythlook, and Theodore M. Krieg

**1996 The Harvest and Use of Freshwater Fish in Togiak and Manokotak, 1994-95:** Report to the U.S. Fish and Wildlife Service.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Coiley-Kenner, Philippa A., Theodore M. Krieg, Molly B. Chythlook, and Gretchen Jennings

**2003 Wild resource harvests and uses by residents of Manokotak, Togiak, and Twin Hills, 1999/2000.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes results of harvest suveys conducted in Togiak, Manokotak, and Twin Hills in 2000 for the survey year April 1999-March 2000. The USFWS Office of Subsistence Management provided funding for the project. Households were asked to map areas where caribou, moose, and bear were harvested in the past year and over the past 20 years. Harvest levels for Manokotak are compared to 2 previous surveys conducted in 1974 and 1986. Resource harvests were shown to vary from year to year in their composition. For Manokotak, the total harvest level has been constant since the early 1970s. The harvest surveys demonstrate a heavy reliance on subsistence resources exists in all three communities, where there is limited opportunities for cash employment.

**KEYWORDS:** Bristol Bay, Togiak River, Igushik River, Togiak, Twin Hills, Manokotak, caribou, Rangifer tarandus, moose, Alces alces, Pacific salmon

**NOTES:**

Colchester, Marcus

**2004 Conservation policy and indigenous peoples.** Environmental Science & Policy 7(3):145-153.

**ABSTRACT:** Exclusionary models of land management can be traced back to the first millennium B.C. Conservation through the establishment of [']national parks', pioneered in USA and applied world-wide, has violated the rights of indigenous peoples causing impoverishment and social problems. International laws now recognise indigenous peoples' rights and new conservation policies accept that indigenous peoples may own and manage protected areas. Participatory field research shows that these new principles are not yet widely applied in Latin America, Africa and Asia as national policies, laws and institutions have yet to be revised in conformity with international law. Recommendations are made on how conservation agencies should change their ways if future conservation initiatives are not to create further poverty.

**KEYWORDS:** Conservation

Protected areas

Indigenous peoples

Human rights

Social policy



**NOTES:**

Coleman, James S.

**1988 Social Capital in the Creation of Human Capital.** American Journal of Sociology 94:95-120.

**ABSTRACT:** In this paper, the concept of social capital is introduced and illustrated, its forms are described, the social structural conditions under which it arises are examined, and it is used in an analysis of dropouts from high school. Use of the concept of social capital is part of a general theoretical strategy discussed in the paper: taking rational action as a starting point but rejecting the extreme individualistic premises that often accompany it. The conception of social capital as a resource for action is one way of introducing social structure into the rational action paradigm. Three forms of social capital are examined: obligations and expectations, information channels, and social norms. The role of closure in the social structure in facilitating the first and third of these forms of social capital is described. An analysis of the effect of the lack of social capital available to high school sophomores on dropping out of school before graduation is carried out. The effect of social capital within the family and in the community outside the family is examined.

**KEYWORDS:****NOTES:**

Coleman, James S.

**1990 Foundations of social theory:** Harvard University Press.

**ABSTRACT:****KEYWORDS:****NOTES:**

Collier, Arthur J.

**1902 A reconnaissance of the northwestern portion of Seward Peninsula, Alaska :** Government Print. Office.

**ABSTRACT:****KEYWORDS:****NOTES:**

Collings, P.

**1997 The cultural context of wildlife management in the Canadian North.** Contested Arctic: Indigenous Peoples, Industrial States, and the Circumpolar Environment:13.

**ABSTRACT:****KEYWORDS:****NOTES:**

Collings, Peter

**1997 Subsistence hunting and wildlife management in the central Canadian Arctic.** Arctic anthropology 34(1):41-56.

**ABSTRACT:** During the winter of 1992/93, a perceived caribou decline in the vicinity of Holman, NWT, Canada, led a government wildlife manager to suggest that a ban on caribou hunting was the only reasonable solution to managing the caribou population. This paper focuses on the resulting interaction between wildlife managers and Inuit. On the surface, the process appeared to be an adequate exercise in co-management, as the community was involved in all phases of addressing the problem. However, further examination suggests that some local Inuit were unhappy with both the process and the solution. It is also suggested that a ban on caribou hunting was unnecessary because Inuit recognized that continued hunting was economically unproductive.

**KEYWORDS:**

**NOTES:**

Collings, P.

**2001 "If you got everything, it's good enough": perspectives on successful aging in a Canadian Inuit community.** Journal of cross-cultural gerontology 16(2):127-155.

**ABSTRACT:****KEYWORDS:****NOTES:**

Collings, Peter

**2005 Housing Policy, Aging, and Life Course Construction in a Canadian Inuit Community.** Arctic anthropology 42(2):50-65.

**ABSTRACT:** The provisioning and administration of social housing has been a continuous problem in the Canadian North since the 1960s, when the Canadian government began taking an active role in the welfare of Inuit. Some of these problems are quite basic and include high costs for construction and maintenance of units. An examination of the development and evolution of Canadian housing policy in the North demonstrates that changes to the administration of social housing programs and, since the mid-1980s, development of formal privatization schemes have steadily shifted housing costs onto local residents. These shifting costs, however, are borne unequally, with Inuit born and raised in the context of permanent communities (the Settlement Generation) facing the greatest burdens.

**KEYWORDS:****NOTES:**

Collings, P.

**2009 Birth Order, Age, and Hunting Success in the Canadian Arctic.** Human Nature 20(4):354-374.

**ABSTRACT:** What explains variation in hunting success? This paper examines foraging success among Inuit hunters, paying particular attention to factors that account for differential returns in hunting. Although there are several possibilities for explaining hunting success, this study finds that birth order and age are important predictors of foraging returns. Furthermore, data on food sharing suggests that birth order has important effects on the distribution of food. That is, early-born hunters not only produce more food, they give much of that food to their parents, who then distribute it to the hunter's younger siblings. These findings are discussed within the context of local resource enhancement and the value of early-born sons to Inuit parents.

**KEYWORDS:****NOTES:** Times Cited: 0

105th Annual Meeting of the American-Anthropological-Association  
Nov 15-19, 2006  
San Jose, CA

Collings, P., G. Wenzel, and R. Condon

**1998 Modern food sharing networks and community integration in the central Canadian Arctic.** Arctic 51(4):301-314.

**ABSTRACT:** From June 1992 to July 1993, research on wildlife harvesting and subsistence relations was conducted among a sample of householders in the Inuit community of Holman. In an earlier paper, the authors examined the involvement of younger Inuit in subsistence hunting, noting that despite the sweeping political, social, and economic changes that have been experienced in Holman and across the Canadian North, hunting remained an important sociocultural and economic activity for some members of the sample group. This paper focuses specifically on the informal socioeconomic aspects of subsistence in Holman. **Using primary**

**data from the 1992–93 sample, we examine the range of economic mechanisms employed by Holman Inuit for the distribution of wild resources and compare the present range of such activity to that observed by Stefansson, Jenness, Rasmussen, and Damas in their work on Copper Inuit food sharing.** These data indicate 1) that the sharing form most frequently cited ethnographically, obligatory seal-sharing partnerships, is more irregular than formerly; and 2) that voluntary, nonpartnershipbased sharing remains an important element in the contemporary economic system.

**KEYWORDS:** network

**NOTES:**

Colt, S.

**2005 Alaska Natives and the New Harpoon: Economic Performance of the ANCSA Regional Corporations.** *Journal of Land, Resources, & Environmental Law* 25:155.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Committee to Review the Community Development Quota Program

**1999 The community development quota program in Alaska.** National Research Council, ed. Pp. 229. Washington: National Academy Press.

**ABSTRACT:** The Community Development Quota (CDQ) program was designed to improve social and economic conditions in rural western Alaska by helping communities build their capacity to engage in commercial fishing. Like all new efforts, the program has had some start-up difficulties. But as indicated in this review conducted by the Committee to Review the Community Development Quota Program, there has been significant progress and the program offers a great deal of promise for this particular region. Whether a similar program might be effective in other parts of Alaska or in the western Pacific, where there has been interest in the approach, is less clear because of differences in the environments, fishery management strategies, and the nature of the communities.

**KEYWORDS:**

**NOTES:** "Recommendations

"• Concern for the long-term health of the Bering Sea ecosystem needs to feature more prominently in the CDQ program. Local concerns about environmental stewardship need to be able to be expressed in a meaningful way throughout the program's management structure, beginning with effective communication of local concerns to the CDQ group management and continuing on up through the Council process. The quota allocation process can be used to increase the emphasis on environmental stewardship.

"• Economic sustainability is dependent upon sound environmental stewardship. In order for the CDQ program to help build a sustainable economy in the region, it is imperative that the underlying resource base—the fisheries—be used in ways that are sustainable over the long-term. This will require explicit, indepth, continuing analysis of the condition or health of the fishery resource and management that can respond and adapt to changes in this condition." (P 142)

Condon, Richard G.

**1982 Inuit natality rhythms in the central Canadian Arctic.** *Journal of biosocial science* 14(02):167-177.

**ABSTRACT:** Seasonal variation in human natality is examined over a period of several decades for an isolated Inuit settlement in the central Canadian Arctic. The results substantiate earlier reports of the existence of a birth season in the first half of the year. The 2-decade period coinciding with the gradual concentration of the regional population into the settlement

experienced a temporary disruption of this traditional rhythmic pattern. Family planning has been introduced in the modern period, yet birth seasonality is even more pronounced than during previous decades. Both planned and unplanned births occur predominantly in the first half of the year, indicating the paramount importance of behavioural and social responses to extreme seasonal variation.

**KEYWORDS:**

**NOTES:**

Condon, Richard G.

**1989 The History and Development of Arctic Photography.** *Arctic anthropology*:46-87.

**ABSTRACT:** This paper discusses the development of photographic technology from the mideighteenth century to the present and the application of this evolving technology to the exploration and documentation of the North American Arctic. Early attempts to make use of the photographic medium in visually documenting the landscape and cultures of the Arctic were severely hampered by a cumbersome and time-consuming photographic process which often required an entire day to take just a few exposures. For this reason, contemporary scholars are fortunate to have any photographic documentation from this early period of arctic exploration and research. With the development of more efficient and portable cameras around the turn of the century, the number of professional and amateur photographers working in the North increased dramatically. The images left by these intrepid photographic pioneers provide a useful source of data concerning traditional Inuit and Yup'ik cultures as well as the impacts of rapid social change introduced by whalers, missionaries, traders, and government agencies. In recent years, the research potential of such historical collections has been recognized by northern researchers and native cultural organizations which have used these photographs for conducting oral history interviews with native elders and for illustrating community histories and regional land use inventories.

**KEYWORDS:**

**NOTES:**

Condon, R. G., P. Collings, and G. Wenzel

**1995 The best part of life: Subsistence hunting, ethnicity, and economic adaptation among young adult Inuit males.** *Arctic* 48(1):31-46.

**ABSTRACT:** This paper examines the economic adaptations and subsistence hunting involvement of householders between the ages of 20 and 35 in the Copper Inuit community of Holman. Social, economic, and political changes throughout the Canadian Arctic have made it impossible for young adults to pursue the same mixed economic strategies as previous generations. A general decrease in subsistence hunting involvement is characteristic of the younger generation. Nevertheless, some young householders have made a conscious effort to remain active in subsistence hunting and fishing to provide for themselves and related households. Some have even increased subsistence hunting involvement as their own parents age and become increasingly infirm. Other householders are less active in hunting and fishing, but continue to view land-based harvesting as central to a sense of Inuit identity. The motivations, economic position, and family background of a sample of active and less active young adult hunters are explored in an attempt to understand the pressures experienced by young adults as they strive to make a place in a northern society radically different from that of their parents at a similar age. While the authors recognize the economic value of subsistence harvesting and the foods that result from it, we also emphasize the less easily quantified dimensions of subsistence ideology and its impact upon physical health, psychological well-being, and community integration.

**KEYWORDS:**

**NOTES:**

Conger, Annie Olanna, and James S. Magdanz

**1990 The harvest of fish and wildlife in three Alaska communities: Brevig Mission, Golovin, and Shishmaref.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** Surveys of 69 households in 3 communities were used to estimate annual harvests of wildlife during 1988-1989. Sampled households reported average harvests of 2,472 pounds per household in Brevig Mission; 2,491 pounds per household in Golovin; and 2,654 pounds per household in Shishmaref. Per capita harvests were 579 pounds in Brevig Mission; 604 pounds in Golovin; and 663 pounds in Shishmaref. Marine mammals accounted for more than half of the harvest (by weight) in Shishmaref and Brevig Mission. Fish were the largest single category harvested in Golovin, where they accounted for slightly less than half the total harvest.

**KEYWORDS:** Arctic Region, Brevig Mission, Shishmaref, Golovin, subsistence fishing, subsistence hunting, marine mammals

**NOTES:**

Conn, Stephen, and Bart K. Garber

**1989 State Enforcement of Alaska Native Tribal Law: The Congressional Mandate of the Alaska National Interest Lands Conservation Act.** Harvard 1989 Indian Law Symposium, Cambridge, MA, 1989. Vol. 27.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Connell, C. L., M. Nord, K. L. Lofton, and K. Yadrick

**2004 Food security of older children can be assessed using a standardized survey instrument.** Journal of Nutrition 134(10):2566-72.

**ABSTRACT:** Cognitive interviewing methods were used to adapt questions from the U.S. Food Security Survey Module for administration to children. Individual concurrent probing techniques using standardized probes were utilized to assess understanding of the items with 20 African American children (10 males, 10 females, aged 11-13 y). Item wording and response sets were revised, and small groups of boys (n = 5) and girls (n = 14) aged 12-15 y were asked to complete the 9-item survey. Retrospective probing techniques were then used to assess comprehension of items and response sets. Nine items were then piloted in a middle school using a self-administered format. Three hundred forty-five surveys were returned. The majority of the students were between 12 and 15 y (n = 215). Scaling analysis of the 345 completed surveys using statistical methods based on the Rasch measurement model indicated that the module measured a single underlying phenomenon (food insecurity) with sufficient reliability to be a useful tool. The measurable range of food insecurity was about 6 times the estimated measurement error, indicating that the scale could identify 3 categories of food security with reasonable reliability. A survey instrument that reliably measures food security status of individual children can provide researchers with an important tool to assess more accurately the individual-level effects of food security on nutritional status and mental and physical health among this population.

**KEYWORDS:** Adolescent; Child; Cognition; Eating/ psychology; Female; Food/ economics; Humans; Hunger; Male; Pilot Projects; Questionnaires; United States

**NOTES:** Connell, Carol L

Nord, Mark

Lofton, Kristi L

Yadrick, Kathy

Research Support, U.S. Gov't, Non-P.H.S.

United States

The Journal of nutrition

J Nutr. 2004 Oct;134(10):2566-72.

Cooper, L. W., I. L. Larsen, T. M. O'Hara, S. Dolvin, V. Woshner, and G. F. Cota

**2000 Radionuclide contaminant burdens in Arctic marine mammals harvested during subsistence hunting.** Arctic 53(2):174-182.

**ABSTRACT:** We conducted gamma spectrometric analyses on more than 200 arctic marine mammal tissue samples. These samples were primarily provided by subsistence hunters from northern Alaska, with a smaller number of samples from the Resolute region in Canada. The majority of samples (>90%) had detectable levels of the anthropogenic radionuclide Cs-137, With a mean level observed in all samples of 0.67 Bq kg(-1) dry weight +/- 0.81 (SD). Converted to wet weight, the mean was 0.21 Bq kg(-1) +/- 0.19 SD. The median activity observed was 0.45 Bq kg(-1) dry weight (0.18 Bq kg(-1) wet weight) with a range from detection limits to 6.7 Bq kg(-1) dry weight (1.1 Bq kg(-1) wet weight). These findings confirm expectations that current anthropogenic gamma emitter burdens in marine mammals used in the North American Arctic as subsistence food resources are well below activities that would normally merit public health concern (similar to 1000 Bq kg(-1) wet weight). Some differences among species and tissues were observed. Beluga tissues had slightly higher mean burdens of Cs-137 overall, and epidermis and muscle tissues in bowhead and beluga whales typically had higher burdens than other tissues analyzed. Low levels of the neutron activation product Ag-108 (half-life 418 yr.), probably bioaccumulated from bomb fallout sources, were observed in 16 of 17 beluga livers analyzed, but were not found in any other tissues of beluga or in any other species sampled. A subset of 39 samples of various tissues was analyzed for the alpha and beta emitters Pu-239.240 and Sr-90. Plutonium levels were near the threshold of detectability (similar to 0.1 Bq kg(-1) dry weight) in 6 of the 39 samples; all other samples had no detectable plutonium. A detectable level of Sr-90 (10.3 +/- 1.0 Bq kg(-1) dry weight) was observed in only one of the 39 samples analyzed, a bowhead epidermis sample. Although the accumulation of Ag-108m has not been previously reported in any marine mammal livers, all of our analytical measurements indicate that only very low levels of anthropogenic radioactivity are associated with marine mammals harvested and consumed in the North American Arctic.

**KEYWORDS:**

**NOTES:** Times Cited: 6

Cornell, Stephen, and Joseph P. Kalt

**2003 Alaska Native Self-Government and Service Delivery: What Works?** In Joint Occasional Papers in Native Affairs: The Harvard Project on American Indian Economic Development.

**ABSTRACT:** The status of Alaska Natives' rights of self-rule is properly the focus of detailed legal, political, and moral analysis. However, many of those who would limit, deny, or alter those rights profess to see the question as one of practicability and efficiency, challenging the notion that it is feasible for Alaska Native communities to effectively govern themselves or deliver needed services. In this study, we examine this issue. Specifically, in the area of Native self-governance and service delivery, *what is likely to work?* In posing this question, we assume that the economic and social well-being of Alaska Natives should be a central concern in the making of policy, whether by tribes, the State, or the federal government. Just as a debate that ignores the issue of Native rights is missing the boat, so too is one that ignores the impact policy is likely to have on the well-being of those most directly affected by it.

**KEYWORDS:** Alaska Native; self-determination; law

**NOTES:**

Corradi, C, O Kolle, K Walter, SA Zimov, and ED Schulze

**2005 Carbon dioxide and methane exchange of a north-east Siberian tussock tundra.**  
Global Change Biology 11(11):1910-1925.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Cowles, Cleveland J.

**1981 Marine mammals, endangered species, and rare plants potentially affected by proposed federal lease sales in the northern Bering Sea and Norton Sound vicinity.**

Anchorage: U.S. Department of the Interior, Bureau of Land Management, Alaska Outer Continental Shelf Office.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Cowles, Cleveland J., Donald J. Hansen, and Joel D. Hubbard

**1981 Types of potential effects of offshore oil and gas development on marine mammals and endangered species of northern Bering, Chukchi, and Beaufort Seas.**

Available from the National Technical Information Service, Springfield VA 22161 as PB 83-146142, Technical Paper (9):1-23.

**ABSTRACT:** Direct effects of spilled oil to non-endangered marine mammals would vary depending on population density, physiological status, season, meteorological conditions, spill characteristics, duration of exposure and other factors. For many of the species occurring in Alaskan arctic areas, long-term, chronic, and direct or indirect effects associated with oil and gas development are of greater concern than the probability of widespread direct effects on seal populations. One possible result of low-level or chronic pollution would be to contribute to physiological stress on marine populations which may be at or near carrying capacity. Indirect effects of oil pollution on marine mammals would be those associated with changes in availability or suitability of various food sources or essential habitat factors. Mammalian species such as bearded seal or walrus may be most likely to show tropic-related effects in a specific locale since they rely on relatively sedentary benthic food sources. Shock waves and noise disturbance associated with offshore oil and gas development may alter the behavior of marine mammals. Other factors which may directly affect marine mammals include shoreline alteration, facility siting, dredging and filling, and secondary development. Potential factors affecting endangered cetaceans include direct and indirect oil and gas pollution effects, noise and disturbance effects and other factors such as marine disposal of drilling muds, formation waters, and cooling waters, shoreline alterations, and airborne noise.

**KEYWORDS:**

**NOTES:**

Cowles, Cleveland J., Donald J. Hansen, and Joel D. Hubbard

**1981 Types of potential effects of offshore oil and gas development on marine mammals and endangered species of northern Bering, Chukchi, and Beaufort Seas.**

Available from the National Technical Information Service, Springfield VA 22161 as PB 83-146142, Technical Paper (9):1-23.

**ABSTRACT:** Direct effects of spilled oil to non-endangered marine mammals would vary depending on population density, physiological status, season, meteorological conditions, spill characteristics, duration of exposure and other factors. For many of the species occurring in Alaskan arctic areas, long-term, chronic, and direct or indirect effects associated with oil and gas development are of greater concern than the probability of widespread direct effects on seal populations. One possible result of low-level or chronic pollution would be to contribute to physiological stress on marine populations which may be at or near carrying capacity. Indirect effects of oil pollution on marine mammals would be those associated with changes in availability

or suitability of various food sources or essential habitat factors. Mammalian species such as bearded seal or walrus may be most likely to show tropic-related effects in a specific locale since they rely on relatively sedentary benthic food sources. Shock waves and noise disturbance associated with offshore oil and gas development may alter the behavior of marine mammals. Other factors which may directly affect marine mammals include shoreline alteration, facility siting, dredging and filling, and secondary development. Potential factors affecting endangered cetaceans include direct and indirect oil and gas pollution effects, noise and disturbance effects and other factors such as marine disposal of drilling muds, formation waters, and cooling waters, shoreline alterations, and airborne noise.

**KEYWORDS:****NOTES:**

Craciun, Jean

**2010 Public views of climate change in the Northwest Arctic Borough, Alaska.** Pp. 60. Washington, D.C.: Cracium Research Group, Inc.

**ABSTRACT:**

**KEYWORDS:** climate change; survey; Kotzebue; Selawik; Deering; Kivalina;

**NOTES:** Consultant report to Tony Leiserowitz, director of the Yale Project on Climate Change Communication

Craig, Peter C.

**1987 Subsistence Fisheries at Coastal Villages in the Alaskan Arctic, 1970-1986.**

Anchorage: U.S. Department of the Interior, Minerals Management Service, Alaska OCS Region.

**ABSTRACT:****KEYWORDS:**

**NOTES:** Subsistence fisheries in the Alaskan Arctic provide an important food source for the coastal communities of Barrow, Point Lay, Wainwright, Atkasuk, Nuiqsut, and Kaktovik. The total annual harvest (villages combined) is roughly 210~000 lb of fish, which in terms of utilizable weight almost equals the villages' annual harvest of bowhead whales.

Craig, P.C., and P. McCart

**1976 Fish use of near shore coastal waters in the western Arctic: emphasis on anadromous species.** Assessment of the Arctic Marine Environment: Selected Topics:361-388.

**ABSTRACT:** An overview of fish utilization of nearshore habitats is presented for the Beaufort Sea coastal region between the Colville River (Alaska) and the Mackenzie River (NWT). Movements and life histories of anadromous species, principally the Arctic char and Arctic cisco, are emphasized. Most of the 28 fish species caught in nearshore areas are freshwater or anadromous rather than marine. Areas of greatest species diversity are centered in the deltas of the largest drainages, most notably the Mackenzie delta. Potential sources of disturbance to fish in nearshore habitats are discussed.

**KEYWORDS:****NOTES:**

Craver, Amy

**2001 Alaska subsistence lifestyles face changing climate.** In Northwest Public Health. Pp. 8-9, Vol. Fall/Winter: University of Washington School of Public Health & Community Medicine.

**ABSTRACT:** Native subsistence hunters throughout Alaska report dramatic changes in the climate, changes that are making it more difficult to maintain their subsistence and rural-based lifestyle.



**KEYWORDS:****NOTES:**

Craver, Amy

**2005 Household adaptive strategies among the Inupiat.** *In* Complex Ethnic Households in America. L.K. Schwede, R.L. Blumberg, and A.Y. Chan, eds. Pp. 94-115. Lanham, MD: Rowman & Littlefield.

**ABSTRACT:**

**KEYWORDS:** Alaska, Inuit, social structure, network, household, census

**NOTES:** "Considering that the Inupiat rely on extended kinship-based networks of households, one might expect researchers to analyze employment, income, harvest, and other data from the perspective of such multihousehold networks. However, data collection efforts have rarely, if ever, taken a multihousehold approach. For example, data-gathering instruments, such as census forms, are designed for the more typical, independent, nuclear households of mainstream America. Throughout the nation, census data are collected and analyzed on an individual or household basis. But when Inupiat households are categorized as if they were conventional American households, the data collected are inaccurate and incomplete, for this approach does not account for the Inupiat's special understanding of household, family, and domestic function. Since standard surveys fail to account for interhousehold relationships, some of the most unique and critical aspects of rural Alaska's domestic economy-rich and complex economic relationships among cooperating households are not accounted for and are ignored. Suggestions for future research include developing effective methods for identifying and describing multihousehold networks." (p. 112-113)

Cravez, Glenn E.

**1980 The Alaska national interest lands conservation act: Directing the Great Land's future.** Alaska Law Review 10:33-61.

**ABSTRACT:****KEYWORDS:****NOTES:**

Crittenden Cassetta Cannon, and Hellmuth Obata Kassabaum Inc.

**1977 Baseline Studies of the Physical and Manmade Environment: The Beaufort Sea Region.** Anchorage: U.S. Department of the Interior/Bureau of Land Management/Alaska OCS Office.

**ABSTRACT:****KEYWORDS:**

**NOTES:** This report is part of a more comprehensive baseline study of the Beaufort Sea Petroleum development Region and its communities as of mid-1977. It provides an inventory of selected baseline information on the physical and manmade environment organized into four categories: land use, land status, transportation, and utilities. A separate document will provide baseline information related to the socioeconomic environment. The area that comprises the Beaufort Sea Petroleum Development Region coterminous with the corporate limits of the North Slope Borough. Its communities include Barrow, Kaktovik, Point Hope, Point Lay, Wainwright, Atkasook, Nuiqsut, Anaktuvuk Pass, and the petroleum development base camp at Prudhoe Bay Deadhorse. The report is organized into three sections. The first section discusses land use and ownership patterns, transportation, and utilities service in the Region as a whole and in seven of its nine communities. The remaining two sections discuss aspects of the physical environment in greater detail for two communities that may receive some of the most significant impacts of OCS petroleum development in the Region: Barrow and Kaktovik.

Crittenden Cassetta Cannon, and Hellmuth Obata Kassabaum Inc.

**1978 Prudhoe Bay Case Study.** Anchorage: U.S. Department of the Interior/Bureau of Land Management/Alaska OCS Office.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** This report is a case study of Prudhoe Bay, an industrial enclave built to service the largest known oil and gas reserve on the North American continent. Although a great deal of information has been written about the trans-Alaska pipeline, remarkably little has been written on Prudhoe Bay itself. This report represents the first time a detailed case study of Prudhoe Bay has been prepared. Prudhoe Bay is the subject of a case study for two reasons. The first is to describe the facilities and workers located at Prudhoe in the fall of 1977 when oil production began. The second is to identify factors that might be replicated with enclave development in other remote areas of the State. While this case study is not intended to be a formal and detailed assessment of impacts arising from Prudhoe Bay, it does identify impacts on the provision of services on a regional scale, on the local unit of government and on the State. These are the kinds of impacts that may appear in the event that additional enclave development occurs elsewhere in Alaska.

Crowell, Aron

**1985 Site destruction and future research prospects on Saint Lawrence Island: a survey and situation report.** *In* 12th Annual meeting of the Alaska Anthropological Association Pp. 1-8. Anchorage, Alaska.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Crowell, Aron L., and Estelle Oozevaseuk

**2006 The St. Lawrence Island Famine and Epidemic, 1878-80: A Yupik Narrative in Cultural and Historical Context.** *Artic Anthropology* 43(1):1.

**ABSTRACT:** A collaborative study of the Smithsonian Institution's ethnology collections has inspired the narration of Alaska Native oral traditions, including Yupik Elder Estelle Oozevaseuk's re-telling (in 2001) of the story of Kukulek village and the St. Lawrence Island famine and epidemic of 1878-80. The loss of at least 1,000 lives and all but two of the island's villages was a devastating event that is well documented in historical sources and archaeology, as well as multiple Yupik accounts. Yupik have transmitted memories of extreme weather, bad hunting conditions, and a wave of fatal contagion that swept the island. The Kukulek narrative, with origins traceable to the late nineteenth century, provides a spiritual perspective on the disaster's underlying cause, found in the Kukulek people's disrespect toward the animal beings that sustained them. This paper explores the cultural and historical contexts of this narrative, and contrasts it with Western perspectives.

**KEYWORDS:**

**NOTES:**

Cruikshank, J.

**2001 Glaciers and climate change: Perspectives from oral tradition.** *Arctic* 54(4):377-393.

**ABSTRACT:** In northwestern North America, glaciers figure prominently in both indigenous oral traditions and narratives of geophysical sciences. These perspectives intersect in discussions about global warming, predicted to be extreme at Arctic and Subarctic latitudes and an area of concern for both local people and scientists. Indigenous people in northwestern North America have experienced climate variability associated with the latter phases of the Little Ice Age (approximately 1550-1850). This paper draws on oral traditions passed down from that period, some recorded between 1900 and the early 1950s in coastal Alaska Tlingit communities and others recorded more recently with elders from Yukon First Nations. The narratives concern

human travel to the Gulf of Alaska foreshore at the end of the Little Ice Age from the Copper River, from the Alaska panhandle, and from the upper Alsek-Tatshenshini drainage, as well as observations about glacier advances, retreats, and surges. The paper addresses two large policy debates. One concerns the incorporation of local knowledge into scientific research. The second addresses the way in which oral tradition contributes another variety of historical understanding in areas of the world where written documents are relatively recent. Academic debates, whether in science or in history, too often evaluate local expertise as data or evidence, rather than as knowledge or theory that might contribute different perspectives to academic questions.

**KEYWORDS:****NOTES:**

Csonka, Yvon

**2007 Le peuple yupik et ses voisins en Tchoukotka: huit décennies de changements accélérés.** Etudes/Inuit/Studies 31(1):7-37.

**ABSTRACT:****KEYWORDS:****NOTES:**

Cunningham, Paul

**1981 A technical report describing an algorithm to estimate number of participants who have participated in the Cook Inlet subsistence fishery four or more years.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes a statistical method for determining the number of households that participated in the Cook Inlet fishery for four or more years.

**KEYWORDS:****NOTES:**

Daily, Gretchen, Partha Dasgupta, Bert Bolin, Pierre Crosson, Jacques du Guerny, Paul Ehrlich, Carl Folke, Ann Mari Jansson, Bengt-Owe Jansson, Nils Kautsky, Ann Kinzig, Simon Levin, auml, Karl- G. Ier, ouml, ran, Per Pinstrup-Andersen, Domenico Siniscalco, and Brian Walker

**1998 Food production, population growth, and the environment.** Science 281(5381):1291-1292.

**ABSTRACT:****KEYWORDS:****NOTES:**

Daily, Gretchen C., Tore Soderqvist, Sara Aniyar, Kenneth Arrow, Partha Dasgupta, Paul R. Ehrlich, Carl Folke, AnnMari Jansson, Bengt-Owe Jansson, Nils Kautsky, Simon Levin, Jane Lubchenco, Karl-Goran Maler, David Simpson, David Starrett, David Tilman, and Brian Walker

**2000 The value of nature and the nature of value.** Science 289(5478):395-396.

**ABSTRACT:****KEYWORDS:****NOTES:**

Dall, William H.

**1877 Tribes of the extreme Northwest:** Govt. print. off.

**ABSTRACT:****KEYWORDS:****NOTES:**

Dall, William Healey

**1897 Alaska and its resources.** Boston: Lee and Shepard.

**ABSTRACT:****KEYWORDS:** Alaska;**NOTES:**

Damas, D.

**1972 Central Eskimo systems of food sharing.** Ethnology 11(3):220-240.**ABSTRACT:****KEYWORDS:****NOTES:**

Damas, David

**1975 Three Kinship Systems from the Central Arctic.** Arctic anthropology 12(1):10-30.

**ABSTRACT:** The kinship terminologies of the Copper, Netsilik and Iglulik Eskimo show substantial sharing of linguistic content while significant variation occurs in the arrangement of terms. Moving from west to east in the Central Arctic, one can discern an increasing utility for understanding terminology as a system of dyads linked by definite behavioral norms, particularly relating to the axes of supersubordination and closeness-distance. Some of the variations in terminologies can be related to marriage practices while others are anomalous to such explanatory recourse. Extensions of kinship including betrothal and marriage, spouse exchange and adoption find expression in the terminological systems as well. In all three regions extra kinship factors operate alongside kinship and together the two dimensions provide the essential elements of social structure.

**KEYWORDS:****NOTES:**

Dames &amp; Moore

**1978 Beaufort Sea Petroleum Development Scenarios for the State - Federal and Federal Outer Continental Shelf.** Anchorage: U.S. Department of the Interior/Bureau of Land Management/Alaska OCS Office.

**ABSTRACT:****KEYWORDS:**

**NOTES:** In order to analyze the socioeconomic and environmental impacts of Beaufort Sea petroleum exploration, development, and production, it is necessary to make reasonable predictions of the nature of that development. The petroleum development scenarios in this report serve that purpose; they provide a "project description" for subsequent impact analysis. The socioeconomic impact analysis of the Beaufort Sea petroleum development postulated in this report is contained in another report of this study program.

Dames &amp; Moore

**1978 Beaufort Sea Petroleum Development Scenarios for the State - Federal and Federal Outer Continental Shelf: Executive Summary.** Anchorage: U.S. Department of the Interior/Bureau of Land Management/Alaska OCS Office.

**ABSTRACT:****KEYWORDS:****NOTES:**

Dames &amp; Moore

**1978 Beaufort Sea Petroleum Development Scenarios: Natural Physical Environment Impacts.** Anchorage: U.S. Department of the Interior/Bureau of Land Management/Alaska OCS Office.

**ABSTRACT:****KEYWORDS:**

**NOTES:** This report looks at the impact of man on the North Slope of Alaska in two situations. First, the impacts of man if OCS development does not occur and secondly, if OCS development does occur. The discussions concern water resources, waste discharges, mineral resources (mainly sand and gravel), and fish and wildlife.

Dames & Moore

**1978 Beaufort Sea Region Natural Physical and Biotic Baseline.** Anchorage: U.S. Department of the Interior/Bureau of Land Management/Alaska OCS Office.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Dames & Moore, Maynard & Partch, and Stephen R. Braund & Associates

**1985 Review of Cumulative Impact Assessment Literature and North Slope Borough Development Projects.** Anchorage: U.S. Department of the Interior/Bureau of Land Management/Alaska OCS Office.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** This report reviews a diverse group of environmental assessment literature to determine its potential applicability to assessment of the cumulative impacts of oil, gas, and other industrial and community development projects on the communities of the North Slope Borough. While it was initially hoped this review would yield a specific methodology which could be implemented by MMS in its next OCS lease sale assessment, no such methodology was uncovered. Instead, the literature revealed a set of difficulties which highlighted the inappropriateness of using any one method to assess the effects of large, technologically complex projects in the rapidly changing and relatively poorly understood human environment of the North Slope Borough (see section 4.2). However, the review did yield a set of six general approaches and several observations which could help MMS develop a new framework for subsequent cumulative impacts analyses. Some of these approaches are similar to the current set of methods used by MMS. Others are different, and would require changes not only in the specific methods used to conduct assessments, but also in the overall policies which guide the MMS environmental assessment program. The report also describes 58 projects that may be included in future North Slope Borough cumulative impact assessments. Eight of these projects are firm oil development projects (including Prudhoe Bay) that have already been found commercially viable. Another eight projects involve oil discoveries that are large enough for production, but not commercially viable at current prices. Similarly, five projects involve gas discoveries that could be developed if transportation were available and gas prices were expected to remain firm. The report describes seven oil and gas exploration projects, four future lease sales, and three non-oil and gas resource development projects.

d'Anglure, Bernard Saladin

**2006 Introduction: L'influence de Marcel Mauss sur l'anthropologie des Inuit.** Etudes Inuit/Studies 30(2):5-31.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Dasgupta, Partha

**2004 How Best to Face the Coming Storm.** Science 305(5691):1716a-.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Dau, Jim

**2000 Managing reindeer and wildlife on Alaska's Seward Peninsula.** Polar Research 19(1):57-62.

**ABSTRACT:** When reindeer (*Rangifer tarandus tarandus*) were introduced to Alaska's Seward Peninsula between 1892 and 1902, other ungulates were not present and large predators were either absent or less abundant than after reindeer were established. During the next 100 years reindeer numbers and distribution increased and declined precipitously on the Seward Peninsula; wildlife species repopulated this region through natural processes or translocations by man; the non-Native human population of Alaska increased dramatically and wildlife management became an issue of national concern creating diverse public desires regarding resource use; and both range and wildlife became intensively managed through complex, politicized processes. This paper provides an historical overview of reindeer and wildlife abundance on the Seward Peninsula during the 20th century and describes the effects of wildlife on the reindeer industry. Cooperative public processes have been initiated to bring diverse public interests together; meld indigenous, scientific and local knowledge of resources; and supplement governmental wildlife management programmes. Even so, the Seward Peninsula reindeer industry has been severely impacted by wildlife, especially caribou.

**KEYWORDS:**

**NOTES:**

Dau, Jim

**2000 Managing reindeer and wildlife on Alaska's Seward Peninsula.** Polar Research 19(1):57-62.

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**KEYWORDS:**

**NOTES:**

Dau, Jim, and R. D. Cameron

**1986 Effects of a road system on caribou distribution during calving.** Rangifer 1:95-101.

**ABSTRACT:** In winter 1981 - 82, a 29-km road system was built in a high-use caribou (*Rangifer tarandus granti*) calving area near Milne Point, Alaska. Aerial surveys of this area were conducted annually during the calving period for 4 years before and 4 years after road construction. Effects of the road system on the distribution of caribou were investigated by comparing survey data obtained during these two periods. The 41 400-ha study area was partitioned into 40 quadrats; after construction (1982 - 85), significantly fewer caribou were observed within quadrats encompassing the present road system than before construction (1978 - 81). The area within 6 km of the road system was stratified into six 1-km intervals, and differences in the distribution of caribou among those strata were examined using linear regression analysis. After construction, the density of maternal females was positively correlated with distance, whereas no such relationship was apparent before construction. Density of

nonmaternal adults was unrelated to distance during both periods. The results suggest that a local displacement of maternal caribou has occurred in response to roads and associated human activity.

**KEYWORDS:** caribou, calving, roads, disturbance

**NOTES:**

Dau, Jlm, and Sverre Pedersen

**1996 Caribou harvest assessment in northern Alaska.** Pp. 34. Fairbanks, AK: Alaska Department of Fish and Game.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Dau, Jlm, and Sverre Pedersen

**1996 Caribou harvest assessment in northern Alaska.** Pp. 34. Fairbanks, AK: Alaska Department of Fish and Game.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Dauenhauer, Richard L.

**1997 Conflicting visions in Alaskan education.** Pp. 1-29+: University of Alaska Museum.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Davidson, Barry

**1977 The formalist position in economic anthropology** 1-22.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Davis, Brian L.

**1999 Geographic patterns of seal hunting in Southeast Alaska, 1992-94.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** Tlingit and Haida hunters take harbor seals throughout the waterways and along the coastlines of Southeast Alaska. During 1992-1994, Alaska Native hunters from 16 communities in Southeast Alaska provided information on seal harvests, seal kill locations, and month of kill as part of a harvest assessment program. When the seal harvest locations of hunters are mapped by hunter residence, spatial parameters of a community's harvest become apparent. For most communities, hunters use the waters and coastlines adjacent to their home to harvest seals. The sizes of community use areas ranged from 24.5 sq mi to 1,124 sq mi, with a mean of 375.8 sq mi for the 16 communities. The geographic patterns of seal hunting in Southeast Alaska provide an information base from which further research exploring the interaction between humans and harbor seals can be conducted.

**KEYWORDS:**

**NOTES:**

Davis, Brian L., James A. Fall, and Gretchen Jennings

**2003 Wild resource harvests and uses by residents of Seward and Moose Pass, Alaska, 2000.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** In March and April of 2001 researchers employed by the ADF&G Division of Subsistence conducted 203 interviews with residents of Moose Pass and Seward, two communities in the Kenai Peninsula Borough. The study was designed to collect information about the harvest and uses of wild fish, game, and plant resources; demography; and aspects of the local cash economy such as employment and income. These communities were classified nonrural by the Federal Subsistence Board in 1990, which periodically reviews its classifications. This study was the first comprehensive harvest assessment done for these communities. Data were collected for the 12-month period April 1, 2000-March 31, 2001. The study was funded in part through a cooperative agreement between ADF&G and the USDA Forest Service Chugach National Forest.

**KEYWORDS:**

**NOTES:**

Davis, Nancy Yaw

**1976 Steps toward understanding rapid culture change in Native Rural Alaska.** 1-83.

**ABSTRACT:** A brief narrative description of the journal article, document, or resource. To increase understanding of culture change in rural Alaska as it specifically pertains to selected policy-related issues outlined by the Federal-State Land Use Planning Commission staff, four general areas are addressed: traditional subsistence use and effects of changing access and availability of those activities, apparent long-range effects of cash and jobs on village life, means of communication among villages and between villages and government, and changes in the social order of village life. Data from questionnaires completed by 80 residents of the village of Old Harbor is analyzed providing insight into commission questions pertaining to population changes--values of the good life, changes in economic organization, restricted access, intra-regional ties, travel and transportation, social organization, intercommunication and cultural contact (government/village), the Alaska Native Land Claims Settlement, and Land Use Planning Commission role. Main policy implications of the study are the need for careful assessment of each village to be directly or indirectly affected by change in land status/access, involvement of villagers on issues/alternatives, and increased awareness by all Alaskans of regional and village differences. It is concluded that anthropological methodologies may be useful for incorporating social and cultural considerations into land use and economic development planning.

**KEYWORDS:**

**NOTES:**

Davis, Nancy Yaw, and Steven McNabb

**1983 Chukchi Sea Sociocultural Systems Baseline Analysis.** Anchorage: U.S. Department of the Interior/Bureau of Land Management/Alaska OCS Office.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** This report is about the people in northwestern Alaska who live from Deering to Kivalina. It includes eleven villages and approximately 5,000 people located within the boundaries of the Northwest Alaska Native Association (NANA) region. This baseline description was written to provide background information for later study of likely responses to potential Outer Continental Shelf (OCS) exploration and other developments related to Lease Sale 85, the Barrow Arch, scheduled for 1985.

Dawson, Peter C.

**2006 Seeing like an Inuit family: The relationship between house form and culture in northern Canada.** Etudes/Inuit/Studies 30(2):113-135.

**ABSTRACT:** Dans son classique , Marcel Mauss a démontré qu'un fort rapport existe entre l'organisation spatiale des formes traditionnelles des maisons des Inuit et la morphologie sociale des familles qu'elles abritent. Ces observations devancent les ouvrages plus récents en



anthropologie qui examinent comment des processus culturels sont reflétés dans, et soutenus par, l'environnement bâti. De telles idées sont importantes en considérant les effets des programmes de logement d'après-guerre sur des familles inuit de l'Arctique canadien. Durant les années 60, des tentatives ont été faites pour restructurer les habitudes des familles inuit par des cours en économie domestique et par l'architecture euro-canadienne. Cependant, des observations ethnographiques récentes de ménages inuit indiquent que beaucoup continuent à utiliser leurs maisons de manières traditionnelles. De cette façon, les familles inuit essayent de s'adapter à des habitations conçues autour de concepts du ménage et de la vie familiale provenant d'une autre culture. Les idées de Mauss sont donc un rappel poignant qu'il faut tenir compte des facteurs culturels en développant la politique du logement autochtone. In his classic essay, Marcel Mauss argued that a strong relationship exists between the spatial organisation of traditional Inuit house forms and the social morphology of the families they shelter. These observations anticipate later works in anthropology that examine how cultural processes are reflected in, and sustained by, the built environment. Such ideas are important when considering the effects of post-war housing programs on Inuit families in the Canadian Arctic. During the 1960s, attempts were made to restructure the routines of Inuit families through Euro-Canadian architecture and home economics classes. Recent ethnographic observations of Inuit households in operation, however, reveal that many continue to use their houses in traditional ways. By doing so, Inuit families are attempting to adapt to dwellings designed around another culture's concept of homemaking and family life. Mauss's ideas are therefore a poignant reminder of the need to take cultural factors into account when developing aboriginal housing policy.

**KEYWORDS:****NOTES:**

De Janvry, A., Marcel Fafchamps, and E. Sadoulet

**1991 Peasant household behaviour with missing markets: some paradoxes explained.** The Economic Journal:1400-1417.

**ABSTRACT:****KEYWORDS:****NOTES:**

Dear, Chad E., and Olin Eugene Myers Jr

**2005 Conflicting understandings of wilderness and subsistence in Alaskan national parks.** Society & Natural Resources 18(9):821-837.

**ABSTRACT:** The role of past and present subsistence cultures and activities in wilderness and other strictly protected areas has sparked contentious debate about meanings associated with wilderness. To inform this debate empirically, recreationists were interviewed at Gates of the Arctic National Park and Preserve (GAAR) in Alaska to determine how they cognitively structure potential conflicts between the park's management mandates to provide for wilderness recreational experiences and to allow for subsistence uses. Using structural developmental theory as a framework and by employing semistructured, in-depth interviews with hypothetical scenarios, it was found that a large majority of respondents maintained conflicting moral judgments when subsistence and wilderness values were juxtaposed. This suggests the existence of cognitive disequilibrium around these sets of values. Respondents coordinated their conflicting judgments in ways that can be described as overriding, contradictory, and contextual. No respondent hierarchically integrated subsistence and wilderness values within one coherent conceptual structure. Implications are discussed.

**KEYWORDS:** Gates of the Arctic National Park and Preserve, indigenous peoples, moral development, psychological structures, structural developmental theory, subsistence, values, wilderness, wilderness experience

**NOTES:**

Dehn, LA, GG Sheffield, EH Follmann, LK Duffy, DL Thomas, GR Bratton, RJ Taylor, and TM O'Hara  
**2005 Trace elements in tissues of phocid seals harvested in the Alaskan and Canadian Arctic: influence of age and feeding ecology.** Canadian Journal of Zoology 83(5):726-746.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Dehn, Larissa- A., Erich H. Follmann, Cheryl Rosa, Lawrence K. Duffy, Dana L. Thomas, Gerald R. Bratton, Robert J. Taylor, and Todd M. O'Hara

**2006 Stable isotope and trace element status of subsistence-hunted bowhead and beluga whales in Alaska and gray whales in Chukotka.** Marine Pollution Bulletin 52(3):301-319.

**ABSTRACT:** Tissues of bowhead, beluga, and gray whales were analyzed for Ag, Cd, Cu, Se, Zn, THg and MeHg (belugas only).  $[\delta^{15}\text{N}]$  and  $[\delta^{13}\text{C}]$  in muscle were used to estimate trophic position and feeding habitat, respectively. Trace element concentrations in tissues were significantly different among whale species. Hepatic Ag was higher in belugas than bowheads and gray whales. Gray whales had lower Cd concentrations in liver and kidney than bowhead and belugas and a sigmoid correlation of Cd with length was noted for all whales. Renal and hepatic Se and THg were higher in belugas than in baleen whales. The hepatic molar ratio of Se:THg exceeded 1:1 in all species and was negatively correlated to body length. Hepatic and renal Zn in subsistence-harvested gray whales was lower than concentrations for stranded whales. Se:THg molar ratios and tissue concentrations of Zn may show promise as potential indicators of immune status and animal health.

**KEYWORDS:** Bowhead whale

Beluga whale

Gray whale

Trace elements

Stable isotopes

Feeding ecology

Arctic

**NOTES:**

Dehn, Larissa- A., Erich H. Follmann, Dana L. Thomas, Gay G. Sheffield, Cheryl Rosa, Lawrence K. Duffy, and Todd M. O'Hara

**2006 Trophic relationships in an Arctic food web and implications for trace metal transfer.** Science of The Total Environment 362(1-3):103-123.

**ABSTRACT:** Tissues of subsistence-harvested Arctic mammals were analyzed for silver (Ag), cadmium (Cd), and total mercury (THg). Muscle (or total body homogenates of potential fish and invertebrate prey) was analyzed for stable carbon ( $[\delta^{13}\text{C}]$ ) and nitrogen ( $[\delta^{15}\text{N}]$ ) isotopes to establish trophic interactions within the Arctic food chain. Food web magnification factors (FWMFs) and biomagnification factors for selected predator-prey scenarios (BMFs) were calculated to describe pathways of heavy metals in the Alaskan Arctic. FWMFs in this study indicate that magnification of selected heavy metals in the Arctic food web is not significant. Biomagnification of Cd occurs mainly in kidneys; calculated BMFs are higher for hepatic THg than renal THg for all predator-prey scenarios with the exception of polar bears (*Ursus maritimus*). In bears, the accumulation of renal THg is approximately 6 times higher than in liver. Magnification of hepatic Ag is minimal for all selected predator-prey scenarios. Though polar bears occupy a higher trophic level than belugas (*Delphinapterus leucas*), based on  $[\delta^{15}\text{N}]$ , the metal concentrations are either not statistically different between the two species or lower for bears. Similarly, concentrations of renal and hepatic Cd are significantly lower or not statistically different in polar bears compared to ringed (*Phoca hispida*) and bearded seals (*Erignathus barbatus*), their primary prey. THg, on the other hand, increased significantly from seal to polar

bear tissues. Mean  $\delta^{15}\text{N}$  was lowest in muscle of Arctic fox (*Alopex lagopus*) and foxes also show the lowest levels of Hg, Cd and Ag in liver and kidney compared to the other species analyzed. These values are in good agreement with a diet dominated by terrestrial prey. Metal deposition in animal tissues is strongly dependent on biological factors such as diet, age, sex, body condition and health, and caution should be taken when interpreting magnification of dynamic and actively regulated trace metals.

**KEYWORDS:** Arctic, food web, biomagnification, trace metals, stable isotopes, Arctic fox, polar bear, bowhead whale, beluga whale, gray whale, ringed seal, bearded seal, spotted seal, ribbon seal

**NOTES:**

Dehn, Larissa- A., Gay Sheffield, Erich Follmann, Lawrence Duffy, Dana Thomas, and Todd O'Hara  
**2007 Feeding ecology of phocid seals and some walrus in the Alaskan and Canadian Arctic as determined by stomach contents and stable isotope analysis.** Polar Biology 30(2):167-181.

**ABSTRACT:** Feeding habits of ringed (*Phoca hispida*), bearded (*Erignathus barbatus*), spotted (*Phoca largha*) and ribbon (*Phoca fasciata*) seals and walrus (*Odobenus rosmarus*) were studied using stomach contents and stable carbon and nitrogen isotopes. Bearded seals fed benthically, primarily crustaceans and mollusks. Both zooplankton and fish were significant prey for ringed seals, while fish was principal spotted seal prey. Few gastric contents were available from ribbon seals.  $\delta^{15}\text{N}$  was positively correlated with age in ribbon seals and  $\delta^{13}\text{C}$  was positively correlated with age in ringed and ribbon seals.  $\delta^{15}\text{N}$  was highest in spotted seals, in agreement with their fish-dominated diet.  $\delta^{15}\text{N}$  was not different between Alaskan-harvested ringed and bearded seals, while  $\delta^{15}\text{N}$  was lowest in ribbon seals and walrus. Carbon-13 was most enriched in bearded seals and walrus reflecting benthic ecosystem use. Canadian ringed seals were depleted in  $^{13}\text{C}$  compared to Alaskan pinnipeds, likely because of Beaufort Sea versus Chukchi and Bering seas influence.

**KEYWORDS:** ringed seal, spotted seal, ribbon seal, walrus, diet, feeding habits

**NOTES:**

Dehn, Larissa- A., Gay Sheffield, Erich Follmann, Lawrence Duffy, Dana Thomas, and Todd O'Hara  
**2007 Feeding ecology of phocid seals and some walrus in the Alaskan and Canadian Arctic as determined by stomach contents and stable isotope analysis.** Polar Biology 30(2):167-181.

**ABSTRACT:** Feeding habits of ringed (*Phoca hispida*), bearded (*Erignathus barbatus*), spotted (*Phoca largha*) and ribbon (*Phoca fasciata*) seals and walrus (*Odobenus rosmarus*) were studied using stomach contents and stable carbon and nitrogen isotopes. Bearded seals fed benthically, primarily crustaceans and mollusks. Both zooplankton and fish were significant prey for ringed seals, while fish was principal spotted seal prey. Few gastric contents were available from ribbon seals.  $\delta^{15}\text{N}$  was positively correlated with age in ribbon seals and  $\delta^{13}\text{C}$  was positively correlated with age in ringed and ribbon seals.  $\delta^{15}\text{N}$  was highest in spotted seals, in agreement with their fish-dominated diet.  $\delta^{15}\text{N}$  was not different between Alaskan-harvested ringed and bearded seals, while  $\delta^{15}\text{N}$  was lowest in ribbon seals and walrus. Carbon-13 was most enriched in bearded seals and walrus reflecting benthic ecosystem use. Canadian ringed seals were depleted in  $^{13}\text{C}$  compared to Alaskan pinnipeds, likely because of Beaufort Sea versus Chukchi and Bering seas influence.

**KEYWORDS:** ringed seal, spotted seal, ribbon seal, walrus, diet, feeding habits

**NOTES:**

DeJordy, R., S. P. Borgatti, C. Roussin, and D. S. Halgin

**2007 Visualizing proximity data.** Field Methods 19(3):239-263.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** Times Cited: 4

Dennis Dooley and Associates

**1978 Beaufort Sea Petroleum Development Scenarios: Transportation Impacts.**

Anchorage: U.S. Department of the Interior/Bureau of Land Management/Alaska OCS Office.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** The purpose of this report, which is one element of the socioeconomic studies, is to assess for individual scenarios the impacts on the local, region, and state-wide transportation systems, using data developed in the previous stage and, as appropriate, information developed by other members of the multidisciplinary effort. Particularly important in the latter category have been annual employment and population forecasts by region and for the state as a whole. Coordination with those analyzing community and cultural impacts has also been necessary so that impacts can at a later date be successfully integrated. The report contains three major sections, in addition to an introductory chapter. First, a present-day baseline (Chapter II) is established by examining for each mode existing routes, carriers, and terminals which could realistically serve freight and passenger traffic generated directly or indirectly by Beaufort Sea OCS activities. Second, impacts for the non-OCS scenario (Chapter III) are developed. Third, additional demands resulting from OCS activities are generated (Chapter IV) and the resulting impacts on the transportation systems assessed. Information contained in the report will be useful in setting priorities for lease/sales and for generating stipulations for the leases.

DePaulo, Bella

**2010 Are Americans becoming more and more isolated?** *In* Psychology Today.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** See McPherson et al. 2006, Fischer 2009

Derrickson, Joda P., Anne G. Fisher, and Jennifer E. L. Anderson

**2000 The Core Food Security Module Scale Measure Is Valid and Reliable When Used with Asians and Pacific Islanders.** Journal of Nutrition 130(11):2666-2674.

**ABSTRACT:** The Core Food Security Measure (CFSM) is used nationally to assess the extent and severity of household food insecurity in the previous 12 mo due to inadequate money for food. Both a scale measure and a categorical measure were developed from a national cross-sectional sample. The objective of this research was to determine whether the CFSM scale measure is a reliable and valid food security measure for use in Hawaii, where at least 50% of the population is of Asian or Pacific Islander descent. We completed an independent assessment of the robustness of the internal scale construct validity of the CSFM scale measure and hierarchical order of items using the same Rasch methods used previously to develop the CSFM. From a sample of 1664 respondents, data from 362 were used in the Rasch analysis. Item goodness-of-fit statistics indicated that responses to the "adults cut the size or skip meals" item and its follow-up item were redundant [outfit mean-square residual (MnSq) = 0.6,  $z = -2$ ]. Responses to the "(un)able to eat balanced meals" item were erratic (outfit MnSq = 2.1,  $z = 2$ ). Findings pertaining to goodness-of-fit of the respondents indicated an acceptable rate of misfit (4.7%). Rate of misfit did not vary with family status or with any ethnic group except the Samoans. Overall, the CFSM scale measure fit as well with the Hawaii data as it did with national data, although identified limitations may affect food security monitoring and research.

**KEYWORDS:****NOTES:**

Derrickson, Joda P., Anne G. Fisher, Jennifer E. L. Anderson, and Amy Christine Brown

**2001 An Assessment of Various Household Food Security Measures in Hawaii Has Implications for National Food Security Research and Monitoring.** *Journal of Nutrition* 131(3):749-757.

**ABSTRACT:** The Core Food Security Module (CFSM), the national food security monitoring tool, requires three affirmative responses to categorize households as food insecure. If this tool is unreliable or inaccurate, vulnerable segments of our population may be adversely affected. The objectives of the present study were to assess the credibility of applying the CFSM categorical measure to a population sample from Hawaii and to assess the concurrent validity of the CFSM, the new face-valid measure and measures adapted from the Radimer/Cornell (RC) measure and Community Childhood Hunger Identification Project. The sample included 1469 respondents gathered through a statewide telephone sample and 144 food pantry recipients. Responses to the 18 CFSM questions were used to create all four measures. The credibility of the CFSM categorical measure was also assessed via comparisons with individual items and with the 1995 national modal CFSM response pattern. Categorical measures were compared across food security prevalence estimates and indices of income and vegetable intake and with the CFSM scale measure. Differences in the modal response pattern between samples affected CFSM categorization. Only 36% of households followed the Hawaii modal response pattern, and categorization was not consistent with the content of key items. Although 85% of the households were classified as food secure by the CFSM, only 78% were classified as food secure with each of the other food security measures. Concurrent validity of all measures was confirmed. A reassessment of the national CFSM categorical measure appears warranted.

**KEYWORDS:****NOTES:**

Després, Christine, Anne Beuter, François Richer, Karine Poitras, Annie Veilleux, Pierre Ayotte, Éric Dewailly, Dave Saint-Amour, and Gina Muckle

**2005 Neuromotor functions in Inuit preschool children exposed to Pb, PCBs, and Hg.** *Neurotoxicology and Teratology* 27(2):245-257.

**ABSTRACT:** The aim of this study was to examine the effects of prenatal and postnatal chronic exposure to mercury (Hg), polychlorinated biphenyls (PCBs) and lead (Pb) on the neuromotor development of preschool children. The study population consisted of 110 preschool Inuit children from Nunavik (Canada). Blood Hg, PCBs and Pb concentrations were measured at birth (cord blood) and at the time of testing. Gross motor functions were evaluated and a neurological examination was performed. Fine neuromotor performance was assessed using quantitative measures of postural hand tremor, reaction time, sway oscillations, as well as alternating and pointing movements. Potential covariates were documented including demographic and familial characteristics, other prenatal neurotoxicants (alcohol, tobacco) and nutrients (selenium (Se), Omega-3 polyunsaturated fatty acids (n-3 PUFA)). Hierarchical multivariate regression analyses were performed, controlling for significant covariates. Gross motor development was not linked to prenatal exposures. However, significant associations were observed between blood Pb concentration at testing time and changes in reaction time, sway oscillations, alternating arm movements and action tremor. For some of these outcomes, neuromotor effects of Pb exposure are observed at blood concentrations below 10 [mu]g/dl. Negative effects of PCBs on neuromotor development were not clearly observed, neither were the potential beneficial effects of n-3 PUFA and selenium. Tremor amplitude was related to blood Hg concentrations at testing time, which corroborate an effect already reported among adults.

**KEYWORDS:** Hg

PCBs  
Pb

Preschool children  
 Environmental neurotoxicants  
 Motor functions

**NOTES:**

Devinney, Eileen

**1997 Consultation, collaboration and community participation: the archaeological excavation of two prehistoric Inupiaq burials at Kotzebue, Alaska**, University of British Columbia.

**ABSTRACT:** In recent years anthropologists have begun to reflect more upon their obligations to the communities which they study and serve. Native communities have also become more aware of their potential role in decisions affecting aspects of their cultural heritage. Increasingly these two groups have striven to develop collaborative approaches to conducting research. Collaboration among Native Americans, archaeologists, and anthropologists may provide benefits not only to the scientific community, but also to the Native American community. Dialogs and exchanges of information throughout the collaborative process greatly enhance mutual understanding and respect between the many individuals involved. Focusing on a particular incident, this paper explores a particularly sensitive area of archaeological collaboration - the identification and excavation of prehistoric human burials. When a private land owner discovered indigenous human remains on his property in Kotzebue, Alaska, during the summer of 1995, he immediately consulted the local native community and an archaeologist for advice and recommendations in handling the disinterment and relocation of the remains. Archaeological excavation of the remains was recommended and supported, as many felt that it could provide both the community and researchers with valuable data about prehistoric Inupiaq culture. Easily accessible to local residents, the excavation site drew steady crowds of curious onlookers. The immediate sharing of findings at the site created a dynamic atmosphere, fostering greater trust and interest between community members and researchers while also stimulating local interest in Inupiaq history and culture.

**KEYWORDS:**

**NOTES:**

Dick, Ronald E.

**1996 Subsistence economics: Freedom from the marketplace**. Society & Natural Resources 9(1):19 - 29.

**ABSTRACT:** Conventional market economic accounting techniques tend to accord high values to human-made goods that benefit the individual, and accord little value to the works of nature that primarily benefit the public. One of the axioms that forest economics students learn is that the land itself has zero value; idle acres are wasted. Thus, subsistence and other in situ land values are grossly undervalued, and pressure for development of land for commodity production almost always prevails. Unpublished data from the U.S. Forest Service and the Alaska Department of Fish and Game Cooperative subsistence studies have been used to illustrate adverse impacts to community stability and economic well-being due to biases inherent in applying market-derived methodologies to evaluate mixed economies. Some basic tenets are proposed to improve economics-based resource allocation decisions in Alaska and other developing economies around the world.

**KEYWORDS:**

**NOTES:**

Dickenson, Russell E.

**1984 Remarks**. In First World Conference on Cultural Parks. Pp. 1-13. Mesa Verde National Park, Colorado

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Dinero, Steven C.

**2003 Analysis of a "mixed economy" in an Alaskan Native settlement : the case of Arctic Village.** Canadian Journal of Native Studies 23(1):135-164.

**ABSTRACT:** In this paper, I analyze the mixed economy of the Nets'ail Gwich'in settlement of Arctic Village, Alaska. The economic structures of the Gwich'in began to undergo considerable change following Contact by Europeans in the 19th century. Today the Gwich'in possess several modern amenities, and are linked to the global capitalist economy. Still, data collected in the village in 1999 provide cogent evidence that the priorities and values of the community remain centered upon the hunt and other subsistence activities. Cash income generated through wage labor or transfer payments is merely an additional means to perpetuate this activity. Thus, any assumptions that the Gwich'in are on the verge of abandoning this socioeconomic system for an urban-centric, wage labor-based system are at best, premature.

**KEYWORDS:** Alaska, social conditions, indigenous peoples, Gwich'in, economic conditions, subsistence, economy, Arctic

**NOTES:**

Dinero, S. C.

**2007 Globalisation and development in a post-nomadic hunter/gatherer Alaskan village: a follow-up assessment.** Polar Record 43(226):255-269.

**ABSTRACT:** Using data collected in the Gwich'in Athabascan community of Vashraii K'oo/Arctic Village, an examination of how the village has continued to develop and evolve as a native space since its initial creation in 1908, is presented. Data collected using a household survey in 2006 is compared with data that was collected in a 1999 survey in order to address and measure such issues as: the village residents' economic standing and subsistence activities; satisfaction with the planning and governance of the village; and residents' overall attitudes toward the degree to which their village continues to function as an 'ethnic space'. The previous conclusion (Dinero 2005) was that these villagers have responded relatively well to globalising forces, effectively bridging the native and white worlds in a manner which allows them to live in both, yet to retain a strong sense of their identity and cultural values despite residence in a settled, post-nomadic setting. While this remains the case, one cannot overlook in the present research the sense of loss of past lifeways that has resulted from the changes brought on by new technologies, despite any positive benefits deriving therefrom. Therefore, the conclusion of this paper is the Suggestion that the development of this 'hybridised' Alaska native is still very much in process, as these people strive to adapt to the new challenges presented by their ever-changing environment.

**KEYWORDS:**

**NOTES:** Times Cited: 1

Dirks, Robert

**1980 Social responses during severe food shortages and famine.** Current Anthropology 21(1):21-44.

**ABSTRACT:** Although emergency food shortages and famines have been a prominent part of human experience for thousands of years and recur somewhere on our planet almost annually, data describing behavioral and organizational responses are few and scattered. Generalizations, when not speculative, tend to be vague and frequently contradictory. Practical, humanistic, and scientific concern with how people respond when overtaken by nutritional catastrophe provide compelling reason for development of a systematic, empirically based understanding of how social life changes amidst severe, protracted starvation. This paper surveys literature from several fields. By piecing together diverse observations and findings and paying close attention

to the chronology of response, it is possible to infer the existence of a series of social transformation in which distinctive patterns of social interaction emerge as starvation progresses from stage to stage. Behavioral adaptations appearing in concert with the physiological alterations entailed by starvation lie at the root of this sequence. The degree of physiological stress and behavioral change experienced by individuals and groups depends on external (e.g., famine-causing events, relief-giving agencies, etc.) and internal (e.g., biological traits, social structures, etc.) factors. The latter are discussed in both intra- and interpopulational contexts. Sociocultural adaptations to famine consist of progressive and recursive traits. Progressive adaptations are selected as precautionary or preventive measures. Recursive adaptations unfold as a synchronous response to increasing scarcity. Recursive social adaptations seem to possess the same basic structure regardless of culture. This structure consists of a triphasic response pattern in which the rate of activity and the extent and frequency of positive reciprocities at first increase, later decreasing to near zero if the starving population remains unrelieved. The effects of this curvilinear pattern are examined in the context of household and interpersonal relations, political organization, and religious and ritual life. Existing images of famine-stricken people are summarized and found wanting. An alternative conception is developed with special emphasis on linking quantitative changes in behavior with qualitative changes in the organization of institutions.

**KEYWORDS:**

**NOTES:**

Dixon, Mim, Wayne W. Myers, Patricia A. Book, and Philip O. Nice

**1983 The Changing Alaskan Experience—Health Care Services and Cultural Identity.**

Western Journal of Medicine 139(6):917.

**ABSTRACT:** Before Western contact, Alaskan Native populations were self-sufficient in their health practices. Slowly, the Native health care system was replaced by a Western one which was highly effective in treating infectious diseases. As infectious diseases were brought under control by the Indian Health Service, the emergent leading health problems were related to violence, attributed in part to cultural disintegration. New types of Native health providers and new Native-controlled institutions evolved to provide culturally appropriate health and mental health services and to promote a stronger cultural identity.

**KEYWORDS:** health; medicine; Alaska Native; disease; Indian Health Service

**NOTES:** "The transition from the Indian Health Service (IHS) Alaska Native Health Service (ANHS) to Native nonprofit corporations as the primary providers of health care services in rural Alaska may be regarded as burdensome to Western-trained health professionals. However, the change in health services is part of a larger cultural evolution in which health care has played an important role; it has promoted a cultural revitalization that may be the key to solving the most pressing Native health problems today." (p. 917)

Dombrowski, Kirk

**1995 Totem poles and tricycle races: the certainties and uncertainties of Native village life, Coastal Alaska 1878-1930.** Journal of Historical Sociology 8(2):136-157.

**ABSTRACT:** Anthropological and ethnohistorical accounts of the Northwest Coast and Southeast Alaska have underemphasized the early and thorough industrialization of the area. This paper describes the transformation of Native life and community forms by small scale salmon-canning firms in the late 19th and early 20th century, beginning with the building of the first salmon cannery in Klawock, Alaska, in 1878. Attention to the unmaking of past forms of obligation and expectation leads to an understanding of the volatility of specifically local histories in Native villages. Totem poles and tricycle races are both locations of ambiguous cultural production that are tied to these histories in overlapping and complex ways, and as such, they serve as metaphors for the larger processes at work in these towns.



**KEYWORDS:** ETHNIC groups, INDUSTRIALIZATION, ANTHROPOLOGY, SOCIAL sciences, CULTURE, ALASKA

**NOTES:**

Dombrowski, Kirk

**2002 The praxis of indigenesim and Alaska Native timber politics.** American Anthropologist 104(4):1062-1073.

**ABSTRACT:** This article addresses the most recent discourse on indigenism in Southeast Alaska that has emerged around the Alaska Native Claims Settlement Act of 1971 and its subsequent revisions. It argues that one must consider the "politics of recognition" in Southeast Alaska in terms of the larger political dynamics that shape state and industry access to resources, especially commercially valuable stands of timber. In Southeast Alaska, recognition of Native claims has allowed industrial timber and pulp producers to, in effect, circumvent environmental laws aimed at curbing production, thus allowing them to continue devastating the living conditions of many Natives. Among the local responses to the manipulation of Native claims and identity, the all-Native, radical Christian churches that have taken a strong stance against the recent, corporate-sponsored, cultural revitalization are unique in their resistance to indigenist politics. This article addresses the most recent discourse on indigenism in Southeast Alaska that has emerged around the Alaska Native Claims Settlement Act of 1971 and its subsequent revisions. It argues that one must consider the "politics of recognition" in Southeast Alaska in terms of the larger political dynamics that shape state and industry access to resources, especially commercially valuable stands of timber. In Southeast Alaska, recognition of Native claims has allowed industrial timber and pulp producers to, in effect, circumvent environmental laws aimed at curbing production, thus allowing them to continue devastating the living conditions of many Natives. Among the local responses to the manipulation of Native claims and identity, the all-Native, radical Christian churches that have taken a strong stance against the recent, corporate-sponsored, cultural revitalization are unique in their resistance to indigenist politics. This article addresses the most recent discourse on indigenism in Southeast Alaska that has emerged around the Alaska.

**KEYWORDS:** LUMBER trade, ALASKA, Southeast ALASKA, Alaska Native Claims Settlement Act

**NOTES:**

Dombrowski, Kirk

**2007 Subsistence livelihood, native identity and internal differentiation in southeast Alaska.** Anthropologica 49:211-229.

**ABSTRACT:** Subsistence resource use in Southeast Alaska has undergone a dramatic shift following the implementation of the Alaska Native Claims Settlement Act (1971). Ironically, the consequent marginalization of subsistence dependent households and decreasing opportunities for earning a livelihood through traditional food harvests have been accompanied by increased identification of collective Native identity with subsistence practices and their products. This paper argues that to understand these changes, one must examine the role subsistence practices and foods play in village-based internal differentiation. Discussion focusses on (1) the ongoing ecological and social impact of ANCSA in Southeast Native villages, and (2) the manner in which externally imposed "indigenism" can limit ways of being Native even while increasing the need for alternative lifeways.

**KEYWORDS:** subsistence strategies, natural resources, environmental resource management, Tradition, Life style, ecology, social change, inequality, politics, Collective identity, Ethnicity, Cultural Ethnography, North American Indians, Americas,

**NOTES:**

Donaldson, S. G., J. Van Oostdam, C. Tikhonov, M. Feeley, B. Armstrong, P. Ayotte, O. Boucher, W. Bowers, L. Chan, F. Dallaire, R. Dallaire, É Dewailly, J. Edwards, G. M. Egeland, J. Fontaine, C. Furgal, T. Leech, E. Loring, G. Muckle, T. Nancarrow, D. Pereg, P. Plusquellec, M. Potyrala, O. Receveur, and R. G. Shearer

**2010 Environmental contaminants and human health in the Canadian Arctic.** *Science of The Total Environment* 408(22):5165-5234.

**ABSTRACT:** The third Canadian Arctic Human Health Assessment conducted under the Canadian Northern Contaminants Program (NCP), in association with the circumpolar Arctic Monitoring and Assessment Programme (AMAP), addresses concerns about possible adverse health effects in individuals exposed to environmental contaminants through a diet containing country foods. The objectives here are to: 1) provide data on changes in human contaminant concentrations and exposure among Canadian Arctic peoples; 2) identify new contaminants of concern; 3) discuss possible health effects; 4) outline risk communication about contaminants in country food; and 5) identify knowledge gaps for future contaminant research and monitoring. The nutritional and cultural benefits of country foods are substantial; however, some dietary studies suggest declines in the amount of country foods being consumed. Significant declines were found for most contaminants in maternal blood over the last 10 years within all three Arctic regions studied. Inuit continue to have the highest levels of almost all persistent organic pollutants (POPs) and metals among the ethnic groups studied. A greater proportion of people in the East exceed Health Canada's guidelines for PCBs and mercury, although the proportion of mothers exceeding these guidelines has decreased since the previous assessment. Further monitoring and research are required to assess trends and health effects of emerging contaminants. Infant development studies have shown possible subtle effects of prenatal exposure to heavy metals and some POPs on immune system function and neurodevelopment. New data suggest important beneficial effects on brain development for Inuit infants from some country food nutrients. The most successful risk communication processes balance the risks and benefits of a diet of country food through input from a variety of regional experts and the community, to incorporate the many socio-cultural and economic factors to arrive at a risk management decision that will be the most beneficial in Arctic communities.

**KEYWORDS:** Arctic health

Country food

Infant

Legacy and emerging environmental contaminant monitoring

Maternal

Metals

Organochlorines

Risk communication

**NOTES:**

Dorais, Louis-Jacques, and Igor Krupnik

**2005 La préservation des langues et des savoirs du Nord.** *Etudes/Inuit/Studies* 29(1):5-30.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Downs, James F.

**1975 Ethnocentrism and cultural relativism.** *In* *Cultures in crisis*. Pp. 15-27.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Downs, Michael A., Michael Galginaitis, John S. Petterson, and Lawrence A. Palinkas

**1990 Northern Institutional Profiles Analysis: Beaufort Sea.** Anchorage: U.S. Department of the Interior, Minerals Management Service, Alaska OCS Region.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** A complete physical description of the North Slope region is beyond the scope of this report. The following brief description is intended to orient the reader and provide the essential information about the physical characteristics of the area. It is not a definitive treatment and is simplistic in many respects. The reader interested in detailed information about the specific climatic and physical features of a particular community or area of the North Slope is referred to that more specific literature.

Downs, Michael A., Michael Galginaitis, John S. Petterson, and Lawrence A. Palinkas

**1990 Northern Institutional Profiles Analysis: Chukchi Sea.** Anchorage: U.S. Department of the Interior, Minerals Management Service, Alaska OCS Region.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** A complete physical description of the North Slope region is beyond the scope of this report. The following brief description is intended to orient the reader and provide the essential information about the physical characteristics of the area. It is not a definitive treatment and is simplistic in many respects. The reader interested in detailed information about the specific climatic and physical features of a particular community or area of the North Slope is referred to that more specific literature. Here we will supply a short summary of each community. Particular emphasis will be placed on the relationship between a community's location and physical setting and the subsistence activities which are possible and actually take place there.

Draper, HH

**1977 The aboriginal Eskimo diet in modern perspective.** American Anthropologist:309-316.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Draper, H.H.

**1977 The aboriginal Eskimo diet in modern perspective.** American Anthropologist 79(2):139-145.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Druckenmiller, M. L., H. Eicken, M. A. Johnson, D. J. Pringle, and C. C. Williams

**2009 Toward an integrated coastal sea-ice observatory: System components and a case study at Barrow, Alaska.** Cold Regions Science and Technology 56(2-3):61-72.

**ABSTRACT:** The morphology, stability and duration of seasonal landfast sea ice in Alaska's coastal zone is changing alongside large-scale ice thinning and retreat. The extent and complexity of change at the local level requires an integrated observing approach to assess implications of such change for coastal ecosystems and communities that rely on or make use of the sea-ice cover. Barrow, Alaska is an example of a community that experiences and utilizes a broad range of sea-ice types and conditions. The local population is increasingly forced to adapt to less stable sea ice, loss of multiyear ice and a shorter ice season. We are working toward an integrated coastal ice observatory to monitor landfast and adjacent pack ice and to maximize the usefulness of information to the community. The observatory includes: (1) satellite remote-sensing datasets distributed in near real-time; (2) a coastal sea-ice radar and webcam that monitor ice movement and evolution; (3) a mass-balance site that provides temperature

profiles and thickness information for ice and snow; (4) sea-level measurements; (5) periodic ice thickness surveys using direct drilling and electromagnetic induction sounding; and (6) a program of regular, undirected observations by Inupiat sea-ice experts. We examine two significant landfast ice breakout events off Barrow in spring of 2007. During these events, Barrow's subsistence whaling community partook in a successful hunting season observing and responding to these breakout events and their impacts on ice stability. Using local expert knowledge to parse geophysical datasets obtained from the observatory has provided deeper insight into different approaches for assessing ice stability, and integrating information on ice growth, origin, morphology, and dynamics, as well as winds, weather, and currents. (C) 2008 Elsevier B.V. All rights reserved.

**KEYWORDS:**

**NOTES:** Times Cited: 2

Drury, William H., Cathy Ramsdell, and John Brand French, JR.

**1983 Ecological studies in the Bering Strait region.** Environmental assessment of the Alaskan Continental Shelf. Final Reports of Principal Investigators, Biological Studies.[Place of publication unknown]: National Oceanic Atmospheric Administration 17:236-289.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Ducker, James H.

**1996 Out of Harm's Way: Relocating Northwest Alaska Eskimos, 1907-1917.** American Indian Culture and Research Journal 20(1):43-71.

**ABSTRACT:**

**KEYWORDS:** Iñuit; relocation; Candle; Council; Deering; Nome; Quartz Creek; Sinuk; Port Moller; White Mountain; Noorvik

**NOTES:**

Duerden, F.

**2004 Translating climate change impacts at the community level.** Arctic 57(2):204-212.

**ABSTRACT:** It is well recognized that climate change will have considerable impact on the physical landscapes of northern Canada. How these impacts will be transmitted to the level of human activity is not clear, but it needs to be understood by governments and other decision makers to help them identify and implement appropriate approaches to ameliorate the effects of climate change. Translating physical changes into human impacts is not a simple task; communities are not passive players that will respond to changes in the physical environment in easily predictable ways. While many prognoses about change are made on a large scale, human activity is highly localized, and impacts and responses will be conditioned by local geography and a range of endogenous factors, including demographic trends, economic complexity, and experience with "change" in a broad sense. More and more studies are yielding important information about community-level experience, both past and current, with environmental shifts in the North, but research effort by social scientists falls short of what is required to reduce the level of uncertainty, and it compares unfavourably with the physical sciences' dedication to the climate change problem. A pan-northern research effort, building on a long legacy of social science research in the North, would go some way towards translating the promise of change into probable community impacts.

**KEYWORDS:**

**NOTES:** Times Cited: 26

Duffield, John W., Christopher J. Neher, David A. Patterson, and Oliver S. Goldsmith

**2005 Economics of wild salmon ecosystems: Bristol Bay, Alaska.** Eighth World Wilderness Congress, Anchorage, Alaska, 2005. Vol. RMRS-P-49, pp. 581. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station.

**ABSTRACT:** This paper provides an estimate of the economic value of wild salmon ecosystems in the major watershed of Bristol Bay, Alaska. The analysis utilizes both regional economic and social benefit-cost accounting frameworks. Key sectors analyzed include subsistence, commercial fishing, sport fishing, hunting, and nonconsumptive wildlife viewing and tourism. The mixed cash-subsistence economy of Bristol Bay supports a population of 7,611 (2000 census) that is 67 percent Alaska Native. Estimated expenditures and net economic values for all sectors were based on a literature review and available data, with the exception that original data was collected for 2005 on the sport fish sector using a random sample of licensed Alaska anglers. Methods included use of a regional input-output model maintained at the University of Alaska, and survey research and contingent valuation methods for the sport fishermen. Potential respondents included 886 resident anglers and 1,514 nonresident anglers contacted through a mail/internet approach. Additionally, 300 licensed anglers, 330 clients of Bristol Bay fishing lodges, and 46 lodge owners were contacted through a mail survey. Response rates ranged from 25.6 percent for resident anglers to 44.1 percent for nonresidents. Estimated direct expenditures/sales were \$234.4 million in 2005 for commercial fishing and processing, \$61 million for sport fishing, \$17.1 million for wildlife viewing, \$7.2 million for subsistence-related expenditures, and \$12.4 million for sport hunting. Nearly 100 percent of the private basic sector in Bristol Bay and 5,540 full-time equivalent jobs are supported by this \$324 million estimated direct economic impact associated with wild salmon ecosystem services. Direct net economic values are estimated at \$104 million to \$179 million per year, and are primarily associated with the subsistence sector.

**KEYWORDS:**

**NOTES:**

Duffy, Lawrence K., Ryan S. Duffy, Greg Finstad, and Craig Gerlach

**2005 A note on mercury levels in the hair of Alaskan reindeer.** Science of The Total Environment 339(1-3):273-276.

**ABSTRACT:** Reindeer, as terrestrial herbivores, generally have low levels of Hg, but monitoring Hg levels can help in understanding ecological toxicity related to a changing environment. In this study, Alaskan reindeer were analyzed for total mercury (THg) in their hair. Both free-ranging reindeer from the Seward Peninsula, Alaska and reindeer fed a pollock-based fishmeal diet were surveyed. Free ranging reindeer had mean THg levels of (55.3 ng/g; n=5). The mean MeHg level in the free ranging reindeer was 45.5 (ng/g; n=5) or 79% of the THg level. The mean level for THg in the fishmeal fed reindeer was 19 ng/g (n=10). Younger reindeer (2 years of age or less) showed lower levels (0.8 ng/g, n=2) compared to adult reindeer (30.8 ng/g, n=6).

**KEYWORDS:** Reindeer

Mercury

Hair

Fishmeal

Alaska

Rangifer tarandus

**NOTES:**

Duffy, Lawrence K., Ryan S. Duffy, Greg Finstad, and Craig Gerlach

**2005 A note on mercury levels in the hair of Alaskan reindeer.** Science of The Total Environment 339(1-3):273-276.

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study, Alaskan reindeer were analyzed for total mercury (THg) in their hair. Both free-ranging reindeer from the Seward Peninsula, Alaska and reindeer fed a pollock-based fishmeal diet were surveyed. Free ranging reindeer had mean THg levels of (55.3 ng/g; n=5). The mean MeHg level in the free ranging reindeer was 45.5 (ng/g; n=5) or 79% of the THg level. The mean level for THg in the fishmeal fed reindeer was 19 ng/g (n=10). Younger reindeer (2 years of age or less) showed lower levels (0.8 ng/g, n=2) compared to adult reindeer (30.8 ng/g, n=6).

**KEYWORDS:** Reindeer

Mercury

Hair

Fishmeal

Alaska

Rangifer tarandus

**NOTES:**

Duffy, Lawrence K., Erica Scofield, Tauni Rodgers, Molly Patton, and R. Terry Bowyer

**1999 Comparative baseline levels of mercury, Hsp 70 and Hsp 60 in subsistence fish from the Yukon-Kuskokwim delta region of Alaska.** Comparative Biochemistry and Physiology Part C: Pharmacology, Toxicology and Endocrinology 124(2):181-186.

**ABSTRACT:** In subsistence fish; northern pike (*Esox lucius*), burbot (*Lota lota*), whitefish (*Coregonus nelsoni*), grayling (*Thymallus arcticus*) and sheefish (*Stenodus lencichthys*), we determined the Hsp 60 and Hsp 70 levels in 31 samples from adult fish gills. A dot-blot analysis using antibodies to either Hsp 70 or Hsp 60 showed the average Hsp 70 concentration was 9.1 [mu]g/mg protein, while the average Hsp 60 concentration was 147.4 [mu]g/mg protein. Mercury levels in muscle tissue in these fish averaged 0.382 ppm. Using a subset of samples (n=24), we determined that the major component in the muscle of Alaskan subsistence fish was methyl mercury. No correlation was observed between Hsp 60 or Hsp 70 expression in gill tissue and mercury concentrations in muscle tissue. Hsp 60 and Hsp 70 protein levels in the gills were correlated.

**KEYWORDS:** Alaska, pike, grayling, burbot, biomarker, Hsp 70, Hsp 60, mercury, methyl mercury, subsistence fish

**NOTES:**

Duffy, Lawrence K., Erica Scofield, Tauni Rodgers, Molly Patton, and R. Terry Bowyer

**1999 Comparative baseline levels of mercury, Hsp 70 and Hsp 60 in subsistence fish from the Yukon-Kuskokwim delta region of Alaska.** Comparative Biochemistry and Physiology Part C: Pharmacology, Toxicology and Endocrinology 124(2):181-186.

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**KEYWORDS:** Alaska, pike, grayling, burbot, biomarker, Hsp 70, Hsp 60, mercury, methyl mercury, subsistence fish

**NOTES:**

Dufresne, Frank

**1925 Report of U.S. Game Warden U.S. department of agriculture.**

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Duhaime, Gérard

**2002 Sustainable food security in the Arctic: state of knowledge.** Edmonton: Canadian Circumpolar Institute Press.

**ABSTRACT:**

**KEYWORDS:** Food supply; Inuit Food; Arctic peoples Food; Traditional fishing Arctic regions; Sustainable fisheries Arctic regions; Arctic regions Social conditions

**NOTES:** 2004445390

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Gérard Duhaime, editor.

ill. ; 28 cm.

"Published in cooperation with the Groupe d'études inuit et circumpolaires (GÉTIC), Laval University, Québec City."

Includes bibliographical references and index.

Occasional publication series (Canadian Circumpolar Institute) ; no. 52.

Duhaime, Gérard, and Nick Bernard

**2008 Arctic food security.** Edmonton: Canadian Circumpolar Institute Press.

**ABSTRACT:**

**KEYWORDS:** Food supply Arctic regions; Arctic peoples Food; Inuit Food; Arctic; Social conditions

**NOTES:** 2009482442

Gérard Duhaime & Nick Bernard, editors.

ill. (some col.), col. map ; 26 cm + 1 CD-ROM.

Co-published by: CIÉRA, Université Laval.

Previous title: Sustainable food security in the Arctic.

Includes bibliographical references.

Sustainable food security in the Arctic.

Duhaime, Gérard, Nick Bernard, and Robert Comtois

**2005 An inventory of abandoned mining exploration sites in Nunavik, Canada.** Canadian Geographer 49(3):260-271.

**ABSTRACT:** This article presents, for the first time in the literature, an inventory of abandoned mining exploration sites in Nunavik, namely the sites containing materials representing a danger to the environment and human health, to lay the foundations for a priority cleanup operation. In this article, the historical context of mining exploration in Canada first provides a backdrop for the research problem. The methodology section then examines the various techniques tested during a pilot project aimed at determining the feasibility of the project at the lowest cost. The final section presents an inventory of abandoned sites and begins an initial discussion of the potential impacts associated with these sites and some of the priority actions envisioned to mitigate these impacts.

**KEYWORDS:** mineral industries, mines, mineral resources, natural resources, Canada

**NOTES:**

Duhaime, G., M. Chabot, and M. Gaudreault

**2002 Food consumption patterns and socioeconomic factors among the Inuit of Nunavik.** *Ecology of Food and Nutrition* 41(2):91-118.

**ABSTRACT:** This article examines the dietary patterns of the Inuit of Nunavik, based on data from a 1992 Government of Quebec survey. Using data primarily from the Food Frequency questionnaire on a sample of 178 women between 18 and 74 years of age, the study investigates the role of various socioeconomic factors and the influence of the socioeconomic status of the household to which each woman belongs. These factors are analyzed in relation to the proportion of traditional or industrial foods consumed by respondents. The study shows that the presence of a male head of the household and, to a lesser extent, access to an income, raise the proportion of country foods in the diet. Other findings reveal that the main mechanisms for the distribution of country foods, such as sharing practices and a community freezer, play a significant role, but do not compensate when the above two conditions are not found in households.

**KEYWORDS:**

**NOTES:** Times Cited: 14

Duhaime, Gérard, Edmund Searles, Peter J. Usher, Heather Myers, and Pierre Fréchette

**2004 Social cohesion and living conditions in the Canadian Arctic: From theory to measurement.** *Social Indicators Research* 66(3):295-317.

**ABSTRACT:** Social cohesion has emerged as a powerful hybrid concept used by academics and policy analysts. Academics use the concept to underline the social and economic failings of modernity, linking it to the decline of communal values and civic participation. Policy analysts use it to highlight the social and economic inequities caused by globalization. The desired effect of using this concept is often to influence governments to implement policies that will enhance social cohesion by reducing social and economic disparities. Despite its widespread use, however, statistical measures of social cohesion tend to overlook local, non-Western strategies of social inclusion as well as the social impact of non-Western economic systems, such as the mixed economy typical of many Aboriginal communities in North America. In this paper, we develop a model of social cohesion that addresses these omissions through the use of social indicators that measure both the behavior and perceptions of Inuit living in the Canadian Arctic with respect to the social, cultural and economic conditions of Arctic communities. We explain how and why measuring social cohesion is optimized by combining both culturally-specific and non-specific social indicators.

**KEYWORDS:** social cohesion, social history, quality of life, social indicators, social sciences

**NOTES:**

Dumond, Don E.

**1979 Eskimo-Indian relationships: A view from prehistory.** *Arctic anthropology*:3-22.

**ABSTRACT:** Archaeological remains from Alaska and the Northwest Coast can be interpreted as providing indications of a close and possibly genetic connection between ancestral Eskaleutians and the ancestors of certain Indians of the American Northwest. Nevertheless, for later millennia evidence of sustained contact across the lengthy Eskimo-Indian frontier in North America—stretching from Labrador to Alaska—is almost nonexistent. The most glaring exception appears along the rivers of the central Alaskan interior, where sustained borrowing by Indians from Eskimos seems to have occurred, and where a relatively extensive Eskimo presence in the first millennium A.D. may be indicated.

**KEYWORDS:**

**NOTES:**



Dumond, Don E.

**1980 A chronology of native Alaskan subsistence systems.** Senri Ethnological Studies 1980:23-47.

**ABSTRACT:**

**KEYWORDS:** Descriptor: Eskimoan -- Alaska -- Archaeology -- Subsistence patterns.

Eskimoan -- Alaska -- Econ anth -- Subsistence patterns.

Eskimoan -- Alaska -- Archaeology -- Chronology.

**NOTES:** Using Smart Source Parsing

4, p. ill. Additional Info: Osaka

Source of data: Anthropological Literature, Harvard University.

Dunbar, M. J.

**1976 Man in the polar ecosystem.** Assessment of the Arctic Marine Environment: Selected Topics:11-22.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Dunbar, Robin I. M.

**1992 Neocortex size as a constraint on group size in primates.** Journal of Human Evolution 20:469-493.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Dunbar, Robin I. M.

**1993 Co-evolution of neocortex size, group size and language in humans.** Behavioral and brain sciences 16(4):681-735.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Dunbar, Robin I. M.

**1998 The social brain hypothesis.** Evolutionary Anthropology 6:178-190.

**ABSTRACT:** Conventional wisdom over the past 160 years in the cognitive and neurosciences has assumed that brains evolved to process factual information about the world. Most attention has therefore been focused on such features as pattern recognition, color vision, and speech perception. By extension, it was assumed that brains evolved to deal with essentially ecological problem-solving tasks.

**KEYWORDS:**

**NOTES:**

Dunbar, Robin I. M.

**2004 Gossip in evolutionary perspective.** Review of general psychology 8:100-110.

**ABSTRACT:**

**KEYWORDS:**

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Dunbar, Robin I. M., and S. Shultz

**2007 Evolution in the social brain.** Science 317(5843):1344.

**ABSTRACT:**

**KEYWORDS:****NOTES:**

Duncan, Irma W., and Edward M. Scott

**1972 Lactose intolerance in Alaskan Indians and Eskimos.** American Journal of Clinical Nutrition 25(9):867-868.

**ABSTRACT:** A deficiency of intestinal lactase, which can cause gastrointestinal disturbance after consumption of milk, has been found in 10 to 20% of adult northern Europeans and in 60 to 80% of adults of certain other ethnic groups, i.e., Orientals, Negroes, Asian Indians, eastern Mediterranean groups and Greenland Eskimos. In this study, over 80% of adult Alaskan Indians and Eskimos were found to be intolerant of lactose.

**KEYWORDS:****NOTES:**

Dunlap, Kriya L., Arleigh J. Reynolds, Peter M. Bowers, and Lawrence K. Duffy

**2007 Hair analysis in sled dogs (*Canis lupus familiaris*) illustrates a linkage of mercury exposure along the Yukon River with human subsistence food systems.** Science of The Total Environment 385(1-3):80-85.

**ABSTRACT:** The dog has been an important biomedical research model and hair samples from sled dogs could be used as a biomarker of exposure to metals. Hair samples were used as a non-invasive indicator of mercury exposure in sled dogs fed commercial food and traditional village diets. Sled dog populations living in rural New York and Alaska were sampled in 2005 and 2006. Total mercury (THg) content was determined on the entire hair sample in sled dogs from reference sites in North Creek, New York and Salcha Alaska. Both sites fed a commercial feed for high performance dogs and had mean THg levels of 36.6 ng/g for New York sled dogs while Alaskan sled dogs, occasionally supplemented with fish oil showed THg mean of 58.2 ng/g. These THg levels are below levels that are suggested to cause adverse effects and should be considered baseline levels. Yukon River sled dogs had higher THg, ranging from 139 to 15,800 ng/g and showed decreasing mean levels from the delta area to upriver. There were significant differences between THg in the dogs from Russian Mission ( $10,908.3 \pm 3028$  ng/g), the farthest west village, and Ft. Yukon ( $1822.4 \pm 1747$  ng/g), the farthest east village. All village dogs along the Yukon had higher THg levels than the THg mean level ( $657 \pm 273$  ng/g) of hair from ancient dogs of the Seward Peninsula.

**KEYWORDS:** Sled dogs

*Canis lupus familiaris*

Archaeofauna

Alaska

Mercury

Subsistence food

Yukon River

Ancient dogs

**NOTES:**

Dwyer, Johanna, Mary Frances Picciano, and Daniel J. Raiten

**2003 Estimation of Usual Intakes: What We Eat in America-NHANES.** Journal of Nutrition 133(2):609S-623.

**ABSTRACT:** Usual intakes of nutrients are reliable indicators for making associations between diet and health or disease risks. Estimates of consumption of specific foods and food groups are also important for evaluating the progress in meeting key objectives in such national public health initiatives as Healthy People 2010. Reliable and valid estimates of intakes of particular foods, food ingredients, dietary supplements and other bioactive substances are also needed for dietary assessment and regulatory purposes. The ability to generate useful estimates of these

constituents often requires much larger sample sizes than are needed for estimating nutrient intakes. Statistical methods recommended by the National Academy of Sciences are described that provide estimates of distributions of usual nutrient intakes and permit dietary assessment and planning at the population level. Statistical and modeling approaches for estimating intakes of foods, dietary supplements and other bioactive substances are also summarized. Based on the deliberations of discussion groups consisting of members of key stakeholder groups involved in the planning, implementation and utilization of national survey data, a high priority was placed on the need for more research to determine the best approaches for applying these methods to dietary data in the integrated What We Eat in America-National Health and Nutrition Examination Survey (NHANES).

**KEYWORDS:****NOTES:**

Dyck, Carrie J., and Jean L. Briggs

**2005 Historical antecedents of /h/, /s/, /j/, and /r/ in Utkuhiksalik (Inuktitut).** *Etudes/Inuit Studies* 29:1-2.

**ABSTRACT:**

**KEYWORDS:** Descriptor: Inuktitut dialect

Historical linguistics

Dialects

Sounds

Phonology

Linguistics

Inuit

Americas

North America

Canada

**NOTES:** Using Smart Source Parsing

no. (), p. 307-40 Journal Code: Etud inuit

in thematic issue 'Preserving language and knowledge'; French summary Document Type: article

Dyer, George A., Stephen R. Boucher, and J. Edward Taylor

**2005 Subsistence Response to Market Shocks.**

**ABSTRACT:** Micro-economic models posit that transaction costs isolate subsistence producers from output market shocks. We integrate microeconomic models of many heterogeneous households into a general-equilibrium model and show that supply on subsistence farms may respond, in apparently perverse ways, to changes in output market prices. Price shocks in markets for staple goods are transmitted to subsistence producers through interactions in factor markets. In the case presented, a decrease in the market price of maize reduces wages and land rents, stimulating maize production by subsistence households; however, real income of subsistence households falls.

**KEYWORDS:** agricultural households, general equilibrium models, transaction costs, agricultural supply, village economies, immiserized growth, Mexico

**NOTES:**

Eagle, Josh, Rosamond Naylor, and Whitney Smith

**2004 Why farm salmon outcompete fishery salmon.** *Marine Policy* 28(3):259-270.

**ABSTRACT:** Over the past quarter century, the salmon aquaculture industry has grown rapidly. Price declines caused by the resulting worldwide increase in salmon production have severely impacted the salmon fishing industry, particularly in Alaska. In this paper, we examine the

reasons behind the success of farm salmon. In addition to its inherent market advantages, farm salmon has benefitted from a legal structure that limits the ability of the fishing industry to adjust to competition. We look at these fisheries laws and at the impacts of various policy options on the future economic, ecological, and political sustainability of the fishing industry.

**KEYWORDS:** salmon, aquaculture, fisheries policy, fishing industry, seafood markets, sustainability

**NOTES:**

Easley, Cheryl, Kanaqlak (George P.) Charles, Bernard Segal, and Stacy L. Smith

**2005 Elder Abuse Among Alaska Natives.** Pp. 20. Anchorage: University of Alaska, National Resource Center for American Indian, Alaska Native, and Native Hawaiian Elders.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Easterling, William E.

**2007 Climate change and the adequacy of food and timber in the 21st century.** Proceedings of the National Academy of Sciences 104(50):19679-19679.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Ebbin, SA

**2004 The anatomy of conflict and the politics of identity in two cooperative salmon management regimes.** Policy Sciences 37(1):71-87.

**ABSTRACT:** Last in a gauntlet of fisheries, indigenous fisheries were often curtailed due to concerns over the conservation of the salmon run. Cooperative management institutions have emerged recently as alternative management structures, often intended to empower marginalized groups and to distribute decision-making authority. Two case studies are examined where cooperative management approaches have emerged. One considers the tribes of the Puget Sound region in Washington, the other the Native Alaskans in the Kuskokwim River drainage. In both cases, resource-based conflicts provided the impetus for the emergence of cooperative management. However, these regimes have not eliminated conflicts nor have they necessarily reduced their frequency. The results of a comparative analysis of the two case studies indicate that management institutions can be structured to facilitate the emergence of cooperation and to make conflicts more amenable to resolution.

**KEYWORDS:**

**NOTES:**

Ebbin, SA

**2004 The anatomy of conflict and the politics of identity in two cooperative salmon management regimes.** Policy Sciences 37(1):71-87.

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studies indicate that management institutions can be structured to facilitate the emergence of cooperation and to make conflicts more amenable to resolution.

**KEYWORDS:**

**NOTES:**

Eberhardt, L. L., J. J. Burns, F. H. Fay, B. P. Kelly, and L. T. Quakenbush

**1997 Status of the Pacific walrus population, 1950-1989.** Marine Mammal Science 13(4):537-565.

**ABSTRACT:** The authors discuss population changes in the Pacific walrus in the Bering Sea and northern Pacific Ocean from 1950 to 1989. Reproduction rates dropped in the 1980s and a high harvest rate during those years contributed to the population decline. Questionable population estimates raise doubts about the number of males, for which the most recent (1985) population estimate suggested a decrease. lgh (Copyright applies to all Abstracts.)

**KEYWORDS:** HARVESTING

STATISTICS

HUNTING

MAMMALS

MARINE biology

POPULATION biology

DEMOGRAPHIC change

REPRODUCTION

SOCIAL status

WALRUSES

ODOBENUS rosmarus divergens

PACIFIC Area

CHUKCHI Sea

BERING Sea

NORTH Pacific Ocean

Estado numérico

Estadísticas de la caza/cacería

Mamíferos

Reproducción

Administración

Dirección

Manejo

Reconocimiento aéreo

Bearing sea

Pacific walrus

**NOTES:**

Eberhardt, L. L., J. J. Burns, F. H. Fay, B. P. Kelly, and L. T. Quakenbush

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**KEYWORDS:** HARVESTING

STATISTICS

HUNTING

MAMMALS  
 MARINE biology  
 POPULATION biology  
 DEMOGRAPHIC change  
 REPRODUCTION  
 SOCIAL status  
 WALRUSES  
 ODOBENUS rosmarus divergens  
 PACIFIC Area  
 CHUKCHI Sea  
 BERING Sea  
 NORTH Pacific Ocean  
 Estado numérico  
 Estadísticas de la caza/cacería  
 Mamíferos  
 Reproducción  
 Administración  
 Dirección  
 Manejo  
 Reconocimiento aéreo  
 Bearing sea  
 Pacific walrus

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Edmonds, H.M.W., ed.

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**ABSTRACT:****KEYWORDS:****NOTES:**

Edwards, Wayne

**2009 Migration in Northern Russia and Alaska.** Polar Geography 32:1-1.

**ABSTRACT:****KEYWORDS:**

**NOTES:** doi:10.1080/10889370903000372

Egeland, G. M., Rafael Ponce, Nicolas S. Bloom, Rick Knecht, Stephen Loring, and John P. Middaugh

**2009 Hair methylmercury levels of mummies of the Aleutian Islands, Alaska.**

Environmental Research 109(3):281-286.

**ABSTRACT:** Ancient human hair specimens can shed light on the extent of pre-historic exposures to methylmercury and provide valuable comparison data with current-day exposures, particularly for Indigenous Peoples who continue to rely upon local traditional food resources. Human hair from ancient Aleutian Island Native remains were tested for total and methylmercury (Hg, MeHg) and were radiocarbon dated. The remains were approximately 500 years old (1450 A.D.). For four adults, the mean and median total hair mercury concentration was 5.8 ppm (SD=0.9). In contrast, MeHg concentrations were lower with a mean of 1.2 ppm (SD=1.8) and a median of 0.54 ppm (0.12-3.86). For the five infants, the mean and median MeHg level was 1.2 ppm (SD=1.8) and 0.20 ppm (0.007-4.61), respectively. Segmental analyses showed variations in MeHg concentrations in 1-cm segments, consistent with fluctuations in naturally occurring exposure to mercury through dietary sources. The levels are comparable to or lower than those found in fish and marine mammal-eating populations today who rely far less on subsistence food than pre-historic humans. The findings are, therefore, compatible with increased anthropogenic release of trace metals during the past several centuries.

**KEYWORDS:** Indigenous Peoples

Hair  
Mercury  
Pre-historic

**NOTES:**

Egeland, G. M., R. A. Ponce, and J. P. Middaugh

**1998 A public health perspective on the evaluation of subsistence food safety.**

International Journal of Circumpolar Health 57 Suppl 1:572-5.

**ABSTRACT:** Persistent organic compounds and trace metals are found in the arctic food chain, generating concerns about the safety of subsistence food consumption. One approach for evaluating subsistence food safety is a process used extensively in regulating environmental clean-up and pollution standards. This process, regulatory risk assessment, is substantially different from approaches used in public health risk assessment. Limitations to the use of regulatory risk assessment in assessing public health threats from environmental exposures in the diet include a narrow scope, a lack of incorporation of the nutritional and health benefits of subsistence foods, and the overestimation of risks because of the incorporation of worst-case assumptions in the absence of scientific information. Sound public health policy recognizes that attempts to err on the side of safety for one exposure by recommending reduced consumption of a selected food may inadvertently err on the side of harm by reducing a coexisting exposure of potentially great health benefit. The following discussion should serve as a useful background for future multidisciplinary discussions on the safety of subsistence foods in the Arctic.

**KEYWORDS:** Alaska

Arctic Regions  
Consumer Product Safety  
\*Diet  
Environmental Monitoring/methods  
Environmental Pollution/\*adverse effects  
Food Contamination/\*analysis  
Humans  
Public Health/\*trends  
Risk Assessment  
Risk Management

**NOTES:** Egeland, G M

Ponce, R A  
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Review  
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International journal of circumpolar health  
Int J Circumpolar Health. 1998;57 Suppl 1:572-5.

Eichelberger, Laura Palen

**2010 Living in Utility Scarcity: Energy and Water Insecurity in Northwest Alaska.** Am J Public Health 100(6):1010-1018.

**ABSTRACT:** This study explored the links between energy and water insecurity in rural Inupiaq Eskimo villages in Alaska's Northwest Arctic Borough. High energy costs and the need for fuel-based transportation are 2 significant factors in domestic water access for these communities. Dramatic increases in the costs of energy have led to decreased domestic water access, with adverse effects on household hygiene practices. I traced the ways in which the high costs of energy determine water consumption from production to household acquisition and use. Improving sanitation and access to domestic water requires considering the water-energy nexus:

the amount and cost of energy required to treat and distribute water as well as manage waste. I use the term utility scarcity to underscore the relationship between domestic water, energy, and health.

**KEYWORDS:**

**NOTES:**

Ei-Zaatari, S.

**2008 Occlusal molar microwear and the diets of the Ipiutak and Tigara populations(Point Hope) with comparisons to the Aleut and Arikara.** Journal of Archaeological Science 35(9):2517-2522.

**ABSTRACT:** Archaeological excavations at Point Hope, Alaska uncovered skeletal remains of two populations: the Ipiutak (100 B.C.-500 A.D.) and Tigara (1200-1700 A.D.). Archaeological evidence indicates that, although both groups relied on animal (largely marine) resources for their subsistence, the Ipiutak were mainly caribou hunters, whereas the Tigara were primarily whale hunters. To date, no study has attempted to ascertain whether the inferred dietary differences of these two groups could be substantiated using a more direct technique, e.g. microwear or stable isotope analysis. In this study, the occlusal molar microwear fabrics of the Ipiutak and Tigara were analyzed. Comparative data for two other modern human groups, the Aleut and Arikara, were also examined. Significant differences in microwear signatures were detected among the groups considered. The results of this study show that the Tigara have significantly more microwear features, more pits and narrower scratches compared to the Ipiutak. These results are concordant with interpretations that the two Point Hope populations had significantly different dietary habits. Differences in microwear signatures between the Aleut and the two Point Hope populations were also detected. Compared to the two Point Hope populations, the Aleut has significantly fewer features and wider scratches. The Aleut microwear signature further differs from that of the Tigara in having significantly lower pitting incidence. The microwear pattern of the Arikara, who had a mixed diet, differed from that of the mainly meat-eating Aleut and Point Hope peoples in that the Arikara has significantly fewer features, lower pitting incidence and narrower scratches. (c) 2008 Elsevier Ltd. All rights reserved.

**KEYWORDS:**

**NOTES:** Times Cited: 0

Eliason, Stephen

**2004 Accounts of Wildlife Law Violators: Motivations and Rationalizations.** Human Dimensions of Wildlife 9(2):119-131.

**ABSTRACT:** The illegal taking of wildlife resources has generated concern among natural resource scholars in recent years. This article explores some of the motivations and rationalizations associated with illegal hunting and fishing in Kentucky. Using qualitative data from mail surveys as well as in-depth interviews with 24 conservation officers and 33 wildlife law violators, several motivations and rationalizations for unlawful hunting and fishing were identified. Empirical verification of some of the 10 motivational categories of poaching identified by Muth and Bowe (1998) is provided, and the use of other rationalizations as a mechanism for engaging in these activities is examined. Motivations and rationalizations were categorized as ignorance forgetfulness/carelessness, recreational satisfactions, trophy poaching, poaching as a traditional right of use, and money profit. Responses by conservation officers indicated that individuals no longer hunt or fish illegally for household consumption because of the variety of social welfare programs that are now available to disadvantaged citizens.

**KEYWORDS:** conservation officers, crime, fishing, hunting, poaching

**NOTES:**

Eliason, Stephen



**2008 Wildlife Crime: Conservation Officers' Perceptions of Elusive Poachers.** Deviant Behavior 29(2):111-128.

**ABSTRACT:** State conservation officers are law-enforcement agents responsible for enforcing fish and wildlife laws. An important aspect of their job is the identification and apprehension of poachers. This descriptive study sought to identify, from the perspective of conservation officers, the most elusive poachers. In order to elucidate the vagaries surrounding this type of illegal activity, Kentucky state conservation officers were asked to identify the most difficult type of poacher to apprehend, and a categorization of elusive poachers was created based on their responses. Categories included the back door hunter/poacher, the experienced/habitual poacher, the opportunist poacher, the trophy poacher, the poacher who mixes up his schedule, and the quiet one.

**KEYWORDS:**

**NOTES:**

Eliason, S. L.

**2003 Illegal Hunting and Angling: The Neutralization of Wildlife Law Violations.** Society and Animals 11(3):225-243.

**ABSTRACT:** This study provides a descriptive account of rationalizations for poaching used by wildlife law violators. There has been little research on motivations for poaching. This study uses qualitative data obtained from surveys and in-depth interviews with wildlife law violators and conservation officers in Kentucky to examine rationalizations used by wildlife law violators to excuse and justify participation in this type of illegal activity. Comments from conservation officers and violators revealed widespread use of rationalizations, with denial of responsibility being most common. The study also used claims of entitlement, defense of necessity, and denial of necessity of the law. Findings contribute to our knowledge of why people illegally take wildlife resources.

**KEYWORDS:** CONSERVATION OFFICERS, FISHING, HUNTING, POACHING, WILDLIFE LAW VIOLATORS

**NOTES:**

Eliason, Stephen L.

**2003 Throwing the book versus cutting some slack: Factors influencing the use of discretion by game wardens in Kentucky.** Deviant Behavior 24(2):129-152.

**ABSTRACT:** While many studies have been done on urban police officers, very little research has been directed toward the study of rural and specialized law enforcement personnel. This paper provides a descriptive and exploratory account of factors associated with the use of discretion by a type of specialized, rural law enforcement officer: the game warden. Using qualitative data obtained from open-ended questions in a mail survey as well as in-depth interviews with 24 game wardens in the state of Kentucky, legal and extralegal factors that influence patterns of discretion are described. The extent of prior wildlife related deviance committed by game wardens themselves as youths also was examined. **The data revealed widespread use of discretion by game wardens, with factors such as seriousness of the offense, prior contact with wardens, reputation as a violator, and intent of the offender playing key roles in terms of influencing patterns of officer discretion.**

**KEYWORDS:** game wardens, law enforcement, rural, police, Kentucky

**NOTES:** Prior research suggests that as the motivations for poaching change, discretion will play a more limited role in the disposition of individual cases. That is, **game wardens have sometimes gone easy on individuals who poach because they need the meat, and have even looked the other way and ignored some of those offenses (Forsyth et al. 1998).**

Nowadays, a greater amount of poaching is done for the thrill or excitement of it as well as the profit that can be derived from it (Brymer 1991; Curcione 1992; Musgrave, Parker, and Wolok 1993). Forsyth et al. (1998:36) state: "With a greater percentage of younger poachers falling into the money or excitement categories, we also should see a decline in the differential enforcement by game wardens and the increasing criminalization of poaching in general."

Ellanna, Linda J.

**1983 Bering Strait insular Eskimo: a diachronic study of economy and population structure.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report is a historical and contemporary demographic and sociocultural analysis covering the period 1650-1980. It describes and analyzes changes in population structures and ecological adaptations of 5 insular and insular-like Bering Strait Eskimo populations, including Gambell and Savoonga on St. Lawrence Island, King Island, Diomed Island, and Wales.

**KEYWORDS:** Arctic Region, Bering Strait Eskimo populations, Gambell, Savoonga, St. Lawrence Island, King Island, Diomed Island, Wales, marine mammals, Inupiaq, Siberian Yuit.

**NOTES:**

Ellanna, Linda J.

**1983 Technological and social change of marine mammal hunting patterns in Bering Strait.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report discusses the impact of technological changes, such as the use of aluminum boats rather than skinboats for walrus hunting, on the social and demographic structures of boat crews in the Bering Strait.

**KEYWORDS:** Arctic Region, marine mammal hunting, walrus hunting, Bering Strait, St. Lawrence Island, walrus skin-covered boats, skinboats, umiaq, Inupiaq, angyak, Siberian Yupik

**NOTES:**

Ellanna, Linda J., and George K. Sherrod

**1984 The role of kinship linkages in subsistence production: some implications for community organization.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** Kinship is the organizing principle for economic activities in rural Alaskan subsistence-based communities. Using data gathered from 1975-1980 in King Island and Gambell, and in 1983 in Goodnews Bay, the authors demonstrate that kinship organization features are mirrored in other social institutions. The report concludes that disruptions in primary cooperative subsistence activities can be expected to have effects on other features of a community's social organization.

**KEYWORDS:** Arctic Region, kinship, King Island, Gambell, Goodnews Bay, Inupiaq, Siberian Yupik, Central Yupik, marine mammal hunting, subsistence production

**NOTES:**

Ellanna, Linda J., and George K. Sherrod

**1986 Timber management and fish and wildlife use in selected Southeastern Alaska communities: Klawock, Prince of Wales Island, Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report explores the relationship between the development of commercial timber harvesting activities on Prince of Wales and adjacent islands and the harvesting of fish and wildlife resources by residents of Klawock. Fieldwork took place in late winter and early

spring 1985 and methodologies included subsistence land use mapping, random surveys, and participant observation. The report explores the broad spectrum of effects related to timber harvesting (for example, habitat disruption, road construction, wage employment, and population increase) compared to patterns of wild resource use by populations of Klawock.

**KEYWORDS:**

**NOTES:**

Ellanna, Linda J., and George K. Sherrod

**1995 "Big women": gender and economic management among King Island and Kobuk River Iñupiat of northwest Alaska.** Research in Economic Anthropology 16:15-38.

**ABSTRACT:**

**KEYWORDS:** Descriptor: Inuit women -- Alaska -- Economic conditions.

Inuit women -- Alaska -- Social conditions.

Inuit women -- Alaska -- Political activity.

Hunting and gathering societies -- Alaska -- Social conditions.

Subsistence economy -- Alaska -- Sex differences.

Sex role -- Social aspects -- Alaska.

Kobuk River Region (Alaska) -- Economic conditions.

King Island (Alaska) -- Economic conditions.

**NOTES:** Additional Info: Greenwich

ill.

Source of data: Anthropological Literature, Harvard University.

Linda J. Ellanna, George K. Sherrod.

Ellanna, Linda J., George K. Sherrod, and Steven J. Langdon

**1986 Subsistence mapping: an evaluation and methodological guidelines.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report explores the use of maps in social science research in general, and in human ecological studies in specific, with particular emphasis on the development of mapping methodological models applicable to the study of subsistence in the northern North America context. The historical development of mapping is examined and major methodologies evaluated using criteria which adhere to standard scientific models. Additionally, the report provides general guidelines and specific case studies for the use of mapping as a research method in the study of subsistence-based socioeconomic systems.

**KEYWORDS:**

**NOTES:**

Ellanna, Lina J., and Polly C. Wheeler

**1989 Wetlands and subsistence-based economies in Alaska, USA.** Arctic and Alpine Research 21(4):329-340.

**ABSTRACT:** Planners, developers, conservationists, and others have tended to view wetland habitats in Alaska as being "unused". In actuality, wetlands provide the foundation for many Alaska Native subsistence-based economies. Social, cultural, economic, and valuative components of Alaska Native societies are integrated within hunting, gathering, fishing, and trapping activities, providing for a dynamic adaptive system focused on the use of local resources in wetlands. This paper provides comparative examples statewide to demonstrate that rural wetlands in Alaska cannot be assumed to be unused. In fact, the uses of wetland habitats and resources by rural Alaskan Natives are subject to serious threat as a result of changing land status over the past few decades.

**KEYWORDS:** economics; exploitation; human ecology; resource utilization; sociology; Alaska

**NOTES:**

Ellen, Roy F.

**1982 Environment, subsistence, and system: the ecology of small-scale social formations:** Cambridge University Press.

**ABSTRACT:****KEYWORDS:****NOTES:**

Emery, Maria R., and Alan R. Pierce

**2005 Interrupting the telos: locating subsistence in contemporary US forests.** Environment & Planning A 37(6):981-993.

**ABSTRACT:** People continue to hunt, fish, trap, and gather for subsistence purposes in the contemporary United States. This fact has implications for forest policy, as suggested by an international convention on temperate and boreal forests, commonly known as the Montréal Process. Three canons of law provide a legal basis for subsistence activities by designated social groups in Alaska and Hawaii and by American Indians with treaty rights in the coterminous forty-eight states. A literature review also presents evidence of such practices by people from a variety of ethnic backgrounds throughout the nation. Teleological notions of development espoused by both neoliberal and Marxist scholars suggest that subsistence activities should not persist in a First World setting except as failures of the officially sanctioned economic system. However, alternative economic perspectives from peasant studies and economic geography offer a conceptual framework for viewing at least some subsistence activities as having a logic and values outside of, if articulated with, market structures. Meeting the Montréal Process goal of providing for subsistence use of forests will require research focused on local practices and terms of access to resources as well as their relationship to state and capital processes. We outline the basics of a research agenda on subsistence for an emerging First World political ecology.

**KEYWORDS:** FISHERY law & legislation, FOREST policy, FORESTS & forestry -- Research, FOREST reserves, GEOGRAPHY, FISHING nets, Administration and Economy

**NOTES:**

Ender, Richard L., Jan Gehler, Susan Gorski, and Susan Harper

**1978 Beaufort Sea Petroleum Development Scenarios Impacts on Anchorage, Alaska.** Anchorage: U.S. Department of the Interior/Bureau of Land Management/Alaska OCS Office.

**ABSTRACT:****KEYWORDS:****NOTES:**

Engelhaupt, E.

**2009 Climate Change and the Arctic Diet.** Environmental Health Perspectives 117(7):A292-A292.

**ABSTRACT:****KEYWORDS:**

**NOTES:** Times Cited: 0

Epstein, Lois N.

**2010 Easy to start, impossible to finish: Alaska spends millions on roads and bridges without financial plans to complete the projects.** Anchorage: Alaska Transportation Priorities Project.

**ABSTRACT:** Over several successive administrations, the State of Alaska has spent \$133.4 million on five expensive road and bridge projects. The state also has dedicated another \$205.2 million to these projects. With an estimated total cost of \$5.4 billion, there is a deficit of over \$5 billion for these projects. Continued spending on these roads and bridges preempts funding of other transportation projects with greater and/or nearer-term benefits to travelers in Alaska. At a time of declining federal transportation revenues, the state only has 6% of the dollars needed to build these projects assuming no unexpected cost overruns. The projects do not have financial plans identifying how they will be paid for, nor is it clear how they will be maintained and preserved should the state build them. It appears financially impossible to complete them. Fiscally-conservative leadership at the highest level of state government is needed. The state should not continue to spend its increasingly scarce transportation funds on these projects if there is essentially no likelihood of adequate federal, state, or private money available to finish them. The state should suspend spending on these projects until full funding is reasonably assured. If after analysis funding prospects are dim, dedicated funds should be redirected to higher-priority transportation investments.

**KEYWORDS:** Transportation; Alaska; fiscal policy

**NOTES:**

Erdős, P., and A. Rényi

**1959 On random graphs.** Publicationes Mathematicae 6:290-297.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Espey, David K., Xiao-Cheng Wu, Judith Swan, Charles Wiggins, Melissa A. Jim, Elizabeth Ward, Phyllis A. Wingo, Holly L. Howe, Lynn A. G. Ries, Barry A. Miller, Ahmedin Jemal, Faruque Ahmed, Nathaniel Cobb, Judith S. Kaur, and Brenda K. Edwards

**2007 Annual report to the nation on the status of cancer, 1975-2004, featuring cancer in American Indians and Alaska natives.** Cancer 110(10):2119-2152.

**ABSTRACT: BACKGROUND.** The American Cancer Society; the Centers for Disease Control and Prevention, the National Cancer Institute, and the North American Association of Central Cancer Registries collaborate annually to provide updated information on cancer occurrence and trends in the U.S. The 2007 report features a comprehensive compilation of cancer information for American Indians and Alaska Natives (AI/AN). **METHODS.** Cancer incidence data were available for up to 82% of the U.S. population. Cancer deaths were available for the entire U.S. population. Long-term (1975 through 2004) and fixed-interval (1995 through 2004) incidence and mortality trends were evaluated by annual percent change using regression analyses (2-sided  $P < .05$ ). Cancer screening, risk factors, socioeconomic characteristics, incidence data, and stage were compiled for non-Hispanic whites (NHW) and AI/AN across 6 regions of the U.S.

**RESULTS.** Overall cancer death rates decreased by 2.1% per year from 2002 through 2004, nearly twice the annual decrease of 1.1% per year from 1993 through 2002. Among men and women, death rates declined for most cancers. Among women, lung cancer incidence rates no longer were increasing and death rates, although they still were increasing slightly, were increasing at a much slower rate than in the past. Breast cancer incidence rates in women decreased 3.5% per year from 2001 to 2004, the first decrease observed in 20 years. Colorectal cancer incidence and death rates and prostate cancer death rates declined, with colorectal cancer death rates dropping more sharply from 2002 through 2004. Overall, rates for AI/AN were lower than for NHW from 1999 through 2004 for most cancers, but they were higher for cancers of the stomach, liver, cervix, kidney, and gallbladder. **Regional analyses, however, revealed high rates for AI/AN in the Northern and Southern Plains and Alaska.** For cancers of the breast, colon and rectum, prostate, and cervix, AI/AN were less likely than NHW to be diagnosed at localized stages. **CONCLUSIONS.** For all races/ethnicities combined in the U.S., favorable trends in incidence and mortality were noted for lung and colorectal cancer in men and women

and for breast cancer in women. For the AI/AN population, lower overall cancer incidence and death rates obscured important variations by geographic regions and less favorable healthcare access and socioeconomic status. **Enhanced tobacco control and cancer screening, especially in the Northern and Southern Plains and Alaska, emerged as clear priorities.**

**KEYWORDS:**

**NOTES:** Times Cited: 161

Everett, Martin G., and Steve Borgatti

**1991 Role colouring a graph.** Mathematical Social Sciences 21(2):183-188.

**ABSTRACT:** The role colouring of a graph is an assignment of colours to the vertices which obeys the rule that two vertices are coloured the same only if their neighbourhoods have the same colour set. We investigate the set of role colourings for a graph proving that it forms a lattice. We also show that this lattice can be trivial and this can only occur if the graph has a trivial automorphism group.

**KEYWORDS:** Graph

lattice

automorphism group

**NOTES:**

Fafchamps, Marcel

**1992 Cash crop production, food price volatility, and rural market integration in the third world.** American Journal of Agricultural Economics:90-99.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Fafchamps, Marcel

**1999 Risk sharing and quasi-credit.** The Journal of International Trade & Economic Development 8(3):257-278.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Fafchamps, Marcel

**2000 Ethnicity and credit in African manufacturing.** Journal of Development Economics 61(1):205-236.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Fafchamps, Marcel

**2003 Rural poverty, risk and development:** Edward Elgar Publishing.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Fafchamps, Marcel

**2004 Market institutions in Sub-Saharan Africa: theory and evidence:** MIT Press.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Fafchamps, Marcel, J. W. Gunning, and R. Oostendorp

**2000 Inventories and risk in African manufacturing.** The Economic Journal 110(466):861-893.

**ABSTRACT:****KEYWORDS:****NOTES:**

Fafchamps, Marcel, and B. Minten

**1999 Relationships and traders in Madagascar.** Journal of Development Studies 35(6):1-35.

**ABSTRACT:****KEYWORDS:****NOTES:**

Fafchamps, Marcel, and Bart Minten

**2001 Property Rights in a Flea Market Economy.** Economic Development and Cultural Change 49(2):229-267.

**ABSTRACT:****KEYWORDS:****NOTES:**

Fafchamps, Marcel, and J. Pender

**1997 Precautionary saving, credit constraints, and irreversible investment: Theory and evidence from semiarid India.** Journal of Business & Economic Statistics:180-194.

**ABSTRACT:****KEYWORDS:****NOTES:**

Fafchamps, Marcel, and A. R. Quisumbing

**1999 Human capital, productivity, and labor allocation in rural Pakistan.** Journal of Human Resources:369-406.

**ABSTRACT:****KEYWORDS:****NOTES:**

Fafchamps, Marcel, and A. R. Quisumbing

**2003 Social roles, human capital, and the intrahousehold division of labor: evidence from Pakistan.** Oxford Economic Papers 55(1):36-80.

**ABSTRACT:****KEYWORDS:****NOTES:**

Fafchamps, Marcel, and F. Shilpi

**2003 The spatial division of labour in Nepal.** Journal of Development Studies 39(6):23-66.

**ABSTRACT:****KEYWORDS:****NOTES:**

Fair, Susan W.

**1997 Inupiat Naming and Community History: The Tapqag and Saniniq Coasts near Shishmaref, Alaska.** The Professional Geographer 49(4):466-480.

**ABSTRACT:** Land in the Tapqag-Saniniq region of northwest Alaska functions as a text for Inupiat Eskimo people. Information about place is transmitted orally and includes toponyms, which comprise a critical body of traditional Inupiat knowledge. Patterns associated with

place-naming are tied to geography, subsistence hunting and gathering, kinship and social structure, local history, personal experience, and belief. This essay focuses on toponyms as a vehicle of Inupiat ideology, and as cultural artifacts. Toponym types identified include descriptive-geographic toponyms, generic descriptive names, activity toponyms, family texts, creation texts, cautionary toponym-tales, and memory names. Data for this study were collected through standard methods of folklore and cultural geography. The results update many early place-name studies by deepening the definition of what "place" is for the Inupiat, supplying context for toponyms, and amassing considerable data in the form of Native texts.

**KEYWORDS:****NOTES:**

Fair, Susan W.

**2000 The Inupiaq Eskimo messenger feast: Celebration, demise, and possibility.** Journal of American Folklore 113(450):464-494.

**ABSTRACT:****KEYWORDS:****NOTES:**

Fall, James A.

**1981 Traditional resource uses in the Knik Arm Area: historical and contemporary patterns.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report examines the historical and contemporary uses of indigenous resources by the Tanaina Athabaskans of Knik Arm. Subsistence activities were divided into four historical periods: 1) before 1800; 2) 1790s to 1890s; 3) 1890s to 1930s; and 4) 1940s to present.

**KEYWORDS:****NOTES:**

Fall, James A.

**1990 The Division of Subsistence of the Alaska Department of Fish and Game: an overview of its research program and findings: 1980-1990.** Arctic anthropology:68-92.

**ABSTRACT:**

**KEYWORDS:** Descriptor: CULTURAL ETHNOGRAPHY

AMERICAS

NORTH AMERICA

Document Type: article

**NOTES:** Using Smart Source Parsing

27, (), p. Journal Code: Arct Anthropol

Fall, James A.

**1991 Subsistence harvests and uses in seven Gulf of Alaska communities in the second year following the Exxon Valdez oil spill.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** The report summarizes the results of interviews conducted in 1991 with 221 households in 7 communities whose subsistence harvest areas were affected by the 1989 Exxon Valdez oil spill. The study communities were Tatitlek, Chenega Bay, Nanwalek (formerly English Bay), Port Graham, Ouzinkie, Larsen Bay, and Karluk. The study, which collected data for the 12-month period April 1990-March 1991, was a follow-up to research conducted in 1990, the first year after the spill, findings for which were reported in Fall et al. 1996 (ADF&G Division of Subsistence Technical Paper 199) and Fall et al. 1995 (ADF&G Division of Subsistence Technical Paper 202). The study found that in the second year after the spill, subsistence



harvests remained well below pre-spill levels in Chenega Bay and Tatitlek, largely because of resource scarcities and concerns about hydrocarbon contamination. Subsistence harvests in the other 5 communities had increased compared to 1989, but for the most part also remained below pre-spill means.

**KEYWORDS:**

**NOTES:**

Fall, James A.

**1992 An overview of subsistence uses of the Northern Alaska Peninsula Caribou Herd by communities of Game Management Units 9C and 9E.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report provides background information on subsistence uses of the Northern Alaska Peninsula Caribou Herd, particularly focusing on communities of Game Management Unit 9E. The herd numbers about 20,000 animals and its population is stable. The report summarizes the available data on subsistence harvest levels of the herd, based largely on ADF&G Division of Subsistence research. The data demonstrate that the communities of the Northern Alaska Peninsula are highly-dependent upon subsistence harvests of caribou. These harvest are relatively large compared to most other areas of the state.

**KEYWORDS:**

**NOTES:**

Fall, James A.

**2006 Update of the status of subsistence uses in Exxon Valdez oil spill area communities, 2003.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report presents updated information about subsistence harvests in 15 communities in order to evaluate the status of this injured natural resource service. In total, 544 households were interviewed. Subsistence harvests in 2003 averaged about 350 lbs per person and included a diverse range of species. Most households used, harvested, and shared wild foods. While overall community harvests approximated pre-spill estimates, about half the households reported lower total subsistence uses than before the spill and 39% blamed spill effects for continuing lower uses of at least one resource. Many respondents reported increased effort to harvest resources due to scarcities and competition. Confidence in eating clams is very low or eroding in 8 study communities due to concerns about paralytic shellfish poisoning and spill effects. There are ambiguous findings regarding the role of elders and whether youth are learning subsistence skills. Respondents were often uncertain about the link between changes in their communities and the oil spill. Overall, 72% of respondents said that the traditional way of life has not recovered from the spill. The spill is an example of a technological disaster that is prolonged, difficult to interpret, and changes both the natural and social environments.

**KEYWORDS:** Alaska Peninsula, Cook Inlet, Exxon Valdez oil spill, Kodiak Island, Prince William Sound, subsistence fishing, subsistence gathering,

**NOTES:**

Fall, James A., David B. Andersen, Louis A. Brown, Michael Coffing, Gretchen Jennings, Craig Mishler, Amy Paige, Charles J. Utermohle, and Vicki Vanek

**1993 Noncommercial harvest and uses of wild resources in Sand Point, Alaska, 1992.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report summarizes the results of research conducted in the Southwest Alaska community of Sand Point by the ADF&G Division of Subsistence in 1992 and 1993. The focus of the research was patterns of noncommercial uses of wild fish, game, and plant resources in 1992. Interviews were conducted with 104 randomly-selected households, a sample of 51%, using a standardized data-gathering instrument. In addition to resource harvest and use

information, data on demography and aspects of the monetary sector of the local economy were also collected.

**KEYWORDS:** Sand Point, Alaska Peninsula, Aleutian Islands, Aleuts, Pacific salmon

**NOTES:**

Fall, James A., David B. Andersen, David Caylor, Michael Coffing, Susan E. Georgette, and Michael F. Turek

**2002 Alaska subsistence fisheries 2000 annual report.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This is the second in a series of annual reports on Alaska's subsistence fisheries. Every year, many thousands of Alaskans participate in subsistence fishing and processing activities for Pacific salmon. These practices represent an important part of Alaska's social and cultural heritage, as well as a crucial component of the state's noncash subsistence economy. This report summarizes Alaska's 2000 subsistence salmon fishing season based upon subsistence permit data and harvest assessment surveys from across the state. This report compares this new information to previous years' findings and discusses these results. Where appropriate, harvest information from personal use fisheries is included from areas designated by the Alaska Board of Fisheries (BOF) as nonsubsistence areas. In addition, federal agencies now regulate and administer several subsistence fisheries in Alaska; where these harvest data are available, these fisheries are also included. All areas of the state where salmon occur are covered. The data for other finfish and for shellfish are uneven.

**KEYWORDS:** Pacific salmon, sheefish, inconnu, *Stenodus leucichthys*, whitefish, *Coregonus* spp., Arctic char, *Salvelinus malma*, Chinook salmon, *Oncorhynchus tshawytscha*, coho salmon *Oncorhynchus kisutch*, sockeye salmon, *Oncorhynchus nerka*, pink salmon, *Oncorhynchus*

**NOTES:**

Fall, James A., Caroline L. Brown, David Caylor, Michael Coffing, Susan E. Georgette, Amy W. Paige, and Louann Rank

**2003 Alaska subsistence fisheries 2001 annual report.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This is the third in a series of annual reports on Alaska's subsistence fisheries. Every year, many thousands of Alaskans participate in subsistence fishing and processing activities for Pacific salmon. These practices represent an important part of Alaska's social and cultural heritage, as well as a crucial component of the state's noncash subsistence economy. This report summarizes Alaska's 2001 subsistence salmon fishing season based upon subsistence permit data and harvest assessment surveys from across the state. This report compares this new information to previous years' findings and discusses these results. Where appropriate, harvest information from personal use fisheries is included from areas designated by the Alaska Board of Fisheries (BOF) as nonsubsistence areas. In addition, federal agencies now regulate and administer several subsistence fisheries in Alaska; where these harvest data are available, these fisheries are also included. All areas of the state where salmon occur are covered. The data for other finfish and for shellfish are uneven.

**KEYWORDS:** Pacific salmon, sheefish, inconnu, *Stenodus leucichthys*, whitefish, *Coregonus* spp., Arctic char, *Salvelinus malma*, Chinook salmon, *Oncorhynchus tshawytscha*, coho salmon *Oncorhynchus kisutch*, sockeye salmon, *Oncorhynchus nerka*, pink salmon, *Oncorhynchus*

**NOTES:**

Fall, James A., Caroline L. Brown, David Caylor, Susan E. Georgette, Tracie Krauthoefer, and Amy W. Paige

**2003 Alaska subsistence fisheries 2002 annual report.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This is the fourth in a series of annual reports on Alaska's subsistence fisheries. Every year, many thousands of Alaskans participate in subsistence fishing and processing activities for Pacific salmon. These practices represent an important part of Alaska's social and cultural heritage, as well as a crucial component of the state's noncash subsistence economy. This report summarizes Alaska's 2002 subsistence salmon fishing season based upon subsistence permit data and harvest assessment surveys from across the state. This report compares this new information to previous years' findings and discusses these results. Where appropriate, harvest information from personal use fisheries is included from areas designated by the Alaska Board of Fisheries (BOF) as nonsubsistence areas. In addition, federal agencies now regulate and administer several subsistence fisheries in Alaska; where these harvest data are available, these fisheries are also included. All areas of the state where salmon occur are covered. The data for other finfish and for shellfish are uneven.

**KEYWORDS:** Pacific salmon, sheefish, inconnu, *Stenodus leucichthys*, whitefish, *Coregonus* spp., Arctic char, *Salvelinus malma*, Chinook salmon, *Oncorhynchus tshawytscha*, coho salmon, *Oncorhynchus kisutch*, sockeye salmon, *Oncorhynchus nerka*, pink salmon, *Oncorhynchus*

**NOTES:**

Fall, James A., Caroline L. Brown, Michael F. Turek, Nicole S. Braem, James J. Simon, Amy Russell, William E. Simeone, Davin L. Holen, Liliana Naves, Lisa Hutchinson-Scarborough, Terri Lemons, Victoria Ciccone, Theodore M. Krieg, and David S. Koster

**2009 Alaska subsistence salmon fisheries 2006 annual report.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** Every year, many thousands of Alaskans participate in subsistence fishing and processing activities. These practices represent an important part of Alaska's social and cultural heritage, as well as a crucial component of the state's noncash subsistence economy. This report summarizes Alaska's 2006 subsistence fishing season based upon subsistence permit data and harvest assessment surveys from across the state. This report compares this new information to previous years' findings and discusses these results. Where appropriate, harvest information from personal use fisheries is included. In addition, as of 1997, federal agencies regulate and administer several subsistence fisheries in Alaska; where the harvest data are available, these fisheries are also included.

**KEYWORDS:** Pacific salmon, rainbow/steelhead trout, *Oncorhynchus mykiss*, Arctic char/Dolly Varden, *Salvelinus alpinus*, *Salvelinus malma*, Chinook salmon, *Oncorhynchus tshawytscha*, coho salmon, *Oncorhynchus kisutch*, sockeye salmon, *Oncorhynchus nerka*, pink salmon, O

**NOTES:**

Fall, James A., Caroline L. Brown, Michael F. Turek, Nicole S. Braem, James J. Simon, William E. Simeone, Davin L. Holen, Liliana Naves, Lisa Hutchinson-Scarborough, Terri Lemons, Victoria Ciccone, Theodore M. Krieg, and David S. Koster

**2009 Alaska subsistence salmon fisheries 2007 annual report.** Anchorage, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** Each year thousands of Alaskans participate in subsistence activities, including the harvest of wild resources from Alaska's fisheries. This report summarizes Alaska's 2007 subsistence fishing season based upon subsistence permit data and harvest assessment surveys from across the state. New information is compared to findings from previous years and the results are discussed. Where appropriate, harvest information from personal use fisheries is included. Additional information from federal agencies regulating and administering certain subsistence fisheries beginning in 1997 is included where available.

**KEYWORDS:** Pacific salmon, Chinook salmon, coho salmon, sockeye salmon, pink salmon, chum salmon, Norton Sound, Port Clarence, Kotzebue, Yukon, Kuskokwim, Bristol Bay, Chignik, Alaska Peninsula, Aleutian Islands, Kodiak, Cook Inlet, Prince William Sound, Southeast

**NOTES:**

Fall, James A., David Caylor, Michael W. Coffing, Brian L. Davis, Susan E. Georgette, and Polly Wheeler  
**2001 Alaska subsistence fisheries 1999 annual report.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This is the first in a series of annual reports on Alaska's subsistence fisheries. Every year, many thousands of Alaskans participate in subsistence fishing and processing activities for Pacific salmon. These practices represent an important part of Alaska's social and cultural heritage, as well as a crucial component of the state's noncash subsistence economy. This report summarizes Alaska's 1999 subsistence salmon fishing season based upon subsistence permit data and harvest assessment surveys from across the state. This report compares this new information to previous years' findings and discusses these results. Where appropriate, harvest information from personal use fisheries is included from areas designated by the Alaska Board of Fisheries (BOF) as nonsubsistence areas. In addition, federal agencies now regulate and administer several subsistence fisheries in Alaska; where these harvest data are available, these fisheries are also included. All areas of the state where salmon occur are covered. The data for other finfish and for shellfish are uneven.

**KEYWORDS:** Pacific salmon, sheefish, inconnu, *Stenodus leucichthys*, whitefish, *Coregonus* spp., Arctic char, *Salvelinus malma*, Chinook salmon, *Oncorhynchus tshawytscha*, coho salmon *Oncorhynchus kisutch*, sockeye salmon, *Oncorhynchus nerka*, pink salmon, *Oncorhynchus*

**NOTES:**

Fall, James A., David Caylor, Michael F. Turek, Caroline Brown, Tracie Krauthoefer, Brian Davis, and David Koster

**2007 Alaska subsistence salmon fisheries 2004 annual report.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** Every year, many thousands of Alaskans participate in subsistence fishing and processing activities for Pacific salmon. These practices represent an important part of Alaska's social and cultural heritage, as well as a crucial component of the state's noncash subsistence economy. This report summarizes Alaska's 2004 subsistence salmon fishing season based upon subsistence permit data and harvest assessment surveys from across the state. This report compares this new information to previous years' findings and discusses these results. Where appropriate, harvest information from personal use fisheries is included from areas designated by the Alaska Board of Fisheries (BOF) as nonsubsistence areas. In addition, federal agencies now regulate and administer several subsistence fisheries in Alaska; where these harvest data are available, these fisheries are also included.

**KEYWORDS:** Pacific salmon, sheefish, inconnu, *Stenodus leucichthys*, whitefish, *Coregonus* spp., Arctic char, *Salvelinus malma*, Chinook salmon, *Oncorhynchus tshawytscha*, coho salmon *Oncorhynchus kisutch*, sockeye salmon, *Oncorhynchus nerka*, pink salmon, *Oncorhynchus*

**NOTES:**

Fall, James A., David Caylor, Michael F. Turek, Caroline Brown, James S. Magdanz, Tracie Krauthoefer, Jeannie Heltzel, and David Koster

**2007 Alaska subsistence salmon fisheries 2005 annual report.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** Every year, many thousands of Alaskans participate in subsistence and processing activities for Pacific salmon. These practices represent an important part of Alaska's social and cultural heritage, as well as a crucial component of the state's non-ash subsistence economy. This report summarizes Alaska's 2005 subsistence fishing season based upon subsistence permit data and harvest assessment surveys from across the state. This report compares this new information with previous years' findings and discusses these results. Where appropriate, harvest information from personal use fisheries is included. In addition, federal agencies now regulate and administer several subsistence fisheries in Alaska; where the harvest data are available, these fisheries are also included.

**KEYWORDS:** Pacific salmon, sheefish, inconnu, *Stenodus leucichthys*, whitefish, *Coregonus* spp., Arctic char, *Salvelinus malma*, Chinook salmon, *Oncorhynchus tshawytscha*, coho salmon *Oncorhynchus kisutch*, sockeye salmon, *Oncorhynchus nerka*, pink salmon, *Oncorhynchus*

**NOTES:**

Fall, James A., Molly B. Chythlook, Janet C. Schichnes, and Judith Morris, M.

**1996 An overview of the harvest and use of freshwater fish by the communities of the Bristol Bay Region, Southwest Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** The purpose of this report is to summarize available information about local residents' harvest and uses of nonsalmon fish in the rivers and lakes of the Bristol Bay Region. Included are discussions of the harvest methods and uses of whitefish, northern pike, grayling, Dolly Varden, rainbow trout, lake trout, burbot, longnose suckers, and Alaska blackfish. Available data on harvest quantities are reported and evaluated.

**KEYWORDS:**

**NOTES:**

Fall, James A., Molly B. Chythlook, Janet Shichnes, and Rick Sinnott

**1991 Walrus hunting at Togiak, Bristol Bay, Southwest Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** The report provides an overview of historical and contemporary uses of walrus in the Bristol Bay Region of Southwest Alaska, focusing on the community of Togiak and its traditional use areas, including Round Island. As a state game sanctuary, Round Island has been closed to walrus hunting since 1960. The report includes information on hunting methods, use areas, harvest quantities, and uses of walrus. It is based upon interviews with Togiak walrus hunters, agency records, and ethnohistoric sources.

**KEYWORDS:**

**NOTES:**

Fall, James A., and Dan J. Foster

**1987 Fish and game harvest and use in the Middle Susitna Basin: the results of a survey of residents of the road-connected areas of Game Management Units 14B and 16A, 1986.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report presents results of research conducted in 1986 on patterns of wild resource uses by residents of the portion of the Matanuska-Susitna Borough along the road system in Game Management Units 14B and 16A, including Talkeetna, Trapper Creek, the Petersville Road, and the Parks Highway between Willow Creek and the Chulitna River. Interviews were conducted with a randomly-selected sample of 134 households, approximately 31% of the year-round households in the area. The report contains estimates of rates of participation in the uses and harvest of wild resources, harvest quantities, and levels of sharing and receiving wild foods, as well as types of employment, number of months employed, and incomes of adult members of the sampled households for a 12-month period, 1985-1986.

**KEYWORDS:****NOTES:**

Fall, James A., Daniel J. Foster, and Ronald T. Stanek

**1983 The use of moose and other wild resources in the Tyonek and Upper Yentna areas: a background report.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** Background information is presented on the use of moose and other wild renewable resources by the residents of the village of Tyonek and the residents of the Upper Yentna area. This report supplements an earlier division paper on the use of moose by Tyonek residents (Foster 1982). An annual round of resource harvests and a map of the geographic areas used for these harvests are provided for both areas.

**KEYWORDS:****NOTES:**

Fall, James A., Dan J. Foster, and Ronald T. Stanek

**1984 The use of fish and wildlife resources in Tyonek, Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes the contemporary harvest and use of wildlife in Tyonek, a community of 273 people on Upper Cook Inlet, Southcentral Alaska, based on data collected from February 1980-January 1984. The report includes estimates of harvest quantities, a description of the seasonal round of harvest activities, maps of resource harvest areas, illustrations of the social organization of hunting and fishing groups, examples of processing techniques, analysis of networks of distribution and exchange, and discussion of changes in resource use patterns over time. The findings demonstrate the major role of subsistence hunting and fishing in Tyonek in the 1980s.

**KEYWORDS:****NOTES:**

Fall, James A., Mykel George, and Bridget Easley

**2005 Subsistence harvests of Pacific halibut in Alaska, 2004.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report presents findings of a study designed to estimate the subsistence harvest of Pacific halibut *Hippoglossus stenolepis* in Alaska in 2004. The ADF&G Division of Subsistence conducted the study as part of a cooperative agreement with the National Marine Fisheries Service (NMFS). In May 2003, NMFS published federal regulations implementing a subsistence halibut fishery in Alaska for qualified individuals who are residents of 117 rural communities or members of 123 Alaska Native tribes with traditional uses of halibut. 2004 was the second year in which subsistence halibut fishing took place under these regulations. Subsistence fishers are required to obtain a subsistence halibut registration certificate (SHARC) from NMFS before fishing. By the end of 2004, 13,813 individuals had obtained SHARCs, compared to 11,635 by the end of 2003 (an increase of 18.7%).

**KEYWORDS:** Pacific halibut, *Hippoglossus stenolepis*, subsistence fishing, federal halibut fishery, SHARC

**NOTES:**

Fall, James A., Davin L. Holen, Brian L. Davis, Theodore Krieg, and David Koster

**2006 Subsistence harvests and uses of wild resources in Iliamna, Newhalen, Nondalton, Pedro Bay, and Port Alsworth, Alaska, 2004.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report presents updated information about subsistence uses of fish, wildlife, and plant resources in 5 communities of Southcentral Alaska: Iliamna, Newhalen, Nondalton,

Pedro Bay, and Port Alsworth. The ADF&G Division of Subsistence conducted the study in collaboration with the National Park Service and Stephen R. Braund & Associates. The Pebble Project is a proposed open pit mine located 18 miles to the northwest of Iliamna and 18 miles southwest of Nondalton. The potential development of the mine requires updated baseline information about subsistence harvests and uses. Information was collected through systematic household surveys and mapping interviews. Scoping meetings were held in each community to elicit ideas about research questions and to learn more about issues. After preliminary study findings were available, a second round of community meetings took place to review the results. In total, 116 households were interviewed, 79% of the year-round resident households. The study documented the continuing importance of subsistence hunting, fishing, and gathering to the study communities. In 2004, virtually every person in each community participated in subsistence activities and used wild resources. Subsistence harvests were large and diverse. Estimated wild resource harvests were 469 pounds usable weight per person in Iliamna, 692 pounds per person in Newhalen, 358 pounds per person in Nondalton, 306 pounds per person in Pedro Bay, and 133 pounds per person in Port Alsworth. Most participants in this study reported their subsistence uses and harvests have changed in their lifetimes and over the last 5 years, due to reduced resource populations, shifts in the locations of moose and caribou, competition with nonlocal sport hunters, and a warming climate. Residents voiced concerns about the potential development of a mine and the construction of a road through and near their traditional subsistence harvest areas.

**KEYWORDS:** Iliamna, Newhalen, Nondalton, Pedro Bay, Port Alsworth, subsistence hunting, subsistence fishing, subsistence gathering, Pebble Project, moose, *Alces alces*, caribou, *Rangifer tarandus*,

**NOTES:**

Fall, James A., Davin L. Holen, Theodore M. Krieg, Robbin La Vine, Karen Stickman, Michelle Ravenmoon, Jessica Hay, and Jory Stariwat

**2010 The Kvichak watershed subsistence salmon fishery: an ethnographic study.** Anchorage, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report presents the results of an ethnographic project that investigated how families in 4 communities of the Kvichak District of the Bristol Bay Management Area of Southwest Alaska develop subsistence fishing strategies, such as when to fish, where to fish, who to fish with, and how much to harvest, in response to changing sociocultural, economic, and environmental circumstances.

**KEYWORDS:** Kvichak, Nondalton, Iliamna, Newhalen, Port Alsworth, Sixmile Lake, Iliamna Lake, Newhalen River, Bristol Bay, Southwest Alaska, ethnography, Pacific salmon, sockeye salmon, *Oncorhynchus nerka*, subsistence fishing, subsistence salmon processing methods

**NOTES:**

Fall, James A., and Lisa B. Hutchinson-Scarborough

**1996 Subsistence uses of brown bears in communities of Game Management Unit 9E, Alaska Peninsula, Southwest Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** The report provides an overview of contemporary subsistence uses of brown bears in several communities of the Alaska Peninsula, primarily Chignik Lake, Perryville, and Ivanof Bay. The overview is based upon comprehensive household surveys conducted for 1984, 1989, and 1991-1992, as well as key respondent interviews conducted mostly in 1990. The reports summarizes harvest data, presents a map of hunting areas, and describes traditions regarding the hunting and uses of brown bears. It also contains an overview of recent regulatory changes related to subsistence brown bear hunting in the Chignik area.

**KEYWORDS:**

**NOTES:**

Fall, James A., Lisa B. Hutchinson-Scarborough, and Philippa A. Cooley

**1995 Fish and wildlife harvest and use in five Alaska Peninsula communities, 1989: subsistence uses in Chignik Bay, Chignik Lagoon, Chignik Lake, Ivanof Bay and Perryville.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** The report describes fish and wildlife harvests and uses in 1989 in the Alaska Peninsula communities of Chignik Bay, Chignik Lagoon, Chignik Lake, Ivanof Bay, and Perryville. Demographic and other socioeconomic data are also presented. It is based largely on systematic interviews conducted with 105 households (87.5% of all year-round households). The research was part of a larger project which examined subsistence uses of fish and wildlife in areas affected by the Exxon Valdez oil spill. Included in the report are estimates of harvest levels and levels of participation in hunting, fishing, gathering, and sharing of resources. The research also documented widespread concerns among households in the study area about the effects the oil spill might have had on the safety of using fish and wildlife for food.

**KEYWORDS:** Southwest Region, Alaska Peninsula, Exxon Valdez, oil spill, subsistence fishing, subsistence hunting, subsistence gathering, Chignik Bay, Chignik Lagoon, Chignik Lake, Ivanof Bay, Perryville, subsistence food safety

**NOTES:**

Fall, James A., and David S. Koster

**2007 Final report: subsistence fisheries harvest database update and report preparation.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report presents the results of a project to improve access to harvest data for Alaska's subsistence fisheries. The project updated the Alaska Subsistence Fisheries Database by adding the findings of 22 annual subsistence Pacific salmon harvest monitoring programs in 2003, 2004, and 2005. Annual reports that summarize the subsistence salmon fisheries in 11 management areas were produced and distributed for 2003, 2004, and 2005.

**KEYWORDS:** subsistence fisheries, Chinook salmon, *Oncorhynchus tshawytscha*, sockeye salmon, *Oncorhynchus nerka*, coho salmon, *Oncorhynchus kisutch*, pink salmon, *Oncorhynchus gorbuscha*, chum salmon, *Oncorhynchus keta*

**NOTES:**

Fall, James A., and David S. Koster

**2011 Subsistence harvests of Pacific halibut in Alaska, 2009.** Anchorage, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes the results of the seventh annual project to estimate the subsistence harvest of Pacific halibut *Hippoglossus stenolepis* in Alaska since the National Marine Fisheries Service adopted rules governing subsistence halibut fishing in 2003. Data were collected through a voluntary survey mailed to all holders of Subsistence Halibut Registration Certificates (SHARCs). The survey response rate was 59% (6,944 surveyed of 11,733 SHARC holders.). An estimated 5,296 individuals participated in the subsistence fishery for halibut in 2009, compared to 5,303 in 2008; 5,933 in 2007; 5,909 in 2006; 5,621 in 2005; 5,984 in 2004; and 4,942 in 2003. The estimated harvest in 2009 was 45,434 halibut, comprising 861,359 lb (net weight) ( $\pm 3.7\%$ ). This compares to a harvest estimate of 48,604 halibut, comprising 886,988 lb ( $\pm 3.0\%$ ) in 2008; 53,697 halibut, comprising 1,032,293 lb ( $\pm 4.1\%$ ) in 2007; 54,089 halibut comprising 1,125,312 lb ( $\pm 2.9\%$ ) in 2006; 55,875 fish comprising 1,178,222 lb ( $\pm 3.0\%$ ) in 2005; 52,412 fish comprising 1,193,162 lb ( $\pm 1.5\%$ ) in 2004; and 43,926 halibut comprising 1,041,330 lb ( $\pm 3.9\%$ ) in 2003. Of the total subsistence halibut harvested in 2009, 72% were harvested with setline gear and 28% with hand-operated gear. As in 2003–2008, the largest portion of the Alaska subsistence halibut harvest in 2009 occurred in Regulatory Area 2C (Southeast Alaska),



53%, followed by Area 3A (Southcentral Alaska), 38%. Subsistence harvests represented about 1.2% of the total halibut removals in Alaska in 2009. The harvest estimates based on the surveys for 2003–2009 serve as a basis for understanding the overall harvest, annual variability in catch, and whether any increase in harvest may be associated with implementation of the 2003 regulations. Although the 2009 harvest estimate is lower than the 2003–2008 estimates, there are no certain trends in the fishery based on these 7 project years. The report recommends that monitoring of the subsistence harvest of halibut in Alaska be continued.

**KEYWORDS:** Pacific halibut, *Hippoglossus stenolepis*, subsistence harvests, Alaska, rockfish, *Sebastes*, lingcod, *Ophiodon elongatus*.

**NOTES:**

Fall, James A., David S. Koster, and Brian L. Davis

**2006 Subsistence harvests of Pacific halibut in Alaska, 2005.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes the results of the third annual study by the ADF&G Division of Subsistence to estimate the subsistence harvest of Pacific halibut in Alaska since the National Marine Fisheries Service adopted rules governing subsistence halibut fishing in 2003. Data were collected through a voluntary mail-out survey of all holders of subsistence halibut registration certificates. The survey response rate was 60% (8,565 returned of 14,306 mailed). An estimated 5,621 individuals subsistence fished for halibut in 2005, compared to 5,984 subsistence fishers in 2004, and 4,942 in 2003. The estimated subsistence halibut harvest in 2005 was 55,875 fish for 1,178,222 pounds (+/- 3.0%) net weight. This compares to a harvest estimate of 52,412 fish for 1,193,162 pounds (+/- 1.5%) in 2004 and 43,926 halibut and 1,041,330 pounds net weight (+/- 3.9%) in 2003. Of the total subsistence halibut harvest in 2005, 70% was harvested with setline gear and 30% with hand-operated gear. As in 2003 and 2004, the largest portion of the Alaska subsistence halibut harvest in 2005 occurred in Regulatory Area 2C (Southeast Alaska), 51%, followed by Area 3A (Southcentral Alaska), 36%. Subsistence harvests represent about 1.5% of the total halibut removals in Alaska in 2005. The harvest estimates based on the surveys for 2003, 2004, and 2005 serve as a start for understanding the overall harvest, annual variability in catch, and whether any increase in harvest may be associated with implementation of the new regulations. Although the 2005 harvest estimate is about the same as the 2004 estimate and somewhat higher than the 2003 estimate, there are no certain trends in the fishery. The report recommends that research be continued for 2 more years, so that 5 years of data under the current set of regulations can be evaluated.

**KEYWORDS:** Pacific halibut, *Hippoglossus stenolepis*, subsistence fishing, federal halibut fishery, SHARC

**NOTES:**

Fall, James A., David S. Koster, and Michael F. Turek

**2007 Subsistence harvests of Pacific halibut in Alaska, 2006.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes the results of the fourth annual study to estimate the subsistence harvests of Pacific halibut in Alaska since the National Marine Fisheries Service adopted rules governing subsistence halibut fishing in 2003. Data were collected through a voluntary mail-out survey of all holders of subsistence halibut registration certificates (SHARC). Subsistence harvests represent about 1.5% of the total halibut removals in Alaska in 2006. The report recommends that research be continued for at least one more year, so that at least 5 years of data under the current set of regulations can be evaluated.

**KEYWORDS:** Pacific halibut, *Hippoglossus stenolepis*, subsistence fishing, federal halibut fishery, SHARC

**NOTES:**

Fall, James A., Rachel Mason, Terry L. Haynes, Vicki Vanek, Louis Brown, Gretchen Jennings, Craig Mishler, and Charles J. Utermohle

**1993 Noncommercial harvest and uses of wild resources in King Cove, Alaska, 1992.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report summarizes the results of research conducted in the Southwest Alaska community of King Cove by the ADF&G Division of Subsistence in 1992 and 1993. The focus of the research was patterns of noncommercial uses of wild fish, game, and plant resources in 1992. Interviews were conducted with 75 randomly-selected households, a sample of 47.5%, using a standardized data-gathering instrument. In addition to resource harvest and use information, data on demography and aspects of the monetary sector of the local economy were also collected. Key informants provided information of local subsistence use areas.

**KEYWORDS:****NOTES:**

Fall, James A., Rita Miraglia, William E. Simeone, Charles J. Utermohle, and Robert J. Wolfe

**2001 Long-term consequences of the Exxon Valdez oil spill for coastal communities of Southcentral Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report summarizes findings of research conducted by the ADF&G Division of Subsistence of the under a cooperative agreement with the U.S. Department of the Interior, Minerals Management Service. The focus of the report is on the Exxon Valdez oil spill (EVOS) of March 1989 as an example of a consequence of OCS development that had profound implications for the communities of the Gulf of Alaska (Pacific Gulf). Detailed information about the impacts of the EVOS was collected in two previous cooperative agreements between MMS and ADF&G, and basic descriptive and univariate analyses drawing from these data sets were presented in a final report. The purpose of the work done under the cooperative agreement was to analyze and integrate subsistence, economic, and sociocultural data from these previous projects, collect new ethnographic information about cultural continuity and change in the communities of the EVOS area, and use the survey data and ethnographic information to produce an assessment of the effects of the EVOS and its aftermath and the responses of communities to these new environmental, economic, and sociopolitical conditions, placed in the historical context of the Pacific Gulf region.

**KEYWORDS:****NOTES:**

Fall, James A., and Judith M. Morris

**1987 Fish and wildlife harvests in Pilot Point, Ugashik, and Port Heiden, Alaska Peninsula, 1986-1987.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report represents the results of a May 1987 survey of 98% of the year-round households in 3 Central Alaska Peninsula communities: Pilot Point, Ugashik, and Port Heiden. The report contains information on levels of participation in the uses and harvest of wild resources, harvest quantities, and participation in the cash economy for the 12-month study period of June 1986-May 1987. Maps of resource harvest areas are presented. Also included is an analysis of migratory waterfowl harvests, including spring and fall harvest quantities by species, and information on areas used to hunt waterfowl during each season.

**KEYWORDS:****NOTES:**

Fall, James A., Amy W. Paige, Vicki Vanek, and Louis Brown

**1997 Subsistence harvests and uses of birds and eggs in four communities of the Aleutian Islands area: Akutan, False Pass, Nelson Lagoon, and Nikolski.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report presents the results of systematic household surveys conducted in 1997 in 4 Aleutian Island communities, Akutan, False Pass, Nelson Lagoon, and Nikolski, as part of a research project supported through a cooperative agreement with the U.S. Fish and Wildlife Service. Of 90 year-round residents in the 4 communities, 78 (86.7%) were interviewed. The report documents the continued importance of subsistence uses of birds and eggs in the 4 study communities.

**KEYWORDS:**

**NOTES:**

Fall, James A., Janet C. Schichnes, Molly B. Chythlook, and Robert J. Walker

**1986 Patterns of wild resource use in Dillingham: hunting and fishing in an Alaskan regional center.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** The report summarizes the results of a resource use survey conducted in early 1985 with 153 households (22%) in Dillingham, the regional center of the Bristol Bay Region. Described are harvest levels, harvest areas, and distribution networks. The report concludes that Dillingham has a mixed economy with an important subsistence component. Length of residency in Southwest Alaska was found to be correlated with levels of resource harvest.

**KEYWORDS:**

**NOTES:**

Fall, James A., Ronald T. Stanek, Louis A. Brown, and Charles Utermohle

**1996 The harvest and use of fish, wildlife, and plant resources in False Pass, Unimak Island, Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** The report provides an overview of contemporary subsistence uses of fish and wildlife in the village of False Pass, a predominantly Aleut community on Unimak Island, Southwest Alaska. The primary source of information is a household survey conducted in November 1988 with 20 of the 22 year-round households in the community. The report contains information on harvest levels, levels of participation in harvest activities, the seasonal round of harvest activities, and harvest methods. Maps of subsistence use areas are included. The research documented a relatively high level of subsistence production in the village in 1987-88: about 1,472 pounds (useable weight) per household and 467 pounds per person. Harvests were very diverse, with the average household using about 23 different kinds of wild foods during the study year. Every interviewed household used and harvested wild resources. Also included in the report are demographic, cash employment, and other economic data, as well as some historical information.

**KEYWORDS:**

**NOTES:**

Fall, James A., Ronald T. Stanek, Brian L. Davis, Liz Williams, and Robert J. Walker

**2004 Cook Inlet customary and traditional subsistence fisheries assessment.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report provides information about past, present, and potential noncommercial harvests and uses of fish in waters of the Cook Inlet Management Area that are under the jurisdiction of the Federal Subsistence Board. Phase One consisted of a literature review, key respondent interviews, and 4 scoping meetings. Phase Two consisted of a survey of 355 households in 5 study communities: Cooper Landing, Hope, Nikolaevsk, Ninilchik, and Seldovia. Three stakeholder meetings to review the study findings also took place. The Dena'ina (Kenaitze) and other local residents harvested fish for subsistence uses in the study area until

pre-statehood federal authorities prohibited subsistence fishing in fresh waters in 1952. Since then, substantial economic development has brought rapid population growth; most household heads in the study communities have lived there less than 10 years. Most households in the five study communities harvested and used fish in the 2002-2003 study year, but harvests were relatively low in the road-connected communities, and higher in Seldovia.

**KEYWORDS:** Cook Inlet, Cooper Landing, Hope, Dena'ina, Athabascan, Dolly Varden, Salvelinus malma, Hope, Kenai Peninsula, Nikolaevsk, Ninilchik, Pacific salmon, Kenaitze, Seldovia, subsistence fishing, rainbow trout, Oncorhynchus mykiss

**NOTES:**

Fall, James A., and Lee Stratton

**1984 The harvest and use of Copper River salmon a background report.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** Drawing from Division of Subsistence research as well as management reports by the Division of Commercial Fisheries, this report summarizes the available information about the fishwheel and dip net fisheries of the Copper River, Southcentral Alaska. Also briefly described are the general socioeconomic and resource use patterns of Copper Basin communities. The analysis compares nonCopper River Basin residents' uses of Copper River salmon with those of basin residents in terms of gear choices, harvest quantities, harvest locations, and methods of processing and preserving the catch. The report concludes that notable differences exist between these two groups, with local Copper Basin residents having longer histories of use of Copper River salmon and higher household harvests. Most local residents fished with fishwheels, while almost all nonlocal residents chose dip nets to take salmon.

**KEYWORDS:**

**NOTES:**

Fall, James A., Lee Stratton, Philippa A. Coiley-Kenner, Louis Brown, Charles J. Utermohle, and Gretchen Jennings

**1996 Subsistence harvests and uses in Chenega Bay and Tatitlek in the year following the Exxon Valdez oil spill.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report summarizes harvest data for the year immediately after the Exxon Valdez oil spill. Harvest surveys were conducted in April 1990 for the April 1989-March 1990 study year (1989). Harvest levels were lower than in previous years. Chenega Bay reported a per capita harvest of 148.1 lbs and Tatitlek, 214.8 lbs. This report identifies changes in harvest quantities and locations, and offers some explanations. Special sharing programs implemented during the summer 1989 are also described.

**KEYWORDS:**

**NOTES:**

Fall, James A., and Charles J. Utermohle

**1995 An Investigation of the Sociocultural Consequences of Outer Continental Shelf Development in Alaska. OCS Study MMS 95-012. U.S. Department of the Interior, Minerals Management Service, Alaska OCS Region. Submitted by Division of Subsistence, Alaska Department of Fish and Game.** Anchorage, Alaska: U.S. Department of the Interior, Minerals Management Service.

**ABSTRACT:** The report provides selected findings from a three-year study to investigate the long-term social and cultural consequences of the development of the resources of Alaska's Outer Continental Shelf (OCS), especially as these affect the subsistence uses of fish and wildlife. Investigation of the consequences of the Exxon Valdez oil spill of March 1989 was a major focus of the research.

**KEYWORDS:****NOTES:**

Fall, James A., and Charles J. Utermohle

**1999 Subsistence harvests and uses in eight communities ten years after the Exxon Valdez oil spill.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** The report summarizes the findings of a study to update the status of subsistence uses of fish and wildlife resources in the area affected by the Exxon Valdez oil spill of March 1989. Through 1993/94, explanations of lowered subsistence uses shifted from concerns about food safety to resource shortage. Because no comprehensive research on subsistence uses had been undertaken since the fifth post-spill year, the present study was designed to collect information comparable to that of prior rounds of research. The report presents strong evidence of the continuing importance of subsistence harvests and uses of fish and wildlife resources in all eight study communities. Virtually every household in each community used subsistence resources and the vast majority engaged in harvest activities and were involved in sharing. Harvest quantities in the 1997/98 study year as estimated in usable pounds were substantial, ranging from 179 pounds per person in Cordova to 577 pounds per person in Chenega Bay. Harvests were also diverse, with the average household using 15 or more different kinds of resources in six of the study.

**KEYWORDS:****NOTES:**

Fall, James A., Vicki Vanek, Louis A. Brown, Robert J. Wolfe, and Charles J. Utermohle

**2000 Wild resource harvests and uses by residents of selected communities of the Kenai Peninsula Borough.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report presents the results of a study of harvests and uses of wild fish, wildlife, and plant resources by the residents of selected areas of the Kenai Peninsula, Southcentral Alaska. Demographic and other economic data are also presented. The research focused on 2 portions of the Kenai Peninsula Borough classified in 1990 as rural by the Federal Subsistence Board: Ninilchik and the Homer Rural Area. For this study, these areas included 5 sampling areas: Ninilchik, North Fork Road (near Anchor Point), Nikolaevsk, Fritz Creek East (along the East End Road east of McNeil Canyon), and Voznesenka. Most residents of Nikolaevsk and Voznesenka are members of the Old Believer branch of the Russian Orthodox faith. Interviewing did not take place in two additional Old Believer communities within the general study area, Razdolna and Kachemak Selo). The study was conducted by the ADF&G Division of Subsistence with funding from the U.S. Fish and Wildlife Service.

**KEYWORDS:****NOTES:**

Fall, James A., and Robert J. Walker

**1993 Subsistence harvests in six Kodiak Island Borough communities, 1986.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** The report summarizes the results of a household survey conducted as part of a cooperative project between the ADF&G Division of Subsistence and the Kodiak Area Native Association in 1987. In total, 211 interviews were conducted in the communities of Akhiok, Karluk, Larsen Bay, Old Harbor, Ouzinkie, and Port Lions. The research documented notably lower subsistence harvests in 3 communities (Akhiok, Karluk, and Larsen Bay) in 1986 than had been reported during another cooperative project 3 years earlier, while harvests in the other 3 villages of Old Harbor, Ouzinkie, and Port Lions were very similar in the 2 study years.

**KEYWORDS:****NOTES:**

Fall, James A., Robert J. Walker, and Ronald T. Stanek

**1990 Subsistence use of the southern Alaska Peninsula Caribou Herd.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** The report was prepared for the Alaska Board of Game and describes subsistence uses of the Southern Alaska Peninsula Caribou Herd of Southwest Alaska. The herd has declined substantially since the early 1980s. The information in the report is based on harvest ticket data, mail-out questionnaires, and household surveys. Five communities use this resource for subsistence purposes: False Pass, Cold Bay, Sand Point, King Cove, and Nelson Lagoon. The report presents data on harvest levels for 1977-1988-89 hunting year, and data on transportation methods and months of hunting effort for the 1985-86 and 1986-87 hunting years. Maps of subsistence hunting areas for False Pass, Cold Bay, King Cove, and Nelson Lagoon are included, as is a regulatory history. The research documented a decline in subsistence harvests from about 537 caribou in 1985-1986 to about 289 caribou in 1986-1987.

**KEYWORDS:**

**NOTES:**

Farish, M, and PW Lackenbauer

**2009 High modernism in the Arctic: planning Frobisher Bay and Inuvik.** Journal of Historical Geography.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Farley, Edward V., Alexander Starovoytov, Svetlana Naydenko, Ron Heintz, Marc Trudel, Charles Guthrie, Lisa Eisner, and Jeffrey R. Guyon

**2011 Implications of a warming eastern Bering Sea for Bristol Bay sockeye salmon.** ICES Journal of Marine Science: Journal du Conseil.

**ABSTRACT:** Farley, E. V., Starovoytov, A., Naydenko, S., Heintz, R., Trudel, M., Guthrie, C., Eisner, L., Guyon, J. R. Implications of a warming eastern Bering Sea for Bristol Bay sockeye salmon. – ICES Journal of Marine Science, doi:10.1093/icesjms/fsr021. Overwinter survival of Pacific salmon (*Oncorhynchus* sp.) is believed to be a function of size and energetic status they gain during their first summer at sea. We test this notion for Bristol Bay sockeye salmon (*O. nerka*), utilizing data from large-scale fisheries and oceanographic surveys conducted during mid-August to September 2002–2008 and from February to March 2009. The new data presented in this paper demonstrate size-selective mortality for Bristol Bay sockeye salmon between autumn and their first winter at sea. Differences in the seasonal energetic signatures for lipid and protein suggest that these fish are not starving, but instead the larger fish caught during winter apparently are utilizing energy stores to minimize predation. Energetic status of juvenile sockeye salmon was also strongly related to marine survival indices and years with lower energetic status apparently are a function of density-dependent processes associated with high abundance of juvenile sockeye salmon. Based on new information regarding eastern Bering Sea ecosystem productivity under a climate-warming scenario, **we hypothesize that sustained increases in spring and summer sea temperatures may negatively affect energetic status of juvenile sockeye salmon, potentially resulting in increased overwinter mortality.**

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salmon. – ICES Journal of Marine Science, doi:10.1093/icesjms/fsr021. Overwinter survival of Pacific salmon (*Oncorhynchus* sp.) is believed to be a function of size and energetic status they gain during their first summer at sea. We test this notion for Bristol Bay sockeye salmon (*O. nerka*), utilizing data from large-scale fisheries and oceanographic surveys conducted during mid-August to September 2002–2008 and from February to March 2009. The new data presented in this paper demonstrate size-selective mortality for Bristol Bay sockeye salmon between autumn and their first winter at sea. Differences in the seasonal energetic signatures for lipid and protein suggest that these fish are not starving, but instead the larger fish caught during winter apparently are utilizing energy stores to minimize predation. Energetic status of juvenile sockeye salmon was also strongly related to marine survival indices and years with lower energetic status apparently are a function of density-dependent processes associated with high abundance of juvenile sockeye salmon. Based on new information regarding eastern Bering Sea ecosystem productivity under a climate-warming scenario, **we hypothesize that sustained increases in spring and summer sea temperatures may negatively affect energetic status of juvenile sockeye salmon, potentially resulting in increased overwinter mortality.**

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Fay, Francis Hollis

**1955 The Pacific walrus, *Obodenus rosmarus divergens*: Spatial ecology, life history and population.**

**ABSTRACT:**

**KEYWORDS:** SOCIAL behavior in animals

BEHAVIOR

POPULATION density

POPULATION dynamics

Comportamiento

Historia

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**1957 History and present status of the Pacific walrus population.** 22nd North American Wildlife Conference, 1957, pp. 431-443.

**ABSTRACT:** The historical record of Pacific walrus distribution and utilization indicates a reduction in walrus population from approximately 200,000 in the 18th and 19th centuries to about 45,000 in recent years. The numbers appear to be gradually decreasing at present. Elimination of wasteful hunting procedures and a larger proportion of {male}{male} in the annual kill would allow the population to increase to a more optimum level. 62 references.--Author (Copyright applies to all Abstracts.)

**KEYWORDS:** MARINE mammals

Estado numérico

**NOTES:** Accession Number: 0250027046; Fay, Francis H. 1; Affiliations: 1: U.S.P.H.S., Box 960, Alaska, Anchorage ; Source Info: Trans. 22nd N. Am. Wildl. Conf. p. 431-443, map.; 1957 ; Note: This citation is in progress and will be enhanced by additional descriptors currently used by Wildlife Review Abstracts; Subject Term: MARINE mammals; Author-Supplied Keyword: Estado numérico; Language of Keywords: Spanish; Castilian; Document Type: Proceeding

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**1981 Walrus *Odobenus rosmarus* (Linnaeus, 1758).**

**ABSTRACT:**

**KEYWORDS:** LIFE history

SOCIAL status

WALRUSES

Distribución

Estado numérico

Historia de vida/general

Distribution

**NOTES:** Accession Number: 0230306028; Fay, Francis H.; Source Info: Handbook of Marine Mammals: Volume 1. The Walrus, Sea Lions, Fur Seals and Sea Otter. Sam H. Ridgway and Richard J. Harrison, editors.; p. 1-23. 1981. WR 199 ; Note: URL: *Odobenus rosmarus* [Walrus]: [http://animaldiversity.ummz.umich.edu/accounts/odobenus/o.%5frosmarus\\$narrative.html](http://animaldiversity.ummz.umich.edu/accounts/odobenus/o.%5frosmarus$narrative.html); Note: URL: *Odobenus rosmarus* [Walrus]: [http://animaldiversity.ummz.umich.edu/accounts/odobenus.o.%5frosmarus\\$narrative.html](http://animaldiversity.ummz.umich.edu/accounts/odobenus.o.%5frosmarus$narrative.html); Subject Term: LIFE history; Subject Term: SOCIAL status; Subject Term: WALRUSES; Author-Supplied Keyword: Distribución; Author-Supplied Keyword: Estado numérico; Author-Supplied Keyword: Historia de vida/general; Language of Keywords: Spanish; Castilian; Document Type: Article

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Fay, Francis H.

**1982 Ecology and biology of the Pacific walrus, *Odobenus rosmarus divergens* illiger.** North American Fauna (74).

**ABSTRACT:** The distribution, physical development, pelage, dentition, feeding behavior, reproduction, causes of mortality, and population structure of the Pacific walrus were studied intermittently from 1952 to 1979 (Copyright applies to all Abstracts.)

**KEYWORDS:** BIOLOGY, DISEASES, ENVIRONMENTAL aspects, FOOD, HABIT, BEHAVIOR, LIFE history, EMIGRATION, immigration, MORPHOLOGY, MORTALITY, PELAGE, PHYSIOGNOMY, PINNIPEDIA, PREDATION, REPRODUCTION, TEETH, WALRUS, ODOBENUS rosmarus divergens, PACIFIC Ocean

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**NOTES:**

Fay, Francis H., and P. Kelly Brendan

**1980 Mass natural mortality of walruses (*Odobenus rosmarus*) at St. Lawrence Island, Bering Sea, Autumn 1978.** Arctic 33(2):226-245.

**ABSTRACT:**

**KEYWORDS:** ANIMALS -- Age

ANIMAL populations

DISEASES

MORTALITY

PINNIPEDIA  
 SEX ratio  
 SIZE  
 WALRUSES  
 ALASKA  
 BERING Sea  
 NORTH America  
 PACIFIC Ocean  
 UNITED States  
 Walross  
 Wasserraubtiere  
 Mortalität  
 Geschlechterverhältnis  
 Altersstruktur  
 Grösse  
 Krankheit  
 Kondition  
 Mortalidad  
 Proporción de sexo  
 Condition

**NOTES:** Fay, Francis H.; Brendan P. Kelly; Source Info: 33(2): 226-245. June 1980. In English with French summ. WR 179; Note: Geographic Code: n-us-ak; p; Note: Address: INST. OF MARINE SC., UNIV. OF ALASKA, FAIRBANKS, ALASKA 99701, USA; Note: SWISS Accession No.: 19811159Z; Note: URL: *Odobenus rosmarus* [Walrus]: [http://animaldiversity.ummz.umich.edu/accounts/odobenus/o.%5frosmarus\\$narrative.html](http://animaldiversity.ummz.umich.edu/accounts/odobenus/o.%5frosmarus$narrative.html); Note: URL: *Odobenus rosmarus* [Walrus]: [http://animaldiversity.ummz.umich.edu/accounts/odobenus/o.%5frosmarus\\$narrative.html](http://animaldiversity.ummz.umich.edu/accounts/odobenus/o.%5frosmarus$narrative.html); Subject Term: ANIMALS -- Age; Subject Term: ANIMAL populations; Subject Term: DISEASES; Subject Term: MORTALITY; Subject Term: PINNIPEDIA; Subject Term: SEX ratio; Subject Term: SIZE; Subject Term: WALRUSES; Subject Term: ALASKA; Subject Term: BERING Sea; Subject Term: NORTH America; Subject Term: PACIFIC Ocean; Subject Term: UNITED States; Author-Supplied Keyword: Walross; Author-Supplied Keyword: Wasserraubtiere; Author-Supplied Keyword: Mortalität; Author-Supplied Keyword: Geschlechterverhältnis; Author-Supplied Keyword: Altersstruktur; Author-Supplied Keyword: Grösse; Author-Supplied Keyword: Krankheit; Author-Supplied Keyword: Kondition; Author-Supplied Keyword: Mortalidad; Author-Supplied Keyword: Proporción de sexo; Language of Keywords: German; Language of Keywords: Spanish; Castilian; Number of Pages: 20p; Document Type: Article; Language: English; French

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Fay, Francis H., Howard M. Feder, and Sam W. Stoker

**1979 An estimation of the impact of the Pacific walrus on its food resources in the Bering Sea. Final Report.** Volume 48.

**ABSTRACT:**

**KEYWORDS:** FOOD supply

ANIMALS -- Food  
WALRUSES  
ALASKA  
NORTH America  
UNITED States  
Abasto de alimentos  
Alimentarse  
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**NOTES:** Accession Number: 0230273944; Fay, Francis H.; Feder, Howard M.; Stoker, Sam W.; Source Info: Inst. Mar. Sci., Alaska Univ. 48p. 1977. From Ecol. Abstr. 1979/1: 79L/0108. 1979. WR 175 ; Note: Geographic Code: n-us-ak; Note: URL: *Odobenus rosmarus* [Walrus]: [http://animaldiversity.ummz.umich.edu/accounts/odobenus/o.%5frosmarus\\$narrative.html](http://animaldiversity.ummz.umich.edu/accounts/odobenus/o.%5frosmarus$narrative.html); Note: URL: *Odobenus rosmarus* [Walrus]: [http://animaldiversity.ummz.umich.edu/accounts/odobenus/o.%5frosmarus\\$narrative.html](http://animaldiversity.ummz.umich.edu/accounts/odobenus/o.%5frosmarus$narrative.html); Subject Term: FOOD supply; Subject Term: ANIMALS -- Food; Subject Term: WALRUSES; Subject Term: ALASKA; Subject Term: NORTH America; Subject Term: UNITED States; Author-Supplied Keyword: Abasto de alimentos; Author-Supplied Keyword: Alimentarse; Author-Supplied Keyword: Alimentos; Language of Keywords: Spanish; Castilian; Document Type: Report

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Fay, F.H., B.P. Kelly, and J.L. Sease

**1989 Managing the exploitation of pacific walruses: a tragedy of delayed response and poor communication.** Marine Mammal Science 5(1):1-16.

**ABSTRACT:** The Pacific walrus population has been depleted and subsequently allowed to recover three times in the past 150 yr. As we see it, the population has been made to fluctuate like an r-selected species, rather than being maintained at a high, stable level, as befits a K-selected species. The latest depletion began in the 1930s but was not recognized until 25 yr later, by which time the population had been reduced by at least half. Without benefit of communication, the U.S.S.R. and the State of Alaska put similar protective measures into place by 1960, and in the next two decades the walrus population recovered again, at least doubling in size. By 1980, it already was showing density-dependent signs of having approached or reached the carrying capacity of its environment. As productivity and calf survival declined sharply in the late 1970s and early 1980s the catches more than doubled. We believe that the combined effects of natural curtailment and human intervention may be bringing the population down again rather rapidly. With the present, crude monitoring methods, delayed management responses, and poor international communications, however, the downward trend may not be acknowledged for at least another decade, by which time the unilateral Soviet and American corrective measures are likely to be too much, too late. Walrus management needs to be based less on response to immediate crisis and more on long term prediction than it has been in the past. Because the U.S.A. and U.S.S.R. are trying to manage the same walrus population, without sufficient communication or consensus and sometimes to opposite ends, an international joint management program needs to be implemented.

**KEYWORDS:** walrus

Odobenus rosmarus  
population dynamics  
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Fay, F. H., G. C. Ray, and Kibal

**1984 Time and location of mating and associated behavior of the Pacific walrus (Odobenus rosmarus divergens).** U.S. National Oceanic and Atmospheric Administration. National Marine Fisheries Service. Technical Report 12:89-100.

**ABSTRACT:**

**KEYWORDS:** PINNIPEDIA

REPRODUCTION  
INTERPERSONAL relations  
WALRUSES  
PACIFIC Ocean  
Walross  
Wasserraubtiere  
Reproduktion  
Sozialverhalten  
Apareamiento  
Comportamiento  
Reproducción

**NOTES:** Fay F H; Ray G C; Kibal; Source Info: 1984, Vol. 12, p89; Note: Address: Inst. Mar. Sci., Univ. Alaska, Fairbanks 99701, USA; Note: SWISS Accession No.: 19880365; Note: URL: Odobenus rosmarus [Walrus]: [http://animaldiversity.ummz.umich.edu/accounts/odobenus\\_o.%5frosmarus\\$narrative.html](http://animaldiversity.ummz.umich.edu/accounts/odobenus_o.%5frosmarus$narrative.html); Note: URL: Odobenus rosmarus [Walrus]: <http://>

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Fay, Francis H., A. Bukhtiyarov Yuri, W. Stoker Samuel, and M. Shults Larry

**1984 Foods of the Pacific walrus in winter and spring in the Bering Sea.** Volume 12.

**ABSTRACT:**

**KEYWORDS:** FOOD

ANIMALS -- Food

PINNIPEDIA

WALRUSES

PACIFIC Area

BERING Sea

PACIFIC Ocean

NORTH Pacific Ocean

Walross

Wasserraubtiere

Nahrung  
Alimentarse  
Alimentos  
Invierno

**NOTES:** Accession Number: FZH4243743721; Fay, Francis H.; Yuri A. Bukhtiyarov; Samuel W. Stoker; Larry M. Shults; Source Info: NOAA Tech. Rep. NMFS 12. p. 81-88. 1984. In English with Russian summ. WR 205 ; Note: Geographic Code: pn; Note: Address: Inst. Mar. Sci., Univ. Alaska, Fairbanks 99701, USA; Note: SWISS Accession No.: 19880366; Note: URL: *Odobenus rosmarus* [Walrus]: [http://animaldiversity.ummz.umich.edu/accounts/odobenus/o.%5frosmarus\\$narrative.html](http://animaldiversity.ummz.umich.edu/accounts/odobenus/o.%5frosmarus$narrative.html); Note: URL: *Odobenus rosmarus* [Walrus]: [http://animaldiversity.ummz.umich.edu/accounts/odobenus/o.%5frosmarus\\$narrative.html](http://animaldiversity.ummz.umich.edu/accounts/odobenus/o.%5frosmarus$narrative.html); Subject Term: FOOD; Subject Term: ANIMALS -- Food; Subject Term: PINNIPEDIA; Subject Term: WALRUSES; Subject Term: PACIFIC Area; Subject Term: BERING Sea; Subject Term: PACIFIC Ocean; Subject Term: NORTH Pacific Ocean; Author-Supplied Keyword: Walross; Author-Supplied Keyword: Wasserraubtiere; Author-Supplied Keyword: Nahrung; Author-Supplied Keyword: Alimentarse; Author-Supplied Keyword: Alimentos; Author-Supplied Keyword: Invierno; Language of Keywords: German; Language of Keywords: Spanish; Castilian; Number of Pages: 8p; Document Type: Report; Language: English; Russian

Fay, Francis H., A. Bukhtiyarov Yuri, W. Stoker Samuel, and M. Shults Larry

**1984 FOODS OF THE PACIFIC WALRUS IN WINTER AND SPRING IN THE BERING SEA (English).** Volume 12.

**ABSTRACT:**

**KEYWORDS:** FOOD

ANIMALS -- Food  
PINNIPEDIA  
WALRUSES  
PACIFIC Area  
BERING Sea  
PACIFIC Ocean  
NORTH Pacific Ocean  
Walross  
Wasserraubtiere  
Nahrung  
Alimentarse  
Alimentos  
Invierno

**NOTES:** Accession Number: FZH4243743721; Fay, Francis H.; Yuri A. Bukhtiyarov; Samuel W. Stoker; Larry M. Shults; Source Info: NOAA Tech. Rep. NMFS 12. p. 81-88. 1984. In English with Russian summ. WR 205 ; Note: Geographic Code: pn; Note: Address: Inst. Mar. Sci., Univ. Alaska, Fairbanks 99701, USA; Note: SWISS Accession No.: 19880366; Note: URL: *Odobenus rosmarus* [Walrus]: [http://animaldiversity.ummz.umich.edu/accounts/odobenus/o.%5frosmarus\\$narrative.html](http://animaldiversity.ummz.umich.edu/accounts/odobenus/o.%5frosmarus$narrative.html); Note: URL: *Odobenus rosmarus* [Walrus]: [http://animaldiversity.ummz.umich.edu/accounts/odobenus/o.%5frosmarus\\$narrative.html](http://animaldiversity.ummz.umich.edu/accounts/odobenus/o.%5frosmarus$narrative.html); Subject Term: FOOD; Subject Term: ANIMALS -- Food; Subject Term: PINNIPEDIA; Subject Term: WALRUSES; Subject Term: PACIFIC Area; Subject Term: BERING Sea; Subject Term: PACIFIC Ocean; Subject Term: NORTH Pacific Ocean; Author-Supplied Keyword: Walross; Author-Supplied Keyword: Wasserraubtiere; Author-Supplied Keyword: Nahrung; Author-Supplied Keyword: Alimentarse; Author-Supplied Keyword: Alimentos; Author-Supplied Keyword: Invierno; Language of Keywords: German; Language of Keywords: Spanish; Castilian; Number of Pages: 8p; Document Type: Report; Language: English; Russian

Fazzino, David V., and Phillip A. Loring

**2009 From crisis to cumulative effects: food security challenges in Alaska.** NAPA Bulletin 32(1):152-177.

**ABSTRACT:** Recent increases in the price of fuel in rural Alaska, coupled with high prices of grocery store foods and decreased efficacy of hunting and fishing have led to a food crisis in many regions of rural Alaska. In the summer of 2008 it was predicted that these events would lead to an upswing in the number of individuals migrating to urban areas of Alaska, putting additional stress on the already dwindling resources of food assistance providers. Through discussions with food assistance providers in Fairbanks, Alaska, a research program was designed to assess how well recent migrants were able to meet their food needs. In total 39 individuals were interviewed in November and December 2008, using face-to-face, semistructured interviews. This article discusses a smaller subset of the overall interviews, namely the responses of Natives who currently live in Fairbanks, Alaska. Further, this article informs understandings of "crisis" in the global sense, highlighting the importance of placing "crises" into the larger context of cumulative effects which are long-term and differentially distributed, rather than treating them as discrete and individually mitigatable events.

**KEYWORDS:** global food crisis

Alaska  
food security  
migration  
food assistance  
Alaska Natives  
food systems reconstruction

**NOTES:**

Fechhelm, Robert G., Bill Streever, and Benny J. Gallaway

**2007 The Arctic cisco (*Coregonus autumnalis*) subsistence and commercial fisheries, Colville River, Alaska: a conceptual model.** Arctic 60(4):421-429.

**ABSTRACT:** The arctic cisco (*Coregonus autumnalis*), known regionally by its Inupiat name *qaaqtaq*, is the principal target of fall subsistence and commercial fisheries that operate in the Colville River along the Alaskan Beaufort Sea. Our conceptual model of the fisheries is based on more than two decades of continuous scientific study conducted in conjunction with oil industry growth on the North Slope. It expands upon an existing body of published literature to discuss additional factors that affect fishery yields. Long-term data indicate that arctic cisco spawn in Canada's Mackenzie River system. Young-of-the-year are transported westward into Alaska by wind-driven coastal currents. Arctic cisco successfully recruit to Alaska's Colville River when summer winds blow from the east with an average speed greater than 5 km/h. The successful recruitment of these young arctic cisco to central Alaska is a prerequisite for the eventual entry of harvestable five- to eight-year-old fish into the region's subsistence and commercial fisheries. Recruitment into the fisheries also requires that fish survive in central Alaska for the five to six years it takes for them to grow to a harvestable size. Once these fish are recruited into the fisheries, annual harvests are strongly dependent on salinity conditions within the fishing grounds. Although fishing mortality occurs, the loss of older fish from the region is attributed largely to the emigration of sexually mature fish back to Canada.

**KEYWORDS:** Alaska; Arctic cisco; Colville River; *Coregonus autumnalis*; fishery; fyke nets; Inupiat; North Slope; subsistence; transport

**NOTES:**

Feldman, Kerry D.

**1981 Anthropology and public policy in Alaska: recent policy related to legal systems native subsistence and commercial fisheries.** Review of Policy Research 1(1):87-110.



**ABSTRACT:** The past and potential contributions of anthropology to public policy have been described and/or argued for by numerous writers in the past decade, but the primary application and concern have been at the national and international levels. The present paper continues this discussion, but focuses on state-level policy in Alaska. The work of three Alaskan anthropologists is presented; they have made significant contributions to policy in the areas of law, Native Alaskan subsistence rights and fisheries management. Their work is evaluated in the context of a five-step model for conducting policy analysis which begins with the assessment of policy-making environments and ends with an evaluation of policy alternatives. The primary policy concerns of the anthropologists discussed involved the traditional research focus of anthropology, Native Alaskans; however, the tools they employ and background they bring to their work, the specific kinds of policy issues and problems confronted, are not as traditional. One of the anthropologists discussed is a Tlingit Indian completing doctoral studies at Harvard University, another is a lawyer-anthropologist, and the third is highly trained in biological and economic theory as well as computer technology. It is argued that the "hyphenated" anthropologist, at least as exemplified in the cases discussed, is most readily equipped to make policy relevant contributions.

**KEYWORDS:**

**NOTES:**

Feldman, Kerry D.

**1986 Subsistence beluga whale hunting in Alaska: A view from Eschscholtz Bay.**  
Contemporary Alaskan native economies:153.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Feldman, Kerry D.

**1986 Subsistence beluga whale hunting in Alaska: A view from Eschscholtz Bay.**  
Contemporary Alaskan native economies:153.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Feldman, Kerry D.

**1995 *Niqsaq* and *Napaaqtuq*: Issues in Inupiaq Eskimo life-form classification and ethnoscience.** *Etudes/Inuit/Studies* 19(2):77-100.

**ABSTRACT:** There have been few ethnoscientific studies of Inupiaq culture or language. This paper attempts to draw attention to the need for linguistically-grounded anthropological research and anthropologically-grounded linguistic research among indigenous people in Alaska and the Far North in general. The study uses the widely referenced theory of Cecil Brown regarding folk botanical and zoological universal life-forms as a heuristic device for examining issues in animal and plant classification among Inupiaq in Northwest Alaska. Two significant emic classifiers in Inupiaq, *niqsaq* (particular animals hunted in the sea) and *napaaqtuq* (spruce tree), receive special attention because of the light they shed on indigenous ethnoscience complexities of which linguists and anthropologists need to be aware. The study has implications for the respect of indigenous ethnoscience in Northern schools. The preparation of indigenous language dictionaries and the preservation of indigenous cultures as systems of meaning in relation to their subsistence modes and perceptions of their ecosystem.

**KEYWORDS:** Inupiaq, linguistics, animal classification, plant classification, ethnoscience

**NOTES:**

Feldman, SA, AH Rubenstein, K-J Ho, CB Taylor, LA Lewis, and B Mikkelsen

**1975 Carbohydrate and lipid metabolism in the Alaskan Arctic Eskimo.** American Journal of Clinical Nutrition 28(6):588-594.

**ABSTRACT:** The effect of a low total carbohydrate low sucrose diet on various parameters of lipid and carbohydrate metabolism was studied among residents of a North Slope Alaskan Eskimo village. For comparative purposes a group of Eskimo youths consuming a higher carbohydrate institutional diet was also studied. Those Eskimos consuming their native diet had unusually low serum triglycerides and very low density lipoproteins and normal glucose and tolbutamide tolerance tests. Eskimos on a higher carbohydrate diet exhibited significant elevations of triglycerides and minor alterations in glucose tolerance testing. Differences in cholesterol intake between these groups were accompanied by changes in serum cholesterol and low density lipoprotein levels. Unusually high levels of free fatty acids without ketonemia in the North Slope sample were noted as well.

**KEYWORDS:**

**NOTES:**

Feng, Song, Chang-Hoi Ho, Qi Hu, Robert Oglesby, Su-Jong Jeong, and Baek-Min Kim

**2011 Evaluating observed and projected future climate changes for the Arctic using the Köppen-Trewartha climate classification.** Climate Dynamics:1-15.

**ABSTRACT:** The ecosystems in the Arctic region are known to be very sensitive to climate changes. The accelerated warming for the past several decades has profoundly influenced the lives of the native populations and ecosystems in the Arctic. Given that the Köppen-Trewartha (K-T) climate classification is based on reliable variations of land-surface types (especially vegetation), this study used the K-T scheme to evaluate climate changes and their impact on vegetation for the Arctic (north of 50°N) by analyzing observations as well as model simulations for the period 1900–2099. The models include 16 fully coupled global climate models from the Intergovernmental Panel on Climate Change Fourth Assessment. By the end of this century, the annual-mean surface temperature averaged over Arctic land regions is projected to increase by 3.1, 4.6 and 5.3°C under the Special Report on Emissions Scenario (SRES) B1, A1b, and A2 emission scenarios, respectively. Increasing temperature favors a northward expansion of temperate climate (i.e., Dc and Do in the K-T classification) and boreal oceanic climate (i.e., Eo) types into areas previously covered by boreal continental climate (i.e., Ec) and tundra; and tundra into areas occupied by permanent ice. The tundra region is projected to shrink by  $-1.86 \times 10^6$  km<sup>2</sup> (–33.0%) in B1,  $-2.4 \times 10^6$  km<sup>2</sup> (–42.6%) in A1b, and  $-2.5 \times 10^6$  km<sup>2</sup> (–44.2%) in A2 scenarios by the end of this century. The Ec climate type retreats at least 5° poleward of its present location, resulting in –18.9, –30.2, and –37.1% declines in areal coverage under the B1, A1b and A2 scenarios, respectively. The temperate climate types (Dc and Do) advance and take over the area previously covered by Ec. The area covered by Dc climate expands by  $4.61 \times 10^6$  km<sup>2</sup> (84.6%) in B1,  $6.88 \times 10^6$  km<sup>2</sup> (126.4%) in A1b, and  $8.16 \times 10^6$  km<sup>2</sup> (149.6%) in A2 scenarios. The projected redistributions of K-T climate types also differ regionally. In northern Europe and Alaska, the warming may cause more rapid expansion of temperate climate types. Overall, the climate types in 25, 39.1, and 45% of the entire Arctic region are projected to change by the end of this century under the B1, A1b, and A2 scenarios, respectively. Because the K-T climate classification was constructed on the basis of vegetation types, and each K-T climate type is closely associated with certain prevalent vegetation species, the projected large shift in climate types suggests extensive broad-scale redistribution of prevalent ecoregions in the Arctic.

**KEYWORDS:** Earth and Environmental Science

**NOTES:** "Imagine the vast, empty tundra in Alaska and Canada giving way to trees, shrubs and plants typical of more southerly climates. Imagine similar changes in large parts of Eastern Europe, northern Asia and Scandinavia, as needle-leaf and broadleaf forests push northward into areas once unable to support them. Imagine part of Greenland's ice cover, once thought

permanent, receding and leaving new tundra in its wake. Those changes are part of a reorganization of Arctic climates anticipated to occur by the end of the 21st century, as projected by a team of University of Nebraska-Lincoln and South Korean climatologists." UNL Press Release

Fersht, Alan

**2009 The most influential journals: Impact Factor and Eigenfactor.** Proceedings of the National Academy of Sciences 106(17):6883-6884.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Fialkowski, Marie K., Megan A. McCrory, Sparkle M. Roberts, J. Kathleen Tracy, Lynn M. Grattan, and Carol J. Boushey

**2010 Evaluation of Dietary Assessment Tools Used to Assess the Diet of Adults Participating in the Communities Advancing the Studies of Tribal Nations Across the Lifespan Cohort.** Journal of the American Dietetic Association 110(1):65-73.

**ABSTRACT:** Background Accurate assessment of dietary intake is essential for researchers and public health practitioners to make advancements in public health. This is especially important in Native Americans who display disease prevalence rates that are dramatically higher than the general US population. Objective To evaluate three dietary assessment tools: dietary records, a food frequency questionnaire (FFQ), and a shellfish assessment survey among Native American adults from the Communities Advancing the Studies of Tribal Nations Across the Lifespan (CoASTAL) cohort. Design The CoASTAL cohort was composed of randomly selected individuals from three tribal registries of Pacific Northwest Tribal Nations. This cross-sectional study used data from the baseline of CoASTAL and was restricted to the non-pregnant adults (aged 18 years or older) who completed the shellfish assessment survey (n=500), an FFQ (n=518), dietary records (n=444), weight measures (n=493), and height measures (n=496). Paired t tests, Pearson correlation coefficients, and percent agreement were used to evaluate the dietary records and the FFQ with and without accounting for plausibility of reported energy intake (rEI). Sensitivity and specificity as well as Spearman correlation coefficients were used to evaluate the shellfish assessment survey and the FFQ compared to dietary records. Results Statistically significant correlations between the FFQ and dietary records for selected nutrients were not the same by sex. Accounting for plausibility of rEI for the dietary records and the FFQ improved the strength of the correlations for percent energy from protein, energy from carbohydrate, and calcium for both men and women. In addition, the association between rEI (dietary records and FFQ) and weight became significant when the sample was limited to plausible rEI. The shellfish assessment survey was found to similarly assess shellfish consumption in comparison to the FFQ. Conclusions These results support the benefit of multiple measures of diet, including regional and culturally specific surveys, especially among Native Americans. Accounting for plausibility of rEI may ensure more accurate estimations of dietary intakes.

**KEYWORDS:**

**NOTES:**

Fienup-Riordan, Ann

**2010 Yup'ik perspectives on climate change: "The world is following its people".** Etudes Inuit/Studies 34(1):55-70.

**ABSTRACT:** Le projet d'histoire culturelle et naturelle de l'île Nelson trouve ses origines dans la volonté des membres des communautés yup'ik de Chefnak, Nightmute, Toksook Bay, Tununak et de Newtok de documenter et partager leur histoire avec les jeunes générations. Pour ce faire, ils ont invité des scientifiques non autochtones à se joindre à eux lors de rassemblements communautaires et d'une circumnavigation de l'île Nelson (Alaska) d'une durée

de trois semaines. C'est dans ce contexte que les aînés ont exprimé leurs points de vue sur les changements des conditions météorologiques, des migrations des animaux, de l'état de la banquise ainsi que des activités de chasse, de pêche et de cueillette. À ce jour, l'une des caractéristiques déterminantes qui se dégage de nos conversations est la volonté de partager les informations de façon intégrée et la réticence des aînés à distinguer les impacts humains sur l'environnement des effets dits «naturels» du changement climatique. The Nelson Island Natural and Cultural History Project originated in the desire of community members in the Yup'ik villages of Chefnak, Nightmute, Toksook Bay, Tununak, and Newtok to document and share their history with their younger generation. To do so, they invited non-Native scientists to join them in village gatherings as well as on a three-week circumnavigation of Nelson Island (Alaska), during which elders reflected on changes in weather patterns, animal migrations, sea-ice conditions, and related harvesting activities. To date, a defining feature of our conversations has been the integrated way in which information is shared and elders' reticence to distinguish between human impacts on the environment and the "natural" effects of climate change.

**KEYWORDS:****NOTES:**

Finney, Bruce P., Irene Gregory-Eaves, Jon Sweetman, Marianne S. V. Douglas, and John P. Smol

**2000 Impacts of climatic change and fishing on Pacific salmon abundance over the past 300 years.** Science 290(5492):795-799.

**ABSTRACT:** The effects of climate variability on Pacific salmon abundance are uncertain because historical records are short and are complicated by commercial harvesting and habitat alteration. We use lake sediment records of  $\delta^{15}\text{N}$  and biological indicators to reconstruct sockeye salmon abundance in the Bristol Bay and Kodiak Island regions of Alaska over the past 300 years. Marked shifts in populations occurred over decades during this period, and some pronounced changes appear to be related to climatic change. Variations in salmon returns due to climate or harvesting can have strong impacts on sockeye nursery lake productivity in systems where adult salmon carcasses are important nutrient sources.

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**KEYWORDS:****NOTES:**

Finstad, Greg L., Knut K. Kielland, and William S. Schneider

**2006 Reindeer herding in transition: historical and modern day challenges for Alaskan reindeer herders.** Nomadic Peoples 10(2):31.

**ABSTRACT:** The people of northwestern Alaska have had a long relationship with local populations of Rangifer tarandus. During the last 200 years this relationship has changed from one of subsistence to overexploitation of caribou (the name for wild reindeer in North America), to commercial livestock production of semi domesticated reindeer and now may be returning to a

subsistence economy based on caribou. Reindeer were introduced to Alaska in 1892 because of the disappearance of caribou, a subsistence resource. Until recently, reindeer meat and velvet antler production generated significant employment and revenue important to the economies of rural Alaskan communities. However, from 1976 to 1996 the Western Arctic Caribou Herd (WACH) increased from about 75,000 to 463,000 animals. Concurrently, winter range use of the WACH shifted westward onto traditional reindeer ranges of the Seward Peninsula for the first time in over 100 years. This event has produced socio-economic and ecological consequences for the region. Many reindeer herders have lost 75–100 percent of their herds through commingling and out-migration with wild caribou. This loss, amounting to over 17,000 reindeer, represents a potential economic value of millions of dollars. Many herders have adopted new technologies, such as satellite telemetry and intensive herding to salvage what is left of their herds. Here we discuss the role of grazing animals and patterns of human resource use in an Arctic system. We then discuss our findings on the effects and changes in management practices brought about by caribou incursion in the context of the regional economy on the Seward Peninsula.

**KEYWORDS:** reindeer herders, subsistence, WACH, out-kigration, economic loss, refugia, weather, production, human dimension

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Finstad, Greg L., Knut K. Kielland, and William S. Schneider

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**KEYWORDS:** reindeer herders, subsistence, WACH, out-kigration, economic loss, refugia, weather, production, human dimension

**NOTES:**

Firman, Anne S., and Robert G. Bosworth

**1990 Harvest and use of fish and wildlife by residents of Kake, Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes and analyzes the hunting, fishing, and gathering activities of Kake residents. Field research was conducted March-September of 1986 and included the use of a random sample survey and interviews with knowledgeable, long-term residents of the

community. This report provides a summary of the community history and historical patterns of resource uses, a profile of the local economy, and a quantitative description of wild resource harvest and use. Mapped data showing location of harvest areas are included.

**KEYWORDS:**

**NOTES:**

Fisher, Dennis G., Bruce A. Lankford, and Robert P. Galea

**1996 Therapeutic community retention among Alaska natives : Akeela House.** Journal of Substance Abuse Treatment 13(3):265-271.

**ABSTRACT:** The purpose of the study was to determine whether a change in the treatment program at Akeela House Incorporated, a therapeutic community in Anchorage, Alaska, significantly increased the time in treatment for Alaska Native residents. The change in treatment involved implementation of culturally d sensitive approaches that incorporated and reinforced Native lifestyles. Data were obtained from the Alaska Management Information System on all treatment admissions from January 1988 to January 1995. Prior to implementation, Alaska Native residents had significantly shorter times in treatment than Black or White residents. After implementation of the change in the treatment program, Alaska Native residents' times in treatment were no longer significantly different from those of Black or White residents, and all three ethnic groups had significantly longer times in treatment than before the intervention.

**KEYWORDS:** Native Americans

Alaska Natives  
therapeutic community  
treatment retention  
survival analysis

**NOTES:**

Fiske, Shirley

**2008 Advocating for Subsistence Rights in Alaska.** Anthropology News 49(4):39-40.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** 10.1525/an.2008.49.4.39

Fiske, Shirley J.

**1990 Resource management as people management: Anthropology and renewable resources.** Renewable Resources Journal 8(4):16-20.

**ABSTRACT:**

**KEYWORDS:**

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Fitzhugh, William W., and Aron Crowell

**1988 Crossroads of continents: Cultures of Siberia and Alaska.** Pp. 360: Smithsonian Books.

**ABSTRACT:**

**KEYWORDS:** ethnology; Siberia (RSFSR); exhibitions; Indians of North America; Alaska; Eskimos; social life; customs

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Flanders, N.E.

**1989 The Alaska Native corporation as conglomerate: the problem of profitability.** Human Organization 48(4):299-312.

**ABSTRACT:****KEYWORDS:****NOTES:**

Flanders, N.E.

**1989 The ANCSA Amendments of 1987 and land management in Alaska.** Polar Record 25(155):315-322.

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Flanders, Nicholas E.

**1998 Native American sovereignty and natural resource management.** Human Ecology 26(3):425-449.

**ABSTRACT:** The relationship between Native Americans and the Euro-American settlers has evolved from the latter seeking to end the separate identity of the former to one in which the U.S. government uses Native rights to control large-scale resource problems. This new relationship arose out of a need to control water in Western states for irrigation, but has expanded into other areas. The Navajo sheep reductions of the 1930s and 1940s may be seen as an instance of this relationship. Concerns about siltation behind the Hoover Dam justified a program that dramatically transformed the Navajo economy. A second case concerns conflict over a caribou herd in northwestern Alaska. The conflict eventually led to the Federal government taking management of fish and game on Federal lands back from the state government. Both these cases show the development of a technocracy, based on Federal trusteeship over Native resources, concerned with the control of nature similar to that observed in Wittfogel's writings on Chinese irrigation.

**KEYWORDS:** natural resources; natural resource management; Navajo; Inuit

**NOTES:**

Flint, Paul L., and Jason L. Schamber

**2009 Long-Term Persistence of Spent Lead Shot in Tundra Wetlands.** Journal of Wildlife Management 74(1):148-151.

**ABSTRACT:****KEYWORDS:****NOTES:**

Flint, Paul L., and Jason L. Schamber

**2009 Long-Term Persistence of Spent Lead Shot in Tundra Wetlands.** Journal of Wildlife Management 74(1):148-151.

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Fondahl, Gail A.

**1985 Native peoples of the Soviet North.** In The Northern Raven. Pp. 1-4, Vol. 5: Center for Northern Studies.

**ABSTRACT:****KEYWORDS:****NOTES:**

Foote, CD

**1961 Project Chariot and the Eskimo People of Point Hope, Alaska.** US Atomic Energy Commission, Washington, DC: Government Printing Office.

**ABSTRACT:**  
**KEYWORDS:**  
**NOTES:**

Foote, DC

**1961 A Human Geographical Study in Northwest Alaska.** Final Report of the Human Geographic Studies Program. Project Chariot, US Atomic Energy Commission, Cambridge.

**ABSTRACT:**  
**KEYWORDS:**  
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Foote, DC, and B Greer-Wootten

**1968 An approach to systems analysis in cultural geography.** The Professional Geographer 20(2):86-91.

**ABSTRACT:**  
**KEYWORDS:**  
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Foote, DC, and HA Williamson

**1961 A human geographical study in northwest Alaska: final report of the Human Geographical Studies Program, United States Atomic Energy Commission, Project Chariot:** Project Chariot.

**ABSTRACT:**  
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Foote, DC, and HA Williamson

**1966 A human geographical study.** Environment of the Cape Thompson region, Alaska:1041-1107.

**ABSTRACT:**  
**KEYWORDS:**  
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Foote, Don Charles

**1960 The Eskimo hunter at Point Hope, Alaska, part II, May to September 1960.** Cambridge, MA: US Atomic Energy Commission, Bio-Environmental Studies of Project Chariot:1-17.

**ABSTRACT:** This report is intended to be a chronological continuation of the June, 1960 Interim Report entitled, "The Eskimo Hunter at Point Hope, Alaska: September, 1959, to May, 1960." It is based on my field research from June 1, 1960 to December 1, 1960. As in the June report, all statistical data contained herein are based upon verified information only; the statistics therefore necessarily represent the minimum activity for the season. The names of all boat captains, the dates of their departures, destinations, purposes and dates of return have been noted. In addition, the names of individual hunters, together with the dates and places of kills, have been recorded, all as part of the verification process.

**KEYWORDS:**  
**NOTES:**

Foote, Don Charles

**1964 American whalers in Northwestern Arctic Alaska.** Arctic anthropology:16-20.

**ABSTRACT:**  
**KEYWORDS:**  
**NOTES:**

Foote, Don Charles



**1964 Changing resource utilization by Eskimos in Northwest Alaska.** 308-313.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

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**1965 1965 Progress report: human geographical studies in Northwestern Arctic Alaska.** 1-6.

**ABSTRACT:**

**KEYWORDS:**

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**1965 Exploration and resource utilization in northwestern Arctic Alaska before 1855.**  
Ph.D., McGill University.

**ABSTRACT:** This study contributes to our knowledge of mid-19th century Arctic Alaskan geography in two ways. First it carefully outlines the visits of Europeans and Americans to the region before 1855. Second, historical information has been used to estimate the male to female, adult to child ratios of the mid-19th century Eskimo population as well as the average household size and the population distribution of three Eskimo groups, the Tigragmiut, Naupaktomiut, and Noatagmiut. Knowledge of the Eskimo seasonal activities, diet, caloric needs, and the nutritional value of certain animals and plants is combined with the estimated number of people and their dogs to construct a theoretical kill of wildlife.

**KEYWORDS:**

**NOTES:**

Foote, Don Charles, and Bryn Greer-Wootten

**1966 Man-environment interactions in an Eskimo hunting system,** 1966.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** Symposium on Man-Animal Linked Culture Sub-systems. 133rd Meeting of American Association for the Advancement of Science, Washington, DC

Foote, Don Charles, and H. Anthony Williamson

**1961 A human geographical study in Northwest Alaska.** Final Report of the Human Geographical Studies Program. Cambridge, MA: US Atomic Energy Commission Project Chariot.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Foote, Don Charles, and H. Anthony Williamson

**1966 A human geographical study: Environment of the Cape Thompson region, Alaska.**  
Pp. 1041-1111: US Atomic Energy Commission.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Ford, James

**2005 The human implications of climate change for indigenous communities in the Arctic: what we can learn from past and present responses.** *In* Rapid Landscape Change and Human Response in the Arctic and Sub-Arctic. Whitehorse, Yukon, Canada.

**ABSTRACT:** This paper builds upon work done by the author in collaboration with the traditional Inuit communities of Arctic Bay and Igloolik, Nunavut, on the human implication of climate change. The work uses the vulnerability approach developed by Ford and Smit (2004). Special emphasis in this approach is placed on the resource use options and risk management strategies employed by people (past and today) to manage climatic and environmental conditions and changes, and those characteristics of the human system which influence the ability to manage risks. Past and present responses are instructive; how communities experience and manage future climate change will be facilitated and constrained by the same processes and conditions which have determined the efficacy, availability, and success of past and present adaptations.

During 2004 over 100 interviews were conducted in Arctic Bay and Igloolik. The interviews indicate that unpredictability and change define the very nature of the Arctic environment. Security in the context of pervasive and unpredictable changes has been facilitated historically by extensive knowledge of local environments and related skills sets, flexibility of harvesting strategies, mobility and flexibility of group size, and strong social networks: characteristics of Inuit society that have enabled Inuit to live and thrive in the Arctic for millennia. Traditional Inuit clothing and dwellings, for instance, relying solely on materials at hand, stand as unsurpassed adaptations to the Arctic climate.

Despite unpredictability and change being the norm, interviewees indicated that recent climatic changes are unusual and in many cases without precedent. More unpredictable weather, more storms, stronger winds, thinner ice, later ice freeze-up and earlier break-up, were among changes indicated. These have made subsistence activities more dangerous, have limited access to hunting grounds, and have caused anxiety among community members. Both communities are, however, effectively managing these changes. Coping strategies involve risk minimization, risk avoidance, modification of the timing and location of harvesting activities, and modification of the equipment used to harvest. They are largely behavioral in nature and have been autonomously undertaken by individuals in response to changes that are being experienced and in anticipation of future change.

The resilience of the communities is underpinned by those characteristics of Inuit society that have enabled Inuit to live and thrive in the Arctic for millennia. Through first hand experience of changing climatic conditions, and from communication with others, Inuit knowledge, or Inuit Quajimajatunganit, has evolved to take account of the changing climatic conditions: hunters make preparations in expectation that they will be stranded on the land by sudden weather changes. Flexibility in harvesting strategies allows hunters to switch hunting locations or the species hunted if a certain area is inaccessible. If the freeze-up is late, for example, hunters will extend the fishing season and wait until it freezes to resume normal activity. Social networks provide mechanisms for the rapid and effective community dissemination of information on dangerous conditions and the pooling of risk. The sharing of equipment such as GPS, radios, and other safety equipment, for instance, is widespread and allows for safe travel on the land in the context of changing climatic conditions.

Changes in the physical environment are being managed in conjunction with opportunities and challenges posed by social, cultural, and economic changes. On the one hand, new opportunities have emerged. VHF radios enable safer travel; if difficulties are encountered help can easily be summed up. GPS allows navigation in the harshest of conditions. Tents can easily be carried and offer alternatives to building igloos if conditions do not permit. Institutional support from the Nunavut Land Claim Institutions facilitates the purchase of this equipment. The diversification of food production away from a total reliance on country food has reduced vulnerability to changes in resource availability and accessibility. Elders in Igloolik, for instance, recalling their youth, remember how in years of limited resource availability some people would starve.

Overall, however, the social and cultural implications of the transition of a traditional Inuit lifestyle to an increasingly 'southern' wage-based lifestyle have undermined resilience. Mobility and flexibility in group size are no longer available adaptive options due to the settlement of Inuit in fixed communities beginning in the 1960s. Among younger generations there has been an erosion of local knowledge and skills necessary for safe and successful harvesting. The adoption of new technology and equipment has resulted in dependency; if the GPS fails and people don't

know how to navigate the traditional way, then they get into difficulties. Moreover, the dependence on such equipment for harvesting has increased the importance of monetary resources. The social networks that facilitate sharing have been weakened and the communal allocation of resources and pooling of risk has been undermined.

**KEYWORDS:**

**NOTES:**

Ford, J., D. Landers, D. Kugler, B. Lasorsa, S. Allen-Gil, E. Crecelius, and J. Martinson

**1995 Inorganic contaminants in Arctic Alaskan ecosystems: long-range atmospheric transport or local point sources?** Science of The Total Environment 160-161:323-335.

**ABSTRACT:** The moss monitoring technique (*Hylocomium splendens*) for tracking environmental concentrations of atmospheric contaminants is applied to arctic Alaska. Median 1990-1992 concentrations of Pb, Cd, Cu, V, and Zn are  $\leq$  median 1990 concentrations in northernmost parts of the Nordic/European monitoring network. Extremely low Pb concentrations (median, 0.6  $\mu\text{g/g}$ ) indicate that long-range atmospheric transport (LRTAP) of Pb to arctic Alaskan ecosystems is negligible. However, samples taken adjacent to a local source point (the Dalton Highway) have elevated Pb, V, and Cu. Site-specific watershed studies indicate that natural within- and between-site variability does not affect the interpretation of our Alaskan data relative to the Nordic/European network for Pb, V and Cu. Variability is greater relative to regional data for Cd and Zn, but neither LRTAP nor the Dalton Highway appear to be significant contributors to local concentrations of Cd and Zn. Pilot studies of blueberries and other selected wildlife forage foods indicate that concentrations in *H. splendens* are generally comparable to those in a common caribou forage lichen, but that *H. splendens* may underestimate Cu and overestimate Pb, Hg, and in some cases Cd, relative to selected forage fruits. More studies of contaminants in arctic Alaskan forage foods are needed to characterize potential exposure of human and wildlife populations to airborne contaminants in this region.

**KEYWORDS:** Arctic

Alaska

Air pollution

Pb

Cd

Moss

**NOTES:**

Ford, James D.

**2006 Vulnerability to climate change in Arctic Canada,** The University of Guelph.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Ford, James D.

**2007 Emerging trends in climate change policy: the role of adaptation.** Journal of Climate 20(4):609-632.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Ford, James D.

**2009 Vulnerability of Inuit food systems to food insecurity as a consequence of climate change: a case study from Igloodik, Nunavut.** Regional Environmental Change 9:83-100.

**ABSTRACT:** This paper develops a conceptual model to examine the vulnerability of Inuit food systems to food insecurity as a consequence of climate change. The model illustrates that food system vulnerability is determined by the exposure and sensitivity of the food system to climate-related risks and its adaptive capacity to deal with those risks. The model is empirically applied using a case study from Igloolik, Nunavut. Specifically, the paper focuses on how extreme climate-related conditions in 2006 interacted with the food system to affect food security, using 2006 as a lens to identify and characterize some of the processes and conditions shaping vulnerability, and establishing a baseline for identifying and characterizing processes that are likely to shape future vulnerability. There is a high level of adaptive capacity among Igloolik Inuit, with food sharing mechanisms, hunting flexibility, and store-food access moderating the impact of climatic-risks on food security. However, high fuel and commodity prices, the increasing economic burden of adapting to back-to-back years with unfavorable climatic conditions, underlying community vulnerabilities, and the nature of the climate extremes in 2006, overwhelmed the adaptive capacity of many community members. Those dependent on traditional foods and having limited access to financial resources were particularly vulnerable.

**KEYWORDS:** food security; climate change; Inuit; Canada; vulnerability science; adaptive capacity; traditional foods

**NOTES:**

Ford, James D., and Maude Beaumier

**2010 Feeding the family during times of stress: experience and determinants of food insecurity in an Inuit community.** *Geographical Journal*:no-no.

**ABSTRACT:** This paper uses a mixed methods approach to characterise the experience of food insecurity among Inuit community members in Igloolik, Nunavut, and examine the conditions and processes that constrain access, availability, and quality of food. We conducted semi-structured interviews (n= 66) and focus groups (n= 10) with community members, and key informant interviews with local and territorial health professionals and policymakers (n= 19). The study indicates widespread experience of food insecurity. Even individuals and households who were food secure at the time of the research had experienced food insecurity in the recent past, with food insecurity largely transitory in nature. Multiple determinants of food insecurity operating over different spatial-temporal scales are identified, including food affordability and budgeting, food knowledge and preferences, food quality and availability, environmental stress, declining hunting activity, and the cost of harvesting. These determinants are operating in the context of changing livelihoods and climate change, which in many cases are exacerbating food insecurity, although high-order manifestations of food insecurity (that is, starvation) are no longer experienced.

**KEYWORDS:** food security; Inuit; community health; Nunavut; indigenous; aboriginal

**NOTES:**

Ford, James D., and Lea Berrang-Ford

**2009 Food security in Igloolik, Nunavut: an exploratory study.** *Polar Record* 45(03):225-236.

**ABSTRACT:** This paper reports on an exploratory analysis examining the prevalence of food (in)security in the Inuit community of Igloolik, Nunavut, identifying high risk groups, and characterising conditions facilitating and constraining food security. A stratified cross-sectional food survey was administered to 50 Inuit community members in July 2007. **64% of the participants surveyed experienced some degree of food insecurity in the past year (July 2006-July 2007). Food insecurity among the sample population greatly exceeds the Canadian average.** This is cause for concern given the negative physical and mental health impacts that have been documented for low nutritional status. The prevalence and severity of food insecurity differed among participants; females and those obtaining most of their food from the store were at highest risk of food insecurity. Consumption of traditional foods was

significantly associated with increased food security. The study supports the need for further research to investigate key trends highlighted by the sample. Preliminary identification of potential trends contributes towards the goal of identifying entry points for policy aimed at strengthening northern Inuit food systems.

**KEYWORDS:** food security; Igloodik; Nunavut

**NOTES:**

Ford, James D., WA Gough, GJ Laidler, J MacDonald, C Inngaut, and K Qrunnut

**2009 Sea ice, climate change, and community vulnerability in northern Foxe Basin, Canada.** *Climate Research* 37:138-154.

**ABSTRACT:** The Arctic is undergoing rapid climatic and environmental change, most notably in the spatial extent and thickness of the sea ice. Inuit communities in the Canadian Arctic are directly affected by these changes, with dramatic change in sea ice conditions documented in recent years. We use a case study from the Inuit community of Igloodik to examine the processes and conditions shaping human vulnerability to sea ice change. In 2006, the ocean froze 3 to 4 wk later than normal, with little remnant ice during the summer. Igloodik residents described this state of sea ice as anomalous, and Inuit observations were consistent with instrumental sea-ice data. We examined how community members experienced and responded to the anomalous ice conditions of 2006, using our analysis of this perceptual/behavioral data as a lens for exploring vulnerability and its determinants. Inuit observations shed light on the implications of such ice conditions for human use of this arctic environment, including reduced ability to procure traditional food. Effects on the community were exacerbated by other climate-related conditions and non-climatic stresses, including increasing fuel prices and longer-term socio-cultural trends. The case study also indicates significant adaptive capacity: anomalous ice years are increasingly becoming the norm and there is evidence that social learning and responsive local institutions are reducing the physical risks of using the ice in a changing climate. Climatic extremes documented in 2006 are projected to be the new mid-century norm as a result of anthropogenic climate change. The case study therefore offers a baseline for examining potential future vulnerabilities.

**KEYWORDS:** climate change; vulnerability; adaptation; climate hazards; Inuit; Igloodik; Nunavut; sea ice; retrospective analysis; mixed methods

**NOTES:**

Ford, J. D., E. C. H. Keskitalo, T. Smith, T. Pearce, L. Berrang-Ford, F. Duerden, and B. Smit

**2010 Case study and analogue methodologies in climate change vulnerability research.** *Wiley Interdisciplinary Reviews-Climate Change* 1(3):374-392.

**ABSTRACT:** Assessing vulnerability is an important component of human dimensions of climate change (HDCC) research. Vulnerability assessments identify and characterize who and what are sensitive to climatic risks and why, characterize adaptive capacity and its determinants, and identify opportunities for adaptation. This paper examines the importance of case study and analogue methodologies in vulnerability research, reviews the historical evolution of the two methodologies in the HDCC field, and identifies ways in which they can be used to increase our understanding of vulnerability. Case studies involve in-depth place-based research that focuses on a particular exposure unit (e. g., community, industry, etc.) to characterize vulnerability and its determinants. Temporal analogues use past and present experiences and responses to climatic variability, change and extremes to provide insights for vulnerability to climate change; spatial analogues involve conducting research in one region and identifying parallels to how another region might be affected by climate change. Vulnerability research that uses case studies and analogues can help to develop an understanding of the determinants of vulnerability and how they interact, and identify opportunities to reduce vulnerability and enhance adaptive capacity to current and future climate risks. This information can assist policy makers in developing

adaptation plans and to mainstream climate change adaptation into other policy-and decision-making processes. (C) 2010 John Wiley & Sons, Ltd. WIREs Clim Change 2010 1 374-392

**KEYWORDS:**

**NOTES:** Times Cited: 3

Ford, J. D., T. Pearce, F. Duerden, C. Furgal, and B. Smit

**2010 Climate change policy responses for Canada's Inuit population: The importance of and opportunities for adaptation.** Global Environmental Change-Human and Policy Dimensions 20(1):177-191.

**ABSTRACT:** We identify and examine how policy intervention can help Canada's Inuit population adapt to climate change. The policy responses are based on an understanding of the determinants of vulnerability identified in research conducted with 15 Inuit communities. A consistent approach was used in each case study where vulnerability is conceptualized as a function of exposure-sensitivity to climatic risks and adaptive capacity to deal with those risks. This conceptualization focuses on the biophysical and human determinants of vulnerability and how they are influenced by processes and conditions operating at multiple spatial-temporal scales. Case studies involved close collaboration with community members and policy makers to identify conditions to which each community is currently vulnerable, characterize the factors that shape vulnerability and how they have changed over time, identify opportunities for adaptation policy, and examine how adaptation can be mainstreamed. Fieldwork, conducted between 2006 and 2009, included 443 semi-structured interviews, 20 focus groups/community workshops, and 65 interviews with policy makers at local, regional, and national levels. Synthesizing findings consistent across the case studies we document significant vulnerabilities, a function of socio-economic stresses and change, continuing and pervasive inequality, and magnitude of climate change. Nevertheless, adaptations are available, feasible, and Inuit have considerable adaptive capacity. Realizing this adaptive capacity and overcoming adaptation barriers requires policy intervention to: (i) support the teaching and transmission of environmental knowledge and land skills, (ii) enhance and review emergency management capability, (iii) ensure the flexibility of resource management regimes, (iv) provide economic support to facilitate adaptation for groups with limited household income, (v) increase research effort to identify short and long term risk factors and adaptive response options, (vi) protect key infrastructure, and (vii) promote awareness of climate change impacts and adaptation among policy makers. (C) 2009 Elsevier Ltd. All rights reserved.

**KEYWORDS:**

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Ford, James D., T Pearce, J Gilligan, B Smit, and J Oakes

**2008 Climate change and hazards associated with ice use in Northern Canada.** Arctic, Antarctic, and Alpine Research 40(4):647-659.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Ford, James D., T Pearce, B Smit, J Wandel, M Allurut, K Shappa, H Ittusujurat, and K Qrunnut

**2007 Reducing vulnerability to climate change in the Arctic: the case of Nunavut, Canada.** Arctic 60(2):150-166.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Ford, James D., and B Smit

**2004 A framework for assessing the vulnerability of communities in the Canadian Arctic to risks associated with climate change.** Arctic 57(4):389-400.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Ford, James D., Barry Smit, and Johanna Wandel

**2006 Vulnerability to climate change in the Arctic: A case study from Arctic Bay, Canada.** Global Environmental Change 16(2):145-160.

**ABSTRACT:** This paper develops a vulnerability-based approach to characterize the human implications of climate change in Arctic Bay, Canada. It focuses on community vulnerabilities associated with resource harvesting and the processes through which people adapt to them in the context of livelihood assets, constraints, and outside influences. Inuit in Arctic Bay have demonstrated significant adaptability in the face of changing climate-related exposures. This adaptability is facilitated by traditional Inuit knowledge, strong social networks, flexibility in seasonal hunting cycles, some modern technologies, and economic support. Changing Inuit livelihoods, however, have undermined certain aspects of adaptive capacity, and have resulted in emerging vulnerabilities in certain sections of the community.

**KEYWORDS:** Vulnerability; Adaptation; Adaptive capacity; Arctic; Inuit; Climate change; Environmental change; Communities; Climatic risks network

**NOTES:** doi: DOI: 10.1016/j.gloenvcha.2005.11.007

Ford, James D., Barry Smit, Johanna Wandel, Mishak Allurut, Kik Shappa, Harry Ittusarjuat, and Kevin Qrunnut

**2008 Climate change in the Arctic: current and future vulnerability in two Inuit communities in Canada.** Geographical Journal 174(1):45-62.

**ABSTRACT:** Climate change is already occurring in the Arctic and the Arctic Climate Impact Assessment recently concluded that future climate change could be devastating for Inuit. This paper characterises vulnerability to climate change in two Inuit communities in the Canadian territory of Nunavut, focusing on the resource harvesting sector. In both communities, Inuit have demonstrated significant adaptability in the face of current changes in climatic conditions. This adaptability is facilitated by traditional Inuit knowledge, strong social networks, flexibility in resource use, and institutional support. Changing Inuit livelihoods, however, have undermined certain aspects of adaptive capacity and have resulted in emerging vulnerabilities. Global and regional climate projections indicate that climatic conditions which currently pose risks are expected to be negatively affected by future climate change. These projections are not without precedent and analysis of current vulnerability and identification of adaptation constraints by Inuit in the two communities indicate the continued importance of traditional coping mechanisms. The ability to draw on these coping mechanisms in light of future climate change, however, will be unequal and the research indicates that young Inuit and those without access to economic resources, in particular, are vulnerable.

**KEYWORDS:** network

**NOTES:** 10.1111/j.1475-4959.2007.00249.x

Ford, James D., B Smit, J Wandel, and J MacDonald

**2006 Vulnerability to climate change in Igloodik, Nunavut: what we can learn from the past and present.** Polar Record 42(02):127-138.

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Ford, M.J.W.

**1997 Twenty Five Years of the Alaska Native Claims Settlement Act: Self Determination or Destruction of the Heritage, Culture, and Way of Life of Alaska's Native Americans.** Journal of Environmental Law & Litigation 12:305.

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**1998 ANCSA: Sovereignty and a Just Settlement of Land Claims or an Act of Deception.** Touro L. Rev. 15:479.

**ABSTRACT:****KEYWORDS:****NOTES:**

Forsyth, Craig J., Robert Gramling, and George Wooddell

**1998 The game of poaching: Folk crimes in southwest Louisiana.** Society and Natural Resources 11:25-38.

**ABSTRACT:** This article examines the meaning and purpose of poaching from the perspectives of poachers and game wardens. Our technique was to let the responses speak for themselves, presenting the convergence of poacher and game warden in the real world, and then to offer both summarization and interpretation. This research uses data from interviews with 41 poachers and 32 game wardens. Its focus is to both describe and explain the activities of poachers. We describe the rationalizations and motivations of poachers for continuing their illegal activity. The research also considers the responses of game wardens to poachers and their activities. The article also looks at the consequences of rapid social change from the perspectives of individuals caught in that change.

**KEYWORDS:** culture conflict, deviance, folk crime, game wardens, hunting, law enforcement, poaching, social change

**NOTES:**

Fortune, Robert

**1989 Epidemics II: Western and Northern Alaska.** Chills and Fever:209-226.

**ABSTRACT:****KEYWORDS:****NOTES:**

Foster, Dan J.

**1981 Norton Sound-Bering Strait subsistence king crab fishery.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** A commercial king crab fishery opened in the Norton Sound-Bering Sea area in 1977. A reduced subsistence harvest of king crabs following this opening prompted this research on the fishery. This report presents subsistence crabbing effort and harvest data for 1970-1980 collected through household surveys in Nome, Golovin, White Mountain, Elim, Shaktoolik, Savoonga, Gambell, and Diomede.

**KEYWORDS:** Arctic Region, commercial king crab fishery, Norton Sound-Bering sea, Nome, Golovin, White Mountain, Elim, Shaktoolik, Savoonga, Gambell, Diomede, Paralithodes platypus, Lithodes aequispinus, Paralithodes camtschaticus, king crabs.



**NOTES:**

Foster, Daniel J.

**1982 Tyonek moose utilization 1981.** Juneau, Alaska: ADF&G Division of Subsistence.**ABSTRACT:** This report documents the harvests and uses of moose by subsistence hunters in Tyonek during the 1981-1982 hunting season. Descriptions of the harvest activities and distribution of the resource, as well as maps of use areas, are provided.**KEYWORDS:****NOTES:**

Foster, Daniel J.

**1982 The utilization of king salmon and the annual round of resource uses in Tyonek, Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.**ABSTRACT:** This two-part report presents detailed information on the uses, preparation, and eventual distribution of king salmon caught during the open subsistence season in the village of Tyonek. Emphasis is given to the sharing of the resource within the community. The annual subsistence cycle in Tyonek is also described.**KEYWORDS:****NOTES:**

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**1973 Traditional societies and technological change:** Harper & Row New York.**ABSTRACT:****KEYWORDS:****NOTES:**

Francis, Karl E.

**1973 Non-professional indigenous staff in northern research.** Arctic 26(4):271-75.**ABSTRACT:****KEYWORDS:****NOTES:**

Frank, Kenneth A.

**1998 Quantitative methods for studying social context in multilevels and through interpersonal relations.** Review of research in education 23(1):171.**ABSTRACT:****KEYWORDS:****NOTES:**

Frank, Kenneth A.

**2000 Impact of a confounding variable on a regression coefficient.** Sociological Methods and Research 29(2):147-194.**ABSTRACT:** Regression coefficients cannot be interpreted as causal if the relationship can be attributed to an alternate mechanism. One may control for the alternate cause through an experiment (e.g., with random assignment to treatment and control) or by measuring a corresponding confounding variable and including it in the model. Unfortunately, there are some circumstances under which it is not possible to measure or control for the potentially confounding variable. Under these circumstances, it is helpful to assess the robustness of a statistical inference to the inclusion of a potentially confounding variable. In this article, an index is derived for quantifying the impact of a confounding variable on the inference of a regression coefficient. The index is developed for the bivariate case and then generalized to the multivariate case, and the distribution of the index is discussed. The index also is compared with existing indices and procedures. An example is presented for the relationship between socioeconomic background

and educational attainment, and a reference distribution for the index is obtained. The potential for the index to inform causal inferences is discussed, as are extensions.

**KEYWORDS:**

**NOTES:**

Frank, Kenneth A., and K. Fahrbach

**1999 Organization culture as a complex system: balance and information in models of influence and selection.** *Organization Science*:253-277.

**ABSTRACT:** We define the complex system underlying organizational culture by incorporating the social-psychological principles of balance and information (B-1) into models of influence (changes in attitudes as a function of interaction) and selection (changes in interaction). We identify information based influence as a potential anchor for actors' sentiments so that they are not overwhelmed by normative influence. In the model of selection, we identify the pursuit of information as an important counterbalance to the effect of homophily (interacting with others like oneself). Using the tools of dynamic systems we show how our models generate the full range of equilibria of complex systems. Through simulations we also explore how our system responds to exogenous effects.

**KEYWORDS:**

**NOTES:**

Frank, Kenneth A., and J. Y. Yasumoto

**1998 Linking action to social structure within a system: social capital within and between subgroups.** *American Journal of Sociology* 104(3):642-686.

**ABSTRACT:** Differences in transactions within and outside of cohesive subgroups are hypothesized to be a function of actors' pursuit of different forms of social capital. In an example of the French financial elite, subgroups are identified based on the pattern of friendships, and graphical representations establish the descriptive link between social structure and action. Estimates from multilevel models quantify the extent to which actors abstain from hostile action against subgroup members but tend to support others not in their subgroup. These complementary findings establish the subgroup as a critical mesolevel entity, defined by the social structure while affecting action.

**KEYWORDS:**

**NOTES:**

Freeman, Milton M.R.

**1954 George Weetaltuk.** *Arctic Profiles*:214-215.

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**ABSTRACT:**

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**NOTES:** The Optimum population for Britain: proceedings of a symposium held at the Royal Geographical Society, London, on 25 and 26 September, 1969

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**1971 The significance of demographic changes occurring in the Canadian East Arctic.** *Anthropologica*:215-236.

**ABSTRACT:****KEYWORDS:****NOTES:**

Freeman, Milton M.R.

**1971 A social and ecologic analysis of systematic female infanticide among the Netsilik Eskimo.** *American Anthropologist* 73(5):1011-1018.

**ABSTRACT:** Systematic female infanticide among the Pelly Bay Eskimos is subjected to functional analysis wherein the adaptive rather than purposive nature of the behavior is stressed. The trait is seen to be ecologically adaptive insofar as it increases population, and in turn ecosystem, stability. It is argued that the explanation for the uniquely systematic infanticide practiced by this group is to be sought within the social dynamic of the individual household, and is not satisfactorily explained by recourse to environmental-demographic explanations.

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**1977 A critical view of Thule culture and ecological adaptation.** *Thule Eskimo Culture: An Anthropological Retrospective.* AP McCartney, ed. National Museum of Man, Mercury Series, Archaeological Survey of Canada Paper 88:278-285.

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**1981 Persistence and change: The cultural dimension.** *A Century of Canada's Arctic Islands: 1880-1980*, Ottawa, 1981, pp. 257-266. The Royal Society of Canada.

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Freeman, Milton M. R.

**1981 Persistence and change: the cultural dimension.** *In* A Century of Canada's Arctic islands, 1880-1980. Proceedings of the 23rd Symposium of the Royal Society of Canada. Ottawa: Royal Society of Canada.

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Freeman, Milton M.R.

**1982 An ecological perspective on man-environment research in the Hudson and James Bay region.** *Naturaliste Canadien* 109(4):955-963.

**ABSTRACT:** This paper describes ecological changes that have recently occurred in two selected Inuit communities in the Hudson Bay region. Despite the profound nature of these changes, hunting remains a very significant activity for important noneconomic as well as economic reasons. The potential impact of environmental changes resulting from river diversions

in the Hudson and James Bay region upon the living resource base that these hunting communities continue to depend upon is briefly considered.

**KEYWORDS:**

**NOTES:**

Freeman, Milton M.R.

**1990 Social and cultural significance of whaling in Contemporary Japan: A case study of small-type coastal whaling.** 1-28.

**ABSTRACT:** Whaling activities historically have played a primary role in social, cultural and economic spheres of residents' lives in the whaling communities in Japan. In contemporary Japan, small-type coastal whaling (STCW), a regulated small-scale coastal fishery which harvests mainly minke whale, continues to demonstrate the integral importance of whaling in the local communities where STCW is based. This paper discusses the production, distribution and consumption of whale resource in STCW communities in order to illustrate the social, cultural and economic significance of whaling in present day Japan.

**KEYWORDS:**

**NOTES:**

Frink, Lisa

**2009 The Identity Division of Labor in Native Alaska.** American Anthropologist 111:21-29.

**ABSTRACT:** There is often an implicit assumption that women's technologies and associated tasks in subsistence-based groups are expedient and simple. For instance, in Native Alaska, the butchering of fish has been illustrated as arduous but uncomplicated work. On the contrary, closer examinations, as well as discussions with the people who are still learning and practicing subsistence tasks, indicate that this perspective is inaccurate. Instead, these taken-for-granted technologies and techniques require a lifetime of training and practice, and not all people achieve master status. Drawing from data from contemporary herring processing and the related tools of the trade, I explore the division of labor in the context of expertise and apprenticeship.

**KEYWORDS:** apprenticeship; expertise; gender; age; Alaska

**NOTES:** [1]

doi:10.1111/j.1548-1433.2009.01074.x

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**ABSTRACT:**

**KEYWORDS:**

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Frongillo, Edward A.

**1999 Validation of Measures of Food Insecurity and Hunger.** Journal of Nutrition 129(2):506-.

**ABSTRACT:** The most recent survey effort to determine the extent of food insecurity and hunger in the United States, the Food Security Supplement, included a series of questions to assess this complex phenomenon. The primary measure developed from this Food Security Supplement was based on measurement concepts, methods and items from two previously developed measures. This paper presents the evidence available that questionnaire-based measures, in particular the national food security measure, provide valid measurement of food insecurity and hunger for population and individual uses. The paper discusses basic ideas about measurement and criteria for establishing validity of measures and then uses these criteria to structure an

examination of the research results available to establish the validity of food security measures. The results show that the construction of the national food security measure is well grounded in our understanding of food insecurity and hunger, its performance is consistent with that understanding, it is precise within usual performance standards, dependable, accurate at both group and individual levels within reasonable performance standards, and its accuracy is attributable to the well-grounded understanding. These results provide strong evidence that the Food Security Supplement provides valid measurement of food insecurity and hunger for population and individual uses. Further validation research is required for subgroups of the population, not yet studied for validation purposes, to establish validity for monitoring population changes in prevalence and to develop and validate robust and contextually sensitive measures in a variety of countries that reflect how people experience and think about food insecurity and hunger.

**KEYWORDS:**

**NOTES:**

Frongillo, Edward A., Nusrat Chowdhury, Eva-Charlotte Ekstrom, and Ruchira T. Naved

**2003 Understanding the Experience of Household Food Insecurity in Rural Bangladesh Leads to a Measure Different from That Used in Other Countries.** *Journal of Nutrition* 133(12):4158-4162.

**ABSTRACT:** This research aimed to gain in-depth understanding of the experience of household food insecurity in rural Bangladesh and to develop a direct measure of it from this understanding. Using naturalistic, emergent inquiry, in-depth interviews were conducted with 21 rural women living in diverse situations using a semistructured interview guide. Two analytic strategies classified households on food insecurity and elicited themes that were the basis for classification. Survey questions were developed to capture themes, and were revised after review, field testing, and ranking and pile-sorting exercises. Four gradations of severity of food insecurity resulted, based on nine themes: meals, cooking, rice, fish, perishable foods, snacks, festival food, other expenditures and management strategies. The emergent conceptualization of food insecurity differs from that found from naturalistic research in other countries. The developed food insecurity measure has 11 questions. This research affirms the value of gaining in-depth understanding of household food insecurity. In many situations, this approach, rather than translating questions developed elsewhere, may best lead to suitable experience-based measures of food insecurity.

**KEYWORDS:**

**NOTES:**

Frongillo, Edward A., and Simeon Nanama

**2006 Development and Validation of an Experience-Based Measure of Household Food Insecurity within and across Seasons in Northern Burkina Faso.** *Journal of Nutrition* 136(5):1409S-1419.

**ABSTRACT:** Organizations measure household food insecurity for program design, planning, targeting, implementation, monitoring, and evaluation, but existing measures often are inadequate. Qualitative and quantitative methods were used to develop and validate an experience-based measure of the access component of food insecurity in northern Burkina Faso. In-depth interviews on food insecurity were done with 10 household heads and 26 women using interview guides. We identified themes, classified households, created a table of food insecurity categories, identified items to add to or delete from an initial questionnaire, and developed and revised answer choices. A longitudinal study provided quantitative data on changes over time in household food insecurity, economic situation, and related factors. Data were collected on 126 simple and complex households from 9 villages each July and January from 2001 to 2003 (5 waves). These data allowed examination of changes in household food insecurity twice annually across the best and worst seasons for food, and evaluation of the ability of the experience-based measure to differentiate changes in household food insecurity. Validity

was assessed by examining reliability and by comparing the experienced-based food insecurity measure with economic status, dietary, and anthropometric measures and with a measure created by an observer who rated the households' food insecurity. The results provide strong evidence that the food insecurity score, calculated from experience-based questionnaire items, was valid for determining seasonal differences in household food insecurity, differences among households in food insecurity at a given time, and changes in household food insecurity over time in northern rural Burkina Faso.

**KEYWORDS:**

**NOTES:**

Frongillo Jr., Edward A., Barbara S. Rauschenbach, Christine M. Olson, Anne Kendall, and Ana G. Colmenares

**1997 Questionnaire-Based Measures Are Valid for the Identification of Rural Households with Hunger and Food Insecurity.** *Journal of Nutrition* 127(5):699-705.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Furgal, C., and J. Seguin

**2006 Climate change, health, and vulnerability in Canadian northern Aboriginal communities.** *Environmental Health Perspectives* 114(12):1964-1970.

**ABSTRACT:** BACKGROUND: Canada has recognized that Aboriginal and northern communities in the country face unique challenges and that there is a need to expand the assessment of vulnerabilities to climate change to include these communities. Evidence suggests that Canada's North is already experiencing significant changes in its climate-changes that are having negative impacts on the lives of Aboriginal people living in these regions. Research on climate change and health impacts in northern Canada thus far has brought together Aboriginal community members, government representatives, and researchers and is charting new territory. METHODS AND RESULTS: In this article we review experiences from two projects that have taken a community-based dialogue approach to identifying and assessing the effects of and vulnerability to climate change and the impact on the health in two Inuit regions of the Canadian Arctic. CONCLUSIONS: The results of the two case projects that we present argue for a multi-stakeholder, participatory framework for assessment that supports the necessary analysis, understanding, and enhancement of capabilities of local areas to respond and adapt to the health impacts at the local level.

**KEYWORDS:**

**NOTES:** Times Cited: 26

Galaz, Victor, Beatrice Crona, Tim Daw, Orjan Bodin, Magnus Nyström, and Per Olsson

**2010 Can web crawlers revolutionize ecological monitoring?** *Frontiers in Ecology & the Environment* 8(2):99-104.

**ABSTRACT:** Despite recent advances, ecosystem service monitoring is limited by insufficient data, the complexity of social-ecological systems, and poor integration of information that tracks changes in ecosystems and economic activities. However, new information and communication technologies are revolutionizing the generation of, and access to, such data. Can researchers who are interested in ecological monitoring tap into these increased flows of information by "mining" the internet to detect "early-warning" signs that may signal abrupt ecological changes? Here, we explore the possibility of using web crawlers and internet-based information to complement conventional ecological monitoring, with a special emphasis on the prospects for avoiding "late warnings"- that is, when ecosystems have already shifted to less desirable states. Using examples from coral reef ecosystems, we explore the untapped potential, as well as the

limitations, of relying on web-based information to monitor ecosystem services and forewarn us of negative ecological shifts. [ABSTRACT FROM AUTHOR]

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**KEYWORDS:** ECOSYSTEM services

BIOTIC communities

CORAL reef ecology

ENVIRONMENTAL monitoring

ECONOMIC activity

**NOTES:** Galaz, Victor 1; Email Address: victor.galaz@stockholmresilience.su.se; Crona, Beatrice 1,2; Daw, Tim 3; Bodin, Orjan 1,4; Nyström, Magnus 1,5; Olsson, Per 1; Affiliations: 1: Stockholm Resilience Centre, Stockholm University, Stockholm, Sweden; 2: Center for the Study of Institutional Diversity, Arizona State University, Tempe, AZ, USA; 3: School of Development Studies, University of East Anglia, Norwich, UK; 4: Department of Government, Uppsala University, Uppsala, Sweden; 5: Department of Systems Ecology, Stockholm University, Stockholm, Sweden; Issue Info: Mar2010, Vol. 8 Issue 2, p99; Thesaurus Term: ECOSYSTEM services; Thesaurus Term: BIOTIC communities; Thesaurus Term: CORAL reef ecology; Thesaurus Term: ENVIRONMENTAL monitoring; Subject Term: ECONOMIC activity; Number of Pages: 6p; Document Type: Article

Galginaitis, Michael, Claudia Chang, Kathleen M. MacQueen, Albert A. Dekin, Jr., and David Zipkin

**1984 Ethnographic Study and Monitoring Methodology of Contemporary Economic Growth, Socio-Cultural Change and Community Development in Nuiqsut, Alaska (Nuiqsut Case Study).** Anchorage: U.S. Department of the Interior, Minerals Management Service, Alaska OCS Region.

**ABSTRACT:** Nuiqsut is a traditional Inupiat village on the North Slope of Alaska. It was resettled in April 1973. The Alaska Native Claims Settlement Act and the formation of the North Slope Borough (NSB) created a fiscal, social, and political environment to make it a viable undertaking. Many of the founding families were closely related. Approximately 2/3 of the (approximately) 170 settlers remain among the 270 residents of the present village. The founding population has aged demographically and because of the uneven age distributions the numbers of births and young children are expected to increase. Most of the 1973 settlers had kinship links to traditional users of the Nuiqsut area. This pattern continues as families intermarry and relatives move into the village. Harvested resources comprise somewhat over 50% of the food consumed in an average Nuiqsut Inupiat household. All households have some access to wage income. Most households include at least one full-time wage earner. Nearly all include at least one seasonal wage earner. Oil development, as such, has had little direct effect on Nuiqsut. Few Inupiat work for oil companies. However, the money which supports (and is building) Nuiqsut is derived from oil through taxes imposed by the NSB. These funds (along with bond issues) are used to fund construction projects within the villages. Inupiat perceive oil development as decreasing the availability of subsistence resources, both in absolute terms and in terms of access. However, cash is now absolutely essential for the harvest of subsistence resources. Such harvesting activity is also essential as a diet consisting of all "store" food is at present neither economically possible nor socially acceptable. About 25% of all adult Inupiat have permanent, full-time wage positions. In addition, another 40% of adult Inupiat males are seasonally employed. Few adult Inupiat females work seasonally. Females are specializing in professional type full-time positions while men continue a construction/ laborer pattern. This sexual differentiation within the cash economy is also evident within the traditional economy. Women's roles are being replaced while those of men are still ideologically the center of Inupiaq values. Population composition and

wage/subsistence labor force characteristics are two of the most fundamental sources of present-day social dynamics. Although unfamiliar institutional structures have been introduced, traditional leadership and decision-making patterns are being maintained. There is a shortage of Inupiat individuals to fill the available leadership roles, however, as the boundaries of the social system have expanded. Thus, non-Inupiat have become increasingly visible. Permanent non-Inupiat populations in the villages outside of Barrow can be expected to increase the pace of social change. Traditional Inupiaq values remain strongly held. Successful development will require change consistent with these values. New organizational and structural forms must continue to reflect such values if Nuiqsut is to remain a viable Inupiat community. It is recommended that a program to systematically collect information monitoring these changes be implemented. This methodology should and must include the study populations as active participants. Significant variables and potential relationships are proposed, and the question of measurement (operationalization) discussed.

**KEYWORDS:**

**NOTES:**

Galginaitis, Michael, Claudia Chang, Kathleen M. MacQueen, Albert A. Dekin, Jr., and David Zipkin  
**1984 Nuiqsut Case Study: Executive Summary.** Anchorage: U.S. Department of the Interior, Minerals Management Service, Alaska OCS Region.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** Nuiqsut, Alaska, was studied during the winter of 1932-83 by anthropologists from the State University of New York at Binghamton. The research was sponsored by the Minerals [Management Service (Alaska Outer Continental Shelf Region, United States. Department of the Interior). This intensive study of a North Slope Inupiat community close to present (Kuparuk and Prudhoe Bay) and potential on-shore and offshore oil and minerals development was designed to provide an ethnographic picture of the present community, as a statement of present conditions and as a base-line from which to measure future social and cultural changes (see Galginaitis et al. 1934). This summary has been prepared to facilitate dissemination of the salient results to residents, non-anthropologists with management interests and government officials who are interested and would benefit from easier access to the information contained in the larger report.

Galginaitis, Michael, Michael A. Downs, and James W. VanStone

**1989 Point Lay Case Study.** Anchorage: U.S. Department of the Interior, Minerals Management Service, Alaska OCS Region.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** The objective of the Point Lay Case Study is to provide detailed baseline information on one of the least known communities of the North Slope within a framework that will inform the analysis of sociocultural dynamics in all communities of the North Slope. To this end, a comparative component with certain aspects of Point Hope was designed into the project. This not only allows for the desired direct comparison, but also provides another set of criteria by which to judge the "typicality" of Point Lay for the discussion of general North Slope social dynamics. Good information is also available in this regard from The Inuit Case Study (Galginaitis et al. 1985) and The Wainwright Case (Luton 1985), as well as various multicomunity reports which contain less detail.

Galginaitis, Michael, and John S. Petterson

**1990 Subsistence Resource Harvest Patterns: Nuiqsut.** Anchorage: U.S. Department of the Interior/Bureau of Land Management/Alaska OCS Office.

**ABSTRACT:**



**KEYWORDS:**

**NOTES:** The Minerals Management Service (MMS) had conducted a good deal of research on the North Slope prior to this study, much of it having a direct bearing on subsistence activity. Other than for the ongoing studies in Barrow and Wainwright, however, such research has taken a general approach to subsistence and has provided little information on the spatial dimensions of North Slope subsistence harvest activity. Non-MMS research has approached subsistence activity from this viewpoint, but is either relatively inaccessible or not oriented towards MMS concerns for EIS purposes. This project was to document such land use patterns for the community of Kaktovik for MMS, using the work that presently exists supplemented by a short (one month) period of field work. The ultimate goal of the Kaktovik subsistence harvest areas study was to describe the pattern of harvests of wild resources by Kaktovik residents, emphasizing a geographical perspective. There were three explicit components to this ultimate goal. The first was to compile site-specific information on Kaktovik hunting sites, both from the literature and from field work in the village. The second was to contextualized this site-specific information by gathering information on several broader research questions concerning site use, changes in the pattern of use through time (potentially both for individuals and the community as a whole), and the role of subsistence in village life. The third component was to produce the actual report integrating the material from the first two components with the work partially completed for Part A of this project.

Gallagher, Thomas J.

**1988 Native participation in land management planning in Alaska.** *Arctic* 41(2):91-98.

**ABSTRACT:** Land ownership and land management in Alaska have changed dramatically since 1980. Native people have become owners of relatively small tracts of private land surrounded by large federal and state holdings. These public lands are the responsibility of a variety of agencies, each of which is preparing land management plans to guide how the land is to be used. Native people, to protect their traditional use of the land, must participate successfully in the preparation of these plans. Four problems inhibit participation: 1) native people are overloaded by the large number of plans, 2) the "world view" of native cultures does not readily accept planning, 3) the public meeting used by all agencies is an inappropriate forum for native participation, and 4) differences in communication style complicate discussion between native people and non-native planners. Potential solutions include coordinating planning efforts to reduce the number of plans, use of more appropriate participation methods, and training of non-native planners in cross-cultural communication and native people in land management planning.

**KEYWORDS:** land planning; land management; Alaska Native; public participation; cross-cultural communication

**NOTES:**

Gambell, Ray

**1995 Management of whaling in coastal communities.** *In* Developments in Marine Biology. L.W. Arnoldus Schytte Blix and U. Øyvind, eds. Pp. 699-708, Vol. Volume 4: Elsevier Science.

**ABSTRACT:** The development in Norway of modern whaling techniques in the 1860s allowed all species of whales to be hunted successfully close to shore, and then in the open oceans throughout the world after the introduction of pelagic factory ships in the 1920s. Depletion of the stocks led to regulation, now carried out by the International Whaling Commission (IWC). Aboriginal subsistence whaling is recognised as different from the commercial operations, and separate management regimes were introduced in 1975 by the IWC for the two types of activity. Small-type coastal whaling from coastal communities in Japan and Norway share many socio-economic and cultural features found in aboriginal subsistence whaling, as well as having

a commercial aspect. The mandate of the IWC is now being interpreted in the light of recent agreements on the Law of the Sea, precautionary management practices and sustainable development of marine resources. This is causing tensions and serious divisions in the international community between the advocates of a continuation of the present ban on all commercial whaling and the coastal communities suffering as a result.

**KEYWORDS:** aboriginal subsistence  
commercial  
small-type coastal  
precautionary principle  
sustainable development

**NOTES:**

Garlich-Miller, J. L., L. T. Quakenbush, and J. F. Bromaghin

**2006 Trends in age structure and productivity of Pacific walruses harvested in the Bering Strait region of Alaska, 1952-2002.** Marine Mammal Science 22(4):880-896.

**ABSTRACT:** Pacific walruses (*Odobenus rosmarus divergens*) are harvested by subsistence hunters in Alaska as they migrate north through the Bering Strait in the spring. Harvest records and biological specimens have been collected from the Bering Strait communities of Little Diomed, Gambell, and Savoonga since the 1950s. Harvest levels in the Bering Strait region peaked in the late 1980s and declined thereafter; however, there was considerable variation in the size and composition of the harvests among communities and over time. The relationships among characteristics of the community harvests and the presence of temporal trends were investigated using generalized linear models. The proportion of females in the catch increased over time in all three communities, while the proportion pregnant among harvested females declined over the range of sample years. The ages of harvested walruses increased over time in all three communities through the 1980s, after which trends in age stabilized or began to decline. The age of first reproduction was significantly older for females sampled in 1975-1985 than for females sampled between 1952 and 1962 or 1992 and 1998. Factors thought to have influenced the size and composition of the catch over the past 50 yr include hunter preferences, harvest management regimes, environmental conditions, and changes in the population itself.

**KEYWORDS:**

**NOTES:** Times Cited: 3

Garlich-Miller, J. L., L. T. Quakenbush, and J. F. Bromaghin

**2006 Trends in age structure and productivity of Pacific walruses harvested in the Bering Strait region of Alaska, 1952-2002.** Marine Mammal Science 22(4):880-896.

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**KEYWORDS:****NOTES:** Times Cited: 3

Garza, Dolly, Patricia Petrivelli, and Kathleen Yarr

**2006 Ketchikan 2005 Household Harvest Survey Final Report.** Pp. 62. Ketchikan: Ketchikan Indian Community.

**ABSTRACT:** This report presents the research findings from a household harvest survey conducted by the Ketchikan Indian Community (KIC) in the Ketchikan area. KIC embarked on this research project to document the level of harvest of wild resources by households in the area described by the Federal Subsistence Management program as the Ketchikan nonrural area. No comprehensive household harvest survey has been conducted for Ketchikan. The Alaska Department of Fish and Game (ADFG) estimated that Ketchikan nonrural residents harvested 33 pounds of fish and wildlife per person per year in 2000. The Federal Subsistence Management program uses ADFG's harvest estimates when evaluating community characteristics as part of their rural determinations review. KIC believes that ADFG underestimated the level of use of fish and wildlife by Ketchikan area households and that previous and current harvest levels were, and are, higher. The research found that close to 80% of Ketchikan residents use a wide range of local wild resources from seaweed to salmon to berries. On average, households use 230 pounds of resources per year and individuals harvest just over 90 pounds per year. Like other rural communities, Ketchikan residents share these resources with neighbors and family. Based on the survey results, we estimate that in total the Ketchikan community uses over 1 million pounds of resources per year.

**KEYWORDS:** Ketchikan; harvest monitoring; subsistence; survey**NOTES:**

Gearheard, Shari

**2005 Using interactive multimedia to document and communicate Inuit knowledge.** Etudes/Inuit/Studies 29(1):91-114.

**ABSTRACT:** La technologie des médias a agi à la fois comme menace contre le savoir local et les langues et comme un outil pour les renforcer. De plus en plus, les peuples autochtones emploient les médias à leurs propres fins que ce soit pour l'art, la communication ou l'éducation. La technologie des multimédias est appliquée de façons multiples, préservant et transmettant le savoir local et les langues, et montrant qu'elle peut le faire d'une façon qui attire les jeunes et qui est plus en phase avec les formes autochtones d'enseignement et d'apprentissage. En examinant un cas d'étude de projet multimédia au Nunavut, cet article évalue les multimédias dans le contexte de la documentation et de la transmission du savoir inuit. Bien qu'il y ait des défis et des problèmes à prendre en compte, le multimédia et les autres techniques devraient être considérés et appliqués de façon créative afin d'aider les populations locales à atteindre leurs buts. Les textes et les autres formes de médias demeurent des ressources importantes pour la documentation et la communication dans le Nord mais le multimédia a le potentiel de devenir un outil clef. Media technology has acted as both a threat to local knowledge and language, and a tool to strengthen it. More and more, indigenous peoples are using media for their own purposes from art to communication to education. Multimedia technology is surfacing as one useful tool in local knowledge and language revitalization efforts. Multimedia is being applied in a number of ways, preserving and passing on local knowledge and languages and showing potential for doing so in ways that engage young people and are more closely aligned with indigenous forms of teaching and learning. Discussing a case study example of one multimedia project in Nunavut, this paper evaluates multimedia in the context of documenting and communicating Inuit knowledge. Though there are challenges and issues to consider, multimedia and other technologies should be considered and creatively applied to help local people reach their goals. Texts and other forms of media remain important resources for

documentation and communication in the North, but multimedia has the potential to grow into a key tool.

**KEYWORDS:**

**NOTES:**

Gearheard, Shari, Warren Matumeak, Ilkoo Angutikjuaq, James Maslanik, Henry P. Huntington, Joe Leavitt, Darlene Matumeak Kagak, Geela Tigullaraq, and Roger G. Barry

**2006 "It's Not that Simple": A Collaborative Comparison of Sea Ice Environments, Their Uses, Observed Changes, and Adaptations in Barrow, Alaska, USA, and Clyde River, Nunavut, Canada.** *AMBIO: A Journal of the Human Environment* 35(4):203-211.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Gende, Scott M., Richard T. Edwards, Mary F. Willson, and Mark S. Wipfli

**2002 Pacific salmon in aquatic and terrestrial ecosystems.** *Bioscience* 52(10):917-928.

**ABSTRACT:** Pacific salmon subsidize freshwater and terrestrial ecosystems through several pathways, which generates unique management and conservation issues but also provides valuable research opportunities.

**KEYWORDS:**

**NOTES:**

Gende, Scott M., Richard T. Edwards, Mary F. Willson, and Mark S. Wipfli

**2002 Pacific salmon in aquatic and terrestrial ecosystems.** *Bioscience* 52(10):917-928.

**ABSTRACT:** Pacific salmon subsidize freshwater and terrestrial ecosystems through several pathways, which generates unique management and conservation issues but also provides valuable research opportunities.

**KEYWORDS:**

**NOTES:**

George, Gabriel D., and Robert G. Bosworth

**1988 Use of fish and wildlife by residents of Angoon, Admiralty Island, Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** The village of Angoon is one of the more traditional Tlingit Indian communities in Southeast Alaska and retains close ties to the lands and waters of the West Admiralty Island and Chatham Straits areas. Wild foods obtained locally by Angoon residents include deer, salmon, halibut, shellfish, seals, and waterfowl. This report provides detailed information on the subsistence activities of Angoon residents, based on a survey conducted in 1985. Maps of historic harvest areas are included. In addition to describing contemporary wild resource uses, the report surveys historical hunting and fishing technologies and patterns.

**KEYWORDS:**

**NOTES:**

George, Gabriel D., and Matthew A. Kookesh

**1982 Angoon deer hunting, 1982.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report provides background information on Sitka black-tailed deer hunting areas, hunting strategies, deer harvest levels, and deer meat distribution patterns of Angoon residents in 1982.

**KEYWORDS:** Angoon, Admiralty Island, Tlingit, subsistence hunting, Sitka black-tailed deer, *Odocoileus columbianus sitkensis*

**NOTES:**

George, Gabriel D., and Matthew A. Kookesh

**1982 Salt Lake coho subsistence permit fishery.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes the Salt Lake coho salmon subsistence permit fishery in 1982. Based on a survey instrument and interviews, information is presented on permlholder characteristics, fishery characteristics, harvest levels, and distribution of harvest.

**KEYWORDS:****NOTES:**

George, Gabriel D., Matthew A. Kookesh, David D. Mills, and James A. Fall

**1984 The non-commercial harvest of crab in Southeast Alaska: a summary of available information.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report summarizes information about the noncommercial harvest of Dungeness, king, and Tanner crabs in Southeast Alaska. Crab harvests, sites, general resource use patterns, and socioeconomic data are presented for 12 communities. Major sources of information included coastal management plans and ongoing Division of Subsistence research projects.

**KEYWORDS:****NOTES:**

George, J. C., H. P. Huntington, K. Brewster, H. Eicken, D. W. Norton, and R. Glenn

**2004 Observations on shorefast ice dynamics in arctic Alaska and the responses of the Inupiat hunting community.** Arctic 57(4):363-374.

**ABSTRACT:** Although shorefast sea ice forms a platform that facilitates travel, camping, and hunting by Inupiat subsistence hunters and fishers in the western Arctic, the nearshore sea-ice zone remains an unforgiving and dynamic environment. Traditional hunters constantly hone site-specific experiences and skills with which to optimize the reward-to-risk ratio inherent in operating from this coastal ice. Nearshore ice conditions nevertheless can change suddenly, endangering even the most experienced subsistence hunters. This study examines two (of several) 20th-century events, 40 years apart, in which shorefast ice failed, threatening Inupiat whale hunters with loss of confidence, livelihood, and life. These events differed in character. In one event, the shorefast ice was "crushed" by moving ice floes. In the other, the shorefast ice broke free of land. Our examination focuses on the relationship of subsistence hunters to the ice, the environmental causes of ice failures, the evolving technology for predicting ice behavior, and the longer-term implications Of global change for this system. The complexity of geophysical processes underlying coastal ice behavior makes ice failures unpredictable. Thus, hunters must assume and manage risk. The variable and uncertain environment to which whale hunters are accustomed has produced an inherent flexibility that has helped them adapt to new conditions and will continue to do so in the future.

**KEYWORDS:**

**NOTES:** Times Cited: 22

George, J. C. C., J. Zeh, R. Suydam, and C. Clark

**2004 Abundance and population trend (1978-2001) of western Arctic bowhead whales surveyed near Barrow, Alaska.** Marine Mammal Science 20(4):755-773.

**ABSTRACT:** The 2001 survey of western Arctic (Bering, Chukchi, and Beaufort seas) bowhead whales was conducted from 5 April to 7 June near Barrow, Alaska. Visual observers recorded a total of 3,295 "new" (not seen before) and 532 "conditional" (possibly seen before) whales in

1,130 h of watch effort, including 121 new calves (3.7% of the new whales). Concurrent with the visual survey, passive acoustic surveillance was conducted almost continuously from 16 April to 31 May, resulting in 27,023 locations of vocalizing bowhead whales. The estimated number of whales within 4 km of the perch (N-4) was 9,025 (SE = 1,068). The estimated proportion of the whales within 4 km of the perch (P-4) was 0.862 (SE = 0.044, computed by a moving blocks bootstrap). Combining these, the abundance estimate (N-4/P-4) for 2001. is 10,470 (SE = 1,351) with a 95% confidence interval of 8,100-13,500. The estimated annual rate of increase (ROI) of the population from 1978 to 2001 is 3.4% (95% CI 1.79%-5%). Reports from hunters and results of an aerial survey in June 2001 indicate whales continued to pass Barrow after the survey had ended. In 2001 51% (572 h) of the watch was scored as occurring during "fair-excellent" visibility conditions, somewhat lower than the average for all surveys since 1978. Sea ice in the leads and fog were the principle environmental factors affecting visibility for all years. The estimated rate of increase and the fact that the number of calves counted in 2001 is the highest ever recorded suggest a steady recovery of this population. Other populations of large balaenids, notably the North Atlantic right whale, have failed to recover despite 70 yr of protection. The recovery of the bowhead whale is likely attributable to low anthropogenic mortality, a relatively pristine habitat, and a well-managed subsistence hunt. Nonetheless, offshore oil development, increasing shipping traffic, changes in the Bering Sea ecosystem, sea ice retreat, and possibly killer whale predation within its range could impact this bowhead population and should be carefully monitored.

**KEYWORDS:**

**NOTES:** Times Cited: 38

Georgette, Susan

**1994 Summary of Western Arctic Caribou Herd overlays (1984-92) and comparison with harvest data from other sources.** Pp. 26. Kotzebue, Alaska: Division of Subsistence, Alaska Department of Fish and Game.

**ABSTRACT:** Estimating wildlife harvests is an important but often difficult aspect of wildlife management. The task is especially challenging in remote, cross-cultural situations as exist in much of rural Alaska. Alaska Department of Fish & Game (ADF&G) staff in northwest Alaska have long known that the harvest reporting system has shortcomings from both the hunter's and the department's perspectives. For a variety of reasons, many residents of northern and western Alaska participate sporadically, if at all, in the harvest reporting system for the Western Arctic herd. Caribou harvests are thus underreported to ADF&G to a substantial but unknown extent. Wildlife managers and rural hunters in several regions of Alaska have been discussing various options for effectively assessing wildlife harvests.

**KEYWORDS:** caribou, harvest monitoring

**NOTES:** "Data from the community-based studies show a total harvest of 12,480 caribou for the communities and years in which harvest surveys were conducted (Table 5). Data from the overlays show a harvest of 1,413 for the same communities and time period, or about 11 percent of the total reported in the community-based studies. In six of the twelve communities, the overlay data show that either no caribou were harvested or no overlays were issued for the surveyed year, whereas the community-based studies in several cases document substantial caribou harvests. For example, in 1985-86 no Western Arctic herd overlays were issued to Nuiqsut residents although a community-based study showed a harvest of 513 caribou there. In Wainwright, no overlays were issued in either 1988-89 or 1989-90 although a community-based study there showed harvests of 505 and 711 caribou respectively. In Kivalina, a community-based study showed a harvest of 351 caribou in 1992 while overlays showed a harvest of zero." (p. 5-6)

Georgette, Susan

**1994 Summary of Western Arctic Caribou Herd overlays (1984-92) and comparison with harvest data from other sources.** Pp. 26. Kotzebue, Alaska: Division of Subsistence, Alaska Department of Fish and Game.

**ABSTRACT:** Estimating wildlife harvests is an important but often difficult aspect of wildlife management. The task is especially challenging in remote, cross-cultural situations as exist in much of rural Alaska. Alaska Department of Fish & Game (ADF&G) staff in northwest Alaska have long known that the harvest reporting system has shortcomings from both the hunter's and the department's perspectives. For a variety of reasons, many residents of northern and western Alaska participate sporadically, if at all, in the harvest reporting system for the Western Arctic herd. Caribou harvests are thus underreported to ADF&G to a substantial but unknown extent. Wildlife managers and rural hunters in several regions of Alaska have been discussing various options for effectively assessing wildlife harvests.

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**NOTES:** "Data from the community-based studies show a total harvest of 12,480 caribou for the communities and years in which harvest surveys were conducted (Table 5). Data from the overlays show a harvest of 1,413 for the same communities and time period, or about 11 percent of the total reported in the community-based studies. In six of the twelve communities, the overlay data show that either no caribou were harvested or no overlays were issued for the surveyed year, whereas the community-based studies in several cases document substantial caribou harvests. For example, in 1985-86 no Western Arctic herd overlays were issued to Nuiqsut residents although a community-based study showed a harvest of 513 caribou there. In Wainwright, no overlays were issued in either 1988-89 or 1989-90 although a community-based study there showed harvests of 505 and 711 caribou respectively. In Kivalina, a community-based study showed a harvest of 351 caribou in 1992 while overlays showed a harvest of zero." (p. 5-6)

Georgette, Susan E.

**2000 Subsistence use of birds in the Northwest Arctic Region, Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report summarizes information on subsistence harvests and uses of birds and eggs in the Northwest Arctic Region of Alaska, based on surveys of households and interviews with bird hunters in 11 communities. The geographic area covered by this project corresponds to the Northwest Arctic Borough, which includes the coastal regions of Kotzebue Sound; the Selawik, Noatak, and Kobuk river drainages; and the Arctic coast as far north as Kivalina. The report presents information on species harvested, timing of harvests, and numbers of birds and eggs taken at the community and regional levels. Descriptive information on local knowledge of birds from interviews with hunters is summarized for selected species. The report presents the first comprehensive description of subsistence harvest patterns for birds in communities of the Northwest Arctic region. The U.S. Fish and Wildlife Service provided funding for the project.

**KEYWORDS:**

**NOTES:**

Georgette, Susan E.

**2001 Brown bears on the northern Seward Peninsula, Alaska: traditional knowledge and subsistence uses in Deering and Shishmaref.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes traditional knowledge and subsistence uses of brown bears by residents of Deering and Shishmaref, two small, predominantly Iñupiaq communities on the Northern Seward Peninsula in Alaska. Topics covered include observations of historical and contemporary brown bear abundance, natural history of bears, human and bear interactions,

subsistence hunting and use, harvest estimates, and Iñupiaq cultural rules regarding bears. The information in this report was gathered through individual interviews with 41 residents of Deering and Shishmaref during spring 1998. Those interviewed ranged in age from the early 20s to early 80s and included both men and women. The project was funded by the National Park Service.

**KEYWORDS:** Arctic Region, brown bears, *Ursus arctos*, Deering, Shishmaref, Inupiat, Inupiaq cultural rules, subsistence hunting, marine mammals, polar bears, *Ursus maritimus*.

**NOTES:**

Georgette, Susan E., Michael W. Coffing, Cheryl L. Scott, and Charles Utermohle

**1998 The subsistence harvest of seals and sea lions by Alaska Natives in the Norton Sound-Bering Strait Region, Alaska, 1996-97.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes the subsistence harvests of bearded seals *Erignathus barbatus*, ringed seals *Phoca hispida*, spotted seals *Phoca largha*, ribbon seals *Phoca fasciata*, and Steller's sea lions *Eumetopias jubatus* by Alaska Natives in selected communities in the Norton Sound-Bering Strait Region of Northwest Alaska during the 12-month period February 1996-January 1997. The information, including size of harvest, seasons, geographic distribution, and ages and sexes of animals harvested derives from systematic interviews with hunters and users of marine mammals in 319 households in 6 of 16 communities: Brevig Mission, Gambell, Golovin, Savoonga, Shaktoolik, and Stebbins. The research was conducted cooperatively by Kawerak, Inc., a non-profit regional Native organization, and the ADF&G Division of Subsistence, under contract with the National Marine Fisheries Service.

**KEYWORDS:** Arctic Region, bearded seals, *Erignathus barbatus*, ringed seals, *Phoca hispida*, spotted seals, *Phoca largha*, ribbon seals, *Phoca fasciata*, and Steller's sea lions, *Eumetopias jubatus*, Norton Sound, Bering Strait, Brevig Mission, Gambell, Golovin, Savoonga

**NOTES:**

Georgette, Susan E., and Hannah Loon

**1988 The Noatak River: fall caribou hunting and airplane use.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report summarizes findings from 1987 research conducted in response to a proposal to establish a Controlled Use Area on the Noatak River. The report describes the contemporary river-based fall caribou hunt of Noatak residents and the pattern of airplane use along the Noatak River by Kotzebue pilots, nonlocal pilots, air taxis clients, guides, and government agency employees. The study focused on the Noatak River between the Eli and Nimiuktuk rivers.

**KEYWORDS:** Arctic Region, Noatak River, Noatak, subsistence caribou hunting, caribou, *Rangifer tarandus*

**NOTES:**

Georgette, Susan E., and Hannah Loon

**1991 Subsistence and sport fishing of sheefish on the Upper Kobuk River, Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report documents subsistence and sport fishing for sheefish in 1989 on the Upper Kobuk River and discusses conflicts between subsistence users and recreational users. Information on participation, seasons, areas, methods, harvests, and preservation techniques is included. The study area extended from Shungnak upstream to Selby River and included 2 communities: Shungnak and Kobuk. Key respondent interviews and participant observation were the primary means of data collection.



**KEYWORDS:** Arctic Region, sheefish, inconnu, *Stenodus leucichthys*, Kobuk River, resource conflicts, Shungnak, Selby River, subsistence fishing.

**NOTES:**

Georgette, Susan E., and Hannah Loon

**1992 Subsistence hunting of Dall sheep in Northwest Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes the historical and current subsistence uses of Dall's sheep by Northwest Alaska residents, including hunting practices, harvest estimates, and regulatory concerns. The study area included Noatak, Kivalina, Kotzebue, and villages on the Upper Kobuk River.

**KEYWORDS:** Arctic Region, Dall's sheep, *Ovis dalli*, Northwest Alaska, Noatak, Kivalina, Kotzebue, Upper Kobuk River, subsistence hunting.

**NOTES:**

Georgette, Susan E., and Hannah Loon

**1993 Subsistence use of fish and wildlife in Kotzebue, a Northwest Alaska regional center.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report presents both descriptive and quantitative information on Kotzebue's uses of wild foods in 1986. Research methods included key respondent interviews, participant observation, and a survey of a stratified sample (based on harvest levels) of 90 households. Estimates of harvest quantities, levels of participation in the uses and harvest of wild foods, and demographic and employment data are presented. Research found that caribou, bearded seal, Pacific salmon, and sheefish were the major resources harvested. Kotzebue has a per capita harvest of 398 pounds and provided a case example of resource use in a rural regional center.

**KEYWORDS:** Arctic Region, Kotzebue, caribou, *Rangifer tarandus*, bearded seal, *Eringnathus barbatus*, Pacific salmon, sheefish, inconnu, *Stenodus leucichthys*.

**NOTES:**

Georgette, Susan E., and Attamuk Schiedt

**2005 Whitefish: traditional ecological knowledge and subsistence fishing in the Kotzebue Sound Region, Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** Whitefish are a key subsistence resource in the Kotzebue Sound Region, one of the few fish available to every community in any abundance. This report documents traditional ecological knowledge and subsistence fishing of whitefish in a sample of communities representing different ecological areas in the Kotzebue Sound Region in Northwest Alaska. The study covered 5 species of small whitefish: broad whitefish *Coregonus nasus*, humpback whitefish *Coregonus pidschian*, least cisco *Coregonus sardinella*, Bering cisco *Coregonus laurettae*, and round whitefish *Prosopium cylindraceum*. A total of 57 individuals, mostly Iñupiaq elders, were interviewed between 2002-2004 in Kobuk, Kotzebue, Noatak, Noorvik, Selawik, and Shungnak. Topics covered by these interviews and summarized in this report include the following: Iñupiaq taxonomy of whitefish (species available, their characteristics, and their local names); distribution, seasonal movements, spawning, and feeding habits of whitefish; observations on whitefish abundance and health; interactions of whitefish with other animals; traditional lore; subsistence fishing practices by community; and the processing, storage, and preparation of the whitefish harvest. Estimates of whitefish harvests from secondary sources are also included. The interviews brought to light previously undocumented details about whitefish, one of the values of a small, focused study such as this.

**KEYWORDS:** Bering cisco, *Coregonus laurettae*, broad whitefish, *Coregonus nasus*, Cape Krusenstern National Monument, humpback whitefish, *Coregonus pidschian*, Iñupiat, Kotzebue Sound, Kotzebue, Noatak, Noorvik, Selawik, Shungnak, least cisco, *Coregonus sardinella*, B

**NOTES:**

Gerlach, Craig S., Lawrence K. Duffy, Maribeth S. Murray, Peter M. Bowers, Rachel Adams, and David A. Verbrugge

**2006 An exploratory study of total mercury levels in archaeological caribou hair from northwest alaska.** *Chemosphere* 65(11):1909-1914.

**ABSTRACT:** Over the past ten years, total mercury (THg) levels have been surveyed in Alaskan wildlife and fish as part of the Arctic Monitoring and Assessment (AMAP). Beyond these studies there is little historical data on THg levels in important subsistence species for people in Alaska. A survey of THg in caribou hair from archaeological deposits would provide data to develop temporal trends for this region of the Arctic. **Caribou hair from a Western Thule settlement beneath the Alaska native village of Deering (ca. AD 1150) show variability in hair THg values, with a mean level (86 ng/g) which is in the range that is observed in modern Rangifer sp. (caribou and reindeer).** Hair from House 1 had a THg mean level of 99.6 ng/g and hair from House 2 had a THg mean of 64.2 ng/g. This is the earliest reported record of mercury in caribou associated with human subsistence activities in the western North American Arctic, and is a first step toward compilation of a needed database through which to measure and evaluate exposure to mercury by people who rely heavily on caribou as a food source. **We hypothesize that similarity in mercury values in archaeological samples of caribou and in contemporary samples would give an additional perspective on human exposure to mercury through caribou harvest and consumption today.** Since this hypothesis will be more useful if evaluated at a regional rather than global scale, further studies will be needed at different archaeological sites across Alaska to determine the generality of this observation in relation to geographic scale.

**KEYWORDS:** Alaska

Caribou  
Rangifer  
Hair  
Mercury  
Deering  
Archaeofauna  
Beringia

**NOTES:**

Gerlach, Craig S., Lawrence K. Duffy, Maribeth S. Murray, Peter M. Bowers, Rachel Adams, and David A. Verbrugge

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**KEYWORDS:** Alaska

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Mercury  
Deering  
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Beringia

**NOTES:**

Gessner, B. D.

**2009 Geographic and Racial Patterns of Anemia Prevalence Among Low-income Alaskan Children and Pregnant or Postpartum Women Limit Potential Etiologies.** Journal of Pediatric Gastroenterology and Nutrition 48(4):475-481.

**ABSTRACT:** Objectives: The etiology of the 10-fold increase in anemia and iron deficiency prevalence among Alaska Native individuals from the culturally traditional southwestern/northern Alaska regions remains unknown. The present study sought to determine anemia prevalence among people enrolled in the Alaska Women, Infant, and Children (WIC) program and reconcile results with etiological hypotheses, particularly nutritional iron deficiency and *Helicobacter pylori* infection. Patients and Methods: An analysis was conducted of 50,964 children 6 to 59 months of age and 30,154 pregnant or postpartum women enrolled in WIC during 1999 to 2006. Based on 3 regional groupings of residence and Alaska Native status, 6 strata were defined. Results: Southwestern/northern Alaska Native children—who are known to have high nutritional iron intake based on subsistence diets—had the highest anemia prevalence (35%). However, southwestern northern residence increased anemia risk similarly for Alaska Native (relative risk 1.6) and non-Native (relative risk 1.5) children. Anemia prevalence was highest among the youngest children and declined with increasing age at approximately the same rate regardless of race or residence. Alaska Native pregnant or postpartum women from all of the regions had higher anemia prevalences than non-Native women; southwestern/northern residence conferred additional risk to Alaska Native women. Conclusions: A region-specific environmental factor is supported by the increased risk seen among all of the children residing in the southwestern northern regions. However, the observed patterns make nutritional iron deficiency or *H pylori* infection unlikely as the sole or major etiologies of the high anemia prevalences observed in some groups. JPGN 48:475-481, 2009.

**KEYWORDS:**

**NOTES:** Times Cited: 1

Gessner, Bradford D., Julia Plotnik, and Pam T. Muth

**2003 25-Hydroxyvitamin D levels among healthy children in Alaska.** The Journal of Pediatrics 143(4):434-437.

**ABSTRACT:** Objective To determine vitamin D levels among children 6 to 23 months old receiving services from Women, Infants, and Children (WIC) programs in Alaska. Study design During 2001 and 2002, we recruited 133 children receiving services at seven WIC clinics, administered a risk factor questionnaire, and collected blood. Results Fifteen (11%) and 26 (20%) children, respectively, had vitamin D levels <15 (considered abnormal) and 15 to <25 ng/mL (low normal). Compared with other children, children who still breast-fed were more likely to have a vitamin D level <15 ng/mL (relative risk [RR], 12; 95% confidence interval [CI], 3.6-39) or 15 to <25 ng/mL (RR, 3.6; 95% CI, 1.9-6.8) than ≥25 ng/mL. Among 41 still breast-feeding children, 14 (34%) took supplemental vitamins, and six (18%) were reported to have received vitamins every day. Conclusions Vitamin D deficiency is prevalent in Alaska. Breast-feeding in the absence of adequate vitamin D supplementation is the greatest risk factor.

**KEYWORDS:**

**NOTES:**

Getz, Wayne M., Louise Fortmann, David Cumming, Johan du Toit, Jodi Hilty, Rowan Martin, Michael Murphree, Norman Owen-Smith, Anthony M. Starfield, and Michael I. Westphal

**1999 Sustaining natural and human capital: villagers and scientists.** Science 283(5409):1855-1856.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Gibbons, D.C.

**1971 Observations on the study of crime causation.** American Journal of Sociology:262-278.

**ABSTRACT:** Differential association theory, typological views, and other approaches to crime causation are noted. Situational and genetic-historical factors in lawbreaking are identified and contrasted. The major thesis of this essay calls for increased attention to situational pressures as they interact with other factors. A value-added orientation to crime causation is explored.

**KEYWORDS:**

**NOTES:**

Gibbons, Don C.

**1972 Crime in the hinterland.** Criminology 10(2):177-191.

**ABSTRACT:** Serious crimes - felonies - were encountered only infrequently. The criminality that was encountered appeared to be transitory in character, carried on by persons who viewed themselves as law-abiding citizens. The volume of petty lawbreaking was quite sizeable, with the majority of cases involving traffic and highway offenses.

**KEYWORDS:**

**NOTES:**

Gibbons, Robert

**2005 Four formal (izable) theories of the firm?** Journal of Economic Behavior and Organization 58(2):200-245.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Gibbons, Robert

**2005 What is economic sociology and should any economists care?** Journal of Economic Perspectives:3-7.

**ABSTRACT:**

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Giddings, J. Louis, Jr.

**1951 The Denbigh flint complex.** American Antiquity:193-203.

**ABSTRACT:**

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Giddings, J. Louis, Jr.

**1952 The Arctic woodland culture of the Kobuk River:** University Museum, University of Pennsylvania.

**ABSTRACT:**

**KEYWORDS:**

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Giddings, J.L.

**1954 Early man in the Arctic.** Scientific American 190(6):82-8.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Giddings, J. Louis, Jr.

**1956 Forest Eskimos: An ethnographic sketch of Kobuk River People in the 1880's.**  
University Museum Bulletin 20(2):1-55.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** 2

Giddings, J. Louis, Jr.

**1961 Kobuk River people:** Dept. of Anthropology and Geography, University of Alaska.

**ABSTRACT:**

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Giddings, J. Louis, Jr.

**1964 The archeology of Cape Denbigh:** Brown University Press.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Giddings, J. Louis, Jr.

**1967 Ancient men of the Arctic:** Knopf Books for Young Readers.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Giddings, J. Louis, Jr., and Douglas D. Anderson

**1986 Beach Ridge Archeology of Cape Krusenstern: Eskimo and Pre-Eskimo Settlements Around Kotzebue Sound, Alaska.** Washington, D.C.: US Dept. of the Interior, National Park Service.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Gilcrest, D.T.

**1990 The high price of ivory: Seeking a balance for Alaska Native and walrus.** Pub. Land L. Rev. 11:135.

**ABSTRACT:**

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Gilcrest, D.T.

**1990 The high price of ivory: Seeking a balance for Alaska Native and walrus.** Pub. Land L. Rev. 11:135.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Ginter, Jay J. C.

**1995 The Alaska community development quota fisheries management program.** Ocean & Coastal Management 28(1-3):147-163.

**ABSTRACT:** The State of Alaska and the National Marine Fisheries Service administer a Community Development Quota (CDQ) fisheries management program for the groundfish pollock in the Bering Sea off Alaska. The CDQ program is of interest as a limited access management system which explicitly recognizes the special needs of communities as distinct

from business firms or individuals, while achieving some of the benefits, as well as costs, of other programs such as limited licensing and individual transferable quotas. This article describes the program, reviews some of its benefits and costs, notes the recent creation of CDQs for other species, and suggests the importance of CDQs for future fisheries management.

**KEYWORDS:**

**NOTES:**

Gittelsohn, Joel, Thomas M. S. Wolever, Stewart B. Harris, Robert Harris-Giraldo, Anthony J. G. Hanley, and Bernard Zinman

**1998 Specific patterns of food consumption and preparation are associated with diabetes and obesity in a Native Canadian community.** *Journal of Nutrition* 128(3):541-547.

**ABSTRACT:** We examined the relationship between usual patterns of food intake, fattiness of food preparation and consumption, and diabetes and obesity status in a Native Canadian reserve in northwestern Ontario. Patterns of intake were estimated using a 34-item food frequency instrument. Scales and scores were developed using factor analysis procedures and were tested for reliability using coefficient alpha. Impaired glucose tolerance (IGT) and diabetes status was determined by administering a 75-g glucose tolerance test. A number of the food groups appear to have a protective effect in regard to IGT and diabetes, including vegetables [odds ratio (OR) = 0.41, confidence interval (CI) = 0.18-0.91], breakfast foods (OR = 0.41, CI = 0.18-0.93) and hot meal foods (OR = 0.29, CI = 0.11-0.78). Most of these foods are relatively high in fiber and low in fat. **High consumption of junk foods and the bread and butter group was associated with substantial increases in risk for diabetes** (OR = 2.40, CI = 1.13-5.10; OR = 2.22, CI = 1.22-4.41, respectively). These foods tend to be high in simple sugars, low in fiber and high in fat. More fatty methods of food preparation are also associated with increased risk for diabetes in this population (OR = 2.58, CI = 1.11-6.02). This information has been incorporated into an ongoing community-based diabetes prevention program in the community.

**KEYWORDS:** Native Canadians; Native Americans; diabetes; obesity; food frequency; food preparation; diet

**NOTES:**

Gladden, J.N.

**2007 The virtues of localism and arctic wilderness politics.** Science and stewardship to protect and sustain wilderness values: eighth World Wilderness Congress symposium, Anchorage, AK, 2007. USDA Forest Service Proceedings RMRS-P-49.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Glass, Ronald J., Robert M. Muth, Thomas A. More, and Jack Kruse

**1995 Assessing developmental impacts on subsistence fishing: Complications attributable to a mixed economic system.** *Society & Natural Resources* 8(5):431 - 442.

**ABSTRACT:** There is no all-encompassing measure of quality of life that adequately reflects the psychological, sociocultural, environmental, and economic components of subsistence. Even if only the material aspects of quality are considered, impact assessment in rural areas of Alaska is complicated because communities have integrated three-sector economies. Because both state and federal laws give the highest priority to subsistence users of fishery resources, reductions in fish populations may be manifested in reduced commercial and sport harvests rather than the subsistence take. Impact analysis is complicated because the same individuals may participate in each of these economic sectors. Nevertheless, quantifying material returns such as income and subsistence goods can provide useful insights, even though interpretation of values originating in different contexts are necessarily subjective. Furthermore, these measures are inputs to the quality of life rather than measures of it.

**KEYWORDS:****NOTES:**

Gmelch, George, and Sharon Bohn Gmelch

**1983 Resource use in a small Alaskan city—Sitka.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report examines household uses of wild food resources, including mammals, waterfowl, fish, invertebrates, and plants in Sitka. Harvest methods, quantities and use, and distribution of wild foods are discussed. Ethnic and subcultural group differences in the harvests and uses of wild foods, and the importance of food gathering activities to the quality of life in Sitka are also treated.

**KEYWORDS:****NOTES:**

Gologergen, Patrick

**1979 Study on St. Lawrence Island whaling subsistence harvest.**

**ABSTRACT:****KEYWORDS:****NOTES:**

Gombay, N.

**2006 From subsistence to commercial fishing in Northern Canada - The experience of an Inuk entrepreneur.** British Food Journal 108(7):502-521.

**ABSTRACT:** Purpose - The purpose of this paper is to show that, until the 1960s, subsistence hunting, fishing, and gathering were the mainstay of the economy for Inuit in the Eastern Canadian Arctic. This economy was sustained by the moral imperative that food should be shared with others whenever possible. The article explores the experience of one man in Nunavik (Northern Quebec) who has started a business selling food. Design/methodology approach - The paper shows that regulatory challenges facing the industry are considered in relation to the moral dilemmas that need to be confronted in moving from an economy based on sharing food to an economy predicated on market exchange. Practical implications - The paper concludes with a discussion about how this businessman has come to terms with his breaking of social norms about the sharing of food and his understanding of how, in doing so, he is representative of a new economic order amongst Inuit in Nunavik. Originality/value - The paper shows that this is an original and novel subject for study.

**KEYWORDS:**

**NOTES:** Times Cited: 0

Gondolf, Edward W., and Stephen R. Wells

**1986 Empowered native community, modified SIA: The case of hydaburg, alaska.** Environmental Impact Assessment Review 6(4):373-383.

**ABSTRACT:** This paper reviews a social impact assessment of Hydaburg, Alaska, to illustrate the modifications of non-NEPA SIAs in response to "empowered" Native communities. Hydaburg has been influenced by three organizations designed to promote greater self-determination: the Native Village Corporation, a Native municipal government, and the Native Sovereignty Movement. The Hydaburg SIA incorporated community-based research, cultural assessment, and advocacy mitigation to accommodate the demands of this "empowerment". The paper suggest that modified SIAs of this sort are likely to become more prevalent as self-determination among Native communities increases.

**KEYWORDS:**



**NOTES:**

Gonzalez, Wendy, Alicia Jimenez, Graciela Madrigal, Leda M. Munoz, and Edward A. Frongillo

**2008 Development and Validation of Measure of Household Food Insecurity in Urban Costa Rica Confirms Proposed Generic Questionnaire.** *Journal of Nutrition* 138(3):587-592.

**ABSTRACT:** Interest in household food insecurity (FI) within scientific and policy groups has motivated efforts to develop methods for measuring it. Questionnaires asking about FI experiences have been shown to be valid in the contexts in which they were created. The issue has arisen as to whether such questionnaires need be developed from the ground up or if a generic questionnaire can be adapted to a particular context. This study aimed to gain an in-depth understanding of household FI in urban Costa Rica, develop and validate a questionnaire for its measurement, and inform the choice between the 2 methods of development. The study was conducting using qualitative and quantitative methods provided in the Food and Nutrition Technical Assistance (FANTA) guidelines. In-depth interviews were conducted with 49 low-middle-income urban women using a semistructured interview guide. A 14-item FI questionnaire was developed based on results from these interviews. A field study was conducted in 213 households. The results show that the developed questionnaire provides valid measurement of household FI in urban Costa Rica and is simple and quick to apply in the household setting. FANTA developed a guide during the period that this research was completed that provides a generic questionnaire that can be adapted for use in various countries, rather than building the questionnaire from the ground up. This study provides evidence that careful attention to the procedures in this guide will likely yield a questionnaire suitable for assessing household FI in middle-income countries.

**KEYWORDS:****NOTES:**

Gorsuch, E. L.

**2002 Fostering Alaska Business Development:** Anchorage: Institute of Social and Economic Research, University of Alaska Anchorage.

**ABSTRACT:****KEYWORDS:****NOTES:**

Gottesfeld, Leslie M. Johnson, and Beverly Anderson

**1988 Gitksan traditional medicine: Herbs and healing.** *Journal of Ethnobiology* 8(1):13-33.

**ABSTRACT:** The Gitksan people live along the Skeena River in northwest British Columbia, Canada. Gitksan traditional medicine is still practiced as an adjunct to modern allopathic medicine. Medicinal plants are used as decoctions, infusions, poultices, and fumigants, or are chewed for a wide variety of medical conditions. Traditional Gitksan life involved seasonal movement to utilize a wide variety of plant and animal resources. The Gitksan people viewed their environment as a harmonious interacting whole which included people as one of its elements. Maintenance of this balance was crucial to the health of the environment and the survival and health of the people. Shamans, bone-setters, midwives and herbalists all contributed to maintenance of health and treatment of illness in the traditional system. Extensive use was made of plant products as medicines.

**KEYWORDS:****NOTES:**

Gould, William A., Grizelle González, Donald A. Walker, and Chien-Lu Ping

**2010 Commentary. Integrating Research, Education, and Traditional Knowledge in Ecology: a Case Study of Biocomplexity in Arctic Ecosystems.** *Arctic, Antarctic, and Alpine Research* 42(4):379-384.

**ABSTRACT:**

**KEYWORDS:****NOTES:**

Graham, Robin D., Ross M. Welch, David A. Saunders, Ivan OrtizMonasterio, Howarth E. Bouis, Merideth Bonierbale, Stef de Haan, Gabriella Burgos, Graham Thiele, Reyna Liria, Craig A. Meisner, Steve E. Beebe, Michael J. Potts, Mohinder Kadian, Peter R. Hobbs, Raj K. Gupta, and Steve Twomlow

**2007 Nutritious Subsistence Food Systems.** *In* Advances in Agronomy. L.S. Donald, ed. Pp. 1-74, Vol. Volume 92: Academic Press.

**ABSTRACT:** The major subsistence food systems of the world that feed resource-poor populations are identified and their capacity to supply essential nutrients in reasonable balance to the people dependent on them has been considered for some of these with a view to overcoming their nutrient limitations in sound agronomic and sustainable ways. The approach discusses possible cropping system improvements and alternatives in terms of crop combinations, external mineral supply, additional crops, and the potential for breeding staples in order to enhance their nutritional balance while maintaining or improving the sustainability and dietary, agronomic, and societal acceptability of the system. The conceptual framework calls for attention first to balancing crop nutrition that in nearly every case will also increase crop productivity, allowing sufficient staple to be produced on less land so that the remaining land can be devoted to more nutrient-dense and nutrient-balancing crops. Once this is achieved, the additional requirements of humans and animals (vitamins, selenium, and iodine) can be addressed. Case studies illustrate principles and strategies. This chapter is a proposal to widen the range of tools and strategies that could be adopted in the HarvestPlus Challenge Program to achieve its goals of eliminating micronutrient deficiencies in the food systems of resource-poor countries.

**KEYWORDS:** subsistence, nutrition

**NOTES:**

Granovetter, Mark

**2003 Ignorance, Knowledge, and Outcomes in a Small World.** *Science* 301(5634):773-774.

**ABSTRACT:****KEYWORDS:****NOTES:**

Granovetter, Mark, and Richard Swedberg, eds.

**2001 The sociology of economic life:** Westview Press

**ABSTRACT:** REVIEW: In recent years, sociologists have taken up a fruitful examination of such institutions as capital, labor and product markets, industrial organization, and stock exchanges. Compared to earlier traditions of economic sociology, recent work shows more interest in phenomena usually studied exclusively by economists. At the same time, recent work challenges the adequacy of the neoclassical model. In *The Sociology of Economic Life*, editors Granovetter and Swedberg incorporate classic and contemporary readings in economic sociology as well as offerings from related disciplines. This book provides students with a broad understanding of the dimensions of economic life. A major introduction by the editors traces the history of thought in the field and assesses recent advances and future trends. This second edition has been revised and updated, and it contains a number of new readings.

**KEYWORDS:****NOTES:**

Granovetter, Mark S.

**1978 Threshold models of collective behavior.** *American Journal of Sociology* 83:1420-1443.

**ABSTRACT:** Models of collective behavior are developed for situations where actors have two alternatives and the costs and/or benefits of each depend on how many other actors choose

which alternative. The key concept is that of "threshold": the number or proportion of others who must make one decision before a given actor does so; this is the point where net benefits begin to exceed net costs for that particular actor. Beginning with a frequency distribution of thresholds, the models allow calculation of the ultimate or "equilibrium" number making each decision. The stability of equilibrium results against various possible changes in threshold distributions is considered. Stress is placed on the importance of exact distributions for outcomes. **Groups with similar average preferences may generate very different results; hence it is hazardous to infer individual dispositions from aggregate outcomes or to assume that behavior was directed by ultimately agreed-upon norms. Suggested applications are to riot behavior, innovation and rumor diffusion, strikes, voting, and migration.** Issues of measurement, falsification, and verification are discussed.

**KEYWORDS:** Diffusion; Innovation

**NOTES:**

Granovetter, Mark S.

**1985 Economic Action and Social Structure: The Problem of Embeddedness.** American Journal of Sociology 91(3):481-510.

**ABSTRACT:**

**KEYWORDS:**

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Granovetter, Mark S.

**1992 Economic Institutions as Social Constructions: A Framework for Analysis.** Acta Sociologica 35(1):3-11.

**ABSTRACT:**

**KEYWORDS:**

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Granovetter, Mark S.

**1992 The problem of embeddedness.** The Sociology of Economic Life, Boulder Oxford:53-81.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Granovetter, Mark S.

**1995 Getting a job: A study of contacts and careers.** Chicago, IL: University of Chicago, Press.

**ABSTRACT:**

**KEYWORDS:** Social Capital

**NOTES:**

Granovetter, Mark S.

**2002 A theoretical agenda for economic sociology.** The new economic sociology: Developments in an emerging field:35-59.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Granovetter, Mark S.

**2005 The impact of social structure on economic outcomes.** Journal of Economic Perspectives:33-50.

**ABSTRACT:****KEYWORDS:****NOTES:**

Granovetter, Mark S., and R. Soong

**1986 Threshold models of interpersonal effects in consumer demand.** Journal of Economic Behavior and Organization 7:83-99.

**ABSTRACT:**

**KEYWORDS:** Diffusion; Innovation

**NOTES:**

Granovetter, Mark S., and R. Soong

**1988 Threshold models of diversity: Chinese restaurants, residential segregation, and the spiral of silence.** In Sociological Methodology. C.C. Clogg, ed, Vol. 18. Washington, DC: American Sociological Association.

**ABSTRACT:**

**KEYWORDS:** Diffusion; Innovation

**NOTES:**

Gray, Brian T., and Richard M. Kaminski

**1993 Assessing a mail survey to estimate illegal waterfowl hunting.** Wildlife Society Bulletin 21(2):188-193.

**ABSTRACT:** We initiated a study in 1989 to estimate illegal waterfowl hunting and harvest in the Mississippi Flyway and to determine characteristics of illegal waterfowl hunters to formulate recommendations for alleviating the problem. A mail survey was designed...

**KEYWORDS:****NOTES:**

Gray, Brian T., and Richard M. Kaminski

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**KEYWORDS:****NOTES:**

Grebmeier, J. M., J. E. Overland, S. E. Moore, E. V. Farley, E. C. Carmack, L. W. Cooper, K. E. Frey, J. H. Helle, F. A. McLaughlin, and S. L. McNutt

**2006 A major ecosystem shift in the northern Bering Sea.** Science 311(5766):1461-1464.

**ABSTRACT:** Until recently, northern Bering Sea ecosystems were characterized by extensive seasonal sea ice cover, high water column and sediment carbon production, and tight pelagic-benthic coupling of organic production. Here, we show that these ecosystems are shifting away from these characteristics. Changes in biological communities are contemporaneous with shifts in regional atmospheric and hydrographic forcing. In the past decade, geographic displacement of marine mammal population distributions has coincided with a reduction of benthic prey populations, an increase in pelagic fish, a reduction in sea ice, and an increase in air and ocean temperatures. These changes now observed on the shallow shelf of the northern Bering Sea should be expected to affect a much broader portion of the Pacific-influenced sector of the Arctic Ocean.

**KEYWORDS:**

**NOTES:** "Although a shift back to cold climate conditions is possible because of large climate variability in high latitudes, the northern Bering Sea is part of a larger climate system and thus likely to follow global patterns of diminished sea ice cover. It is difficult to envision rapid removal of the heat already gained by the ocean in recent years from diminished sea ice. **These observations support a continued trend toward more subarctic ecosystem conditions in the northern Bering Sea, which may have profound impacts on Arctic marine mammal and diving seabird populations as well as commercial and subsistence fisheries.**" (p 1464)

Greenberg, Joshua A., Mark Herrman, Terry Johnson, and Andrei Streletsky

**1994 The Russian salmon fishery: Alaska's next big threat?** *Agribusiness* 10(3):241-258.

**ABSTRACT:** The recent breakup of the Soviet Union has brought hope and opportunity to many Americans. It has also brought the possibility of new competition to some US agricultural and resource-based industries. Recent concern in the western regions of the United States and Canada has centered on the increased possibility of salmon exports from the Russia Far East to traditional Western markets fueled, in a large part, from Russia– Japanese joint ventures. A dynamic econometric model of the world salmon markets was utilized to simulate future Russian salmon export scenarios. It was found that the Alaska pink salmon industry may suffer devastating consequences from increased Russian exports of pink salmon while the sockeye industry will suffer somewhat less from increased Russian exports of sockeye salmon.

**KEYWORDS:****NOTES:**

Greenberg, Joshua A., Mark Herrmann, Scott C. Matulich, and Ron C. Mittelhammer

**1994 New directions for the Alaska King crab industry.** *Agribusiness* 10(2):167-178.

**ABSTRACT:** The Alaska king crab industry historically has been one of the most lucrative fishing industries in the United States. Low 1991 exvessel prices stunned the industry. An econometric model of Alaska king crab price formation is developed in this article to provide insight into potential causes of price movements. Wholesale price formation and allocation for the two largest markets, Japan and the United States, are explicitly modelled. Specific market conditions are shown to have resulted in an unusual market structure encompassing processors' price formation and product allocation. Recent events, including the deterioration of the US wholesale king crab market and economic liberalization in Russia, may have a profound impact on this industry. Model results are used in a discussion of potential ramifications of these events to industry participants.

**KEYWORDS:****NOTES:**

Greenberg, Joshua A., Mark Herrmann, Scott C. Matulich, and Ron C. Mittelhammer

**1994 New directions for the Alaska King crab industry.** *Agribusiness* 10(2):167-178.

**ABSTRACT:** The Alaska king crab industry historically has been one of the most lucrative fishing industries in the United States. Low 1991 exvessel prices stunned the industry. An econometric model of Alaska king crab price formation is developed in this article to provide insight into potential causes of price movements. Wholesale price formation and allocation for the two largest markets, Japan and the United States, are explicitly modelled. Specific market conditions are shown to have resulted in an unusual market structure encompassing processors' price formation and product allocation. Recent events, including the deterioration of the US wholesale king crab market and economic liberalization in Russia, may have a profound impact on this industry. Model results are used in a discussion of potential ramifications of these events to industry participants.

**KEYWORDS:**

**NOTES:**

Greist, Henry W.

**Seventeen years with the Eskimo.****ABSTRACT:****KEYWORDS:****NOTES:**

Gresham, Tom

**1985 MMPA: A conservation failure.** Alaskan Magazine:20-21.**ABSTRACT:****KEYWORDS:****NOTES:**

Grigorenko, Elena L., Elisa Meier, Jerry Lipka, Gerald Mohatt, Evelyn Yanez, and Robert J. Sternberg

**2004 Academic and practical intelligence: A case study of the Yup'ik in Alaska.** Learning and Individual Differences 14(4):183-207.

**ABSTRACT:** We assessed the importance of academic and practical intelligence in rural and relatively urban Yup'ik Alaskan communities with respect to Yup'ik-valued traits rated by adults or peers in the adolescents' communities. A total of 261 adolescents participated in the study; of these adolescents, 145 were females and 116 were males, and they were from seven different communities, six rural (n=136) and one relatively urban (n=125). We measured academic intelligence with conventional measures of fluid and crystallized intelligence. We measured practical intelligence with a test of everyday-life knowledge as acquired in Native Alaskan Yup'ik communities. Finally, we collected ratings from the adolescents' peers and adults on the traits that are valued by the Yup'ik people; thus, we evaluated the reputation for the Yup'ik-valued competences. The objective of the study was to estimate the relative contributions of conventional knowledge and everyday-life knowledge in predicting the ratings on Yup'ik-valued traits. The results indicated that everyday-life knowledge predicts Yup'ik-valued traits in the presented sample and that the predictive power of this knowledge is higher in adolescents (especially boys) from rural communities than from the semiurban community. The obtained result pattern further strengthens our arguments for the multidimensionality of human abilities and the importance of practical intelligence in nonacademic settings.

**KEYWORDS:** Practical intelligence

Yup'ik communities

Problem solving

**NOTES:**

Grinnell, Joseph

**1901 Gold hunting in Alaska.** Chicago: David C. Cook Publishing Co.**ABSTRACT:****KEYWORDS:****NOTES:**

Gross, Joseph J.

**1991 Subsistence fishing patterns on the Togiak River and the impact of sport fishing.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** The report presents findings of a study of subsistence salmon fishing on the Togiak River, which is within the Togiak National Wildlife Refuge, Southwest Alaska. The research was conducted in 1987. The report documents subsistence salmon harvest patterns by residents of Togiak and Twin Hills, including harvest quantities, targeted species, timing of efforts, methods of harvest, and locations of fishing activities. The research also examined the interactions between the subsistence fishery and the recreational fishery of the Togiak River,

which grew rapidly since 1979. Four kinds of conflicts between these 2 fisheries were documented: concerns by local residents about the biological impacts of the sport fishery; displacement of subsistence fishers from traditional sites by sport fishing activities; trespass by sport fishers on Native lands; and cultural objections to the common sport fishing practice of catch-and-release. Included are maps of subsistence and sport fishing locations and of Yup'ik place names along the Togiak River.

**KEYWORDS:**

**NOTES:**

Guemple, D. Lee

**1971 Alliance in Eskimo Society.** American Ethnological Society, 1971. University of Washington Press.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Guemple, D. Lee

**1972 Eskimo band organization and the "D P Camp" hypothesis.** Arctic anthropology 9(2):80-112.

**ABSTRACT:** Elman Service's hypothesis regarding the anomalous structure of Eskimo bands is examined for the whole of Eskimo society. The critique is divided into two parts: first, an examination of the present-day structure of Eskimo bands in various parts of the Arctic; secondly, an inquiry into the causal factors which gave rise to the structural forms exhibited in various sub-areas. The conclusion to the first part of the study is that Eskimo bands exhibit composite (or anomalous) band organization everywhere in the Arctic, although in some areas—viz. southern Alaska, east and west Greenland (but not in Smith Sound), and the area located around the Fox Basin in the central Arctic—bands show some of the characteristics of Service's patrilocal form. It is argued that these resemblances to the patrilocal form are relatively superficial, and that the underlying form shows a flexible, composite structure based on the negotiability of social status mediated through such institutions as spouse-exchange, childhood betrothal, adoption, namesake relationships, ritual sponsorship, and a variety of partnership alliances. These are termed ancillary kinship forms in the study.

The second part of the paper examines the issue of whether contact with European culture brought about the "compositization" of Eskimo bands through reduction of population, pacification, and the introduction of trading. The conclusion drawn is that contact did result in considerable population reduction through starvation and the in- of epidemic disease; and it further led to the mixing of bands through pacification and trade. Nevertheless, an attempt is made to show that population levels fluctuated markedly in precontact times, largely because of dramatic, if short-lived, scarcity in food resources. It is also argued that the hostility characteristic of Eskimo band groups was no insurmountable barrier to exchanges of personnel in the precontact period and that trading networks were apparently quite widespread in precontact times as well as after contact. On both counts, it is argued, there was some precontact mixing of bands; and evidence is adduced to show that some Eskimo bands actually had a mixed composition when first contacted.

In the conclusion to the study it is asserted that the composite band structure which underlies Eskimo social organization is congruent with the kinds of organizational problems commonly faced in the Arctic in precontact times and that Service's hypothesis is therefore inapplicable both with regard to the basic structure of Eskimo bands and with respect to the causal factors which gave rise to that structural form. It is also pointed out that numerous other band systems, e. g. Bushman, some Australian groups, the Andamanese, et al. also exhibit the institutional ancillary kinship forms which give Eskimo their composite band structure. It is suggested that an investigation of these societies in terms of negotiable social status might disclose that they too possess what is essentially a composite organizational form.

**KEYWORDS:** network

**NOTES:**

Guemple, D. Lee

**2000 Gender in Inuit society.** *In* Women and power in native North America. L.F. Klein and L.A. Ackerman, eds. Pp. 17-27. Norman: University of Oklahoma.

**ABSTRACT:** This chapter explores gender relations in Eskimo (Yuit, Inuit) society with particular reference to equality in power, authority, and prestige. It is a factual account of traditional gender relations, setting aside any consideration of changes that have taken place since the early contact period. Although theoretical discussion of the concepts involved here is beyond the scope of this inquiry, such terms as "equality" and "power" are certainly outgrowths of contemporary Euro-North American interests in gender relations and so express cultural values and sentiments that can be "exported" to other cultures only with some care.

**KEYWORDS:**

**NOTES:**

Guemple, L

**1986 Men and Women, Husbands and Wives: The Role of Gender in Traditional Inuit Society in A la frontière des sexes. On the Border of Genders.** *Etudes/Inuit/Studies* 10(1-2):9-24.

**ABSTRACT:** Using the concept of social actor as an analytic tool an attempt is made to examine the relationships between spouses among the Belcher Island Inuit in the light of native definitions of gender and gender associated task allocation. Maturation rituals, spouse exchange practices, and incestuous unions are examined for evidence in support of the view that social actors are defined primarily in terms of gender associated work and that sexuality is not the key to understanding spousal relations but is merely part of that division of labor.

**KEYWORDS:**

**NOTES:**

Gunderson, L., and C. Folke

**2011 Resilience 2011: Leading Transformational Change.** *Ecology and Society* 16(2):30-30.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** ISI Document Delivery No.: 788RT

Gunderson, Lance Folke, Carl

Resilience alliance

Wolfville

Guthrie, J. F., and M. Nord

**2002 Federal activities to monitor food security.** *Journal of the American Dietetic Association* 102(7):904-6.

**ABSTRACT:**

**KEYWORDS:** Food Supply/ statistics & numerical data; Humans; Hunger; Nutrition Surveys; Terminology as Topic; United States; United States Department of Agriculture

**NOTES:** Guthrie, Joanne F

Nord, Mark

United States

*Journal of the American Dietetic Association*

*J Am Diet Assoc.* 2002 Jul;102(7):904-6.



Haag, William C.

**1962 The Bering Strait land bridge.** Scientific American:11-18.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Haglund, Donn K.

**1985 Saint Lawrence and Little Diomed Islands, Alaska: Their discovery and contemporary geography.** Laurentian University Review 18(1):25-37.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Hale, Lynne Zeitlin

**1979 The NANA Region environment: A summary of available information** **ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Haley, Delphine

**1980 Future of the walrus: Rise before the fall?** Oceans 13(3):62-63.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Haley, Delphine

**1980 Future of the walrus: Rise before the fall?** Oceans 13(3):62-63.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Haley, Delphine

**1980 Tooth-walking seahorse: The wonder of the walrus .** Oceans 13(3):38-44.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Haley, Delphine

**1980 Tooth-walking seahorse: The wonder of the walrus .** Oceans 13(3):38-44.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Haley, Delphine

**1980 Tooth-walking seahorse: the wonder of the walrus .** *In* Oceans.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Haley, Sharman

**2004 Institutional assets for negotiating the terms of development: Indigenous collective action and oil in Ecuador and Alaska.** Economic Development and Cultural Change 53(1):191-213.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Haley, Sharman, and James Magdanz

**2008 The impact of resource development on social ties: theory and methods for assessment.** In *Earth Matters: Indigenous peoples, the extractive industries, and corporate social responsibility*. C. O'Faircheallaigh and S. Ali, eds. Pp. 24-41. Sheffield, U.K.: Greenleaf Publishing.

**ABSTRACT:** This chapter develops a theoretical framework for understanding types of social ties, changes in social ties and implications of changes in social ties with respect to resource development in Arctic Alaska. It uses Woolcock's (1998) definitions of social capital at the micro level — intra-community ties and extra-community networks — and integrates Burt's theories of bridging versus closure. The chapter reviews empirical findings relating social ties to well-being in Arctic Alaska and develops a research design for measuring changes in social ties that may result from resource development.

**KEYWORDS:** social capital; social network

**NOTES:**

Hall, Edwin S., Jr.

**1971 The "Iron Dog" in Northern Alaska.** *Anthropologica*:237-254.

**ABSTRACT:** The snowmobile, a recent technological innovation in northern Alaska, has caused dramatic changes in the lives of the Noatak Eskimos. Only a few quantitative measures of the nature and extent of cultural change attributable to the introduction of the snowmobile are now available, but some trends can be discerned.

**KEYWORDS:**

**NOTES:**

Hall, Edwin S., Jr.

**1973 Archaeological investigations in the Noatak River Valley Summer, 1973.** *The Environment of the Noatak River Basin Alaska* (1):460-521.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Hall, Edwin S., Jr.

**1975 Kutchin Athapaskan Nunamiut Eskimo conflict: an ethnohistorical study.** *The Alaska Journal* 5(4):248-252.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Hall, Janet Elizabeth

**1981 Angoon subsistence coho fishery: an interim report.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes the subsistence uses of coho salmon from the Mitchell Bay-Salt Lake area by residents of Angoon on Admiralty Island. Regulatory options regarding this activity are presented.

**KEYWORDS:**

**NOTES:**

Hall, June E.

**2007 The lure of Alaska: A history of tourism in the great land.** Juneau: Alaska State Museum.

**ABSTRACT:****KEYWORDS:****NOTES:**

Hallegatte, Stéphane

**2009 Strategies to adapt to an uncertain climate change.** Global Environmental Change 19(2):240-247.

**ABSTRACT:** Many decisions concerning long-lived investments already need to take into account climate change. But doing so is not easy for at least two reasons. First, due to the rate of climate change, new infrastructure will have to be able to cope with a large range of changing climate conditions, which will make design more difficult and construction more expensive. Second, uncertainty in future climate makes it impossible to directly use the output of a single climate model as an input for infrastructure design, and there are good reasons to think that the needed climate information will not be available soon. Instead of optimizing based on the climate conditions projected by models, therefore, future infrastructure should be made more robust to possible changes in climate conditions. This aim implies that users of climate information must also change their practices and decision-making frameworks, for instance by adapting the uncertainty-management methods they currently apply to exchange rates or R&D outcomes. Five methods are examined: (i) selecting "no-regret" strategies that yield benefits even in absence of climate change; (ii) favouring reversible and flexible options; (iii) buying "safety margins" in new investments; (iv) promoting soft adaptation strategies, including long-term prospective; and (v) reducing decision time horizons. Moreover, it is essential to consider both negative and positive side-effects and externalities of adaptation measures. Adaptation-mitigation interactions also call for integrated design and assessment of adaptation and mitigation policies, which are often developed by distinct communities.

**KEYWORDS:** Climate change; Adaptation; Uncertainty

**NOTES:** doi: DOI: 10.1016/j.gloenvcha.2008.12.003

Halpin, Libby

**1987 Living off the land: contemporary subsistence in Tetlin, Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** Originally written as a master's thesis for completion of a degree in the Forest Resources Program at the University of Washington, this report examines the harvest and uses of fish, wildlife, and plant resources in the predominantly Athabascan Indian community of Tetlin, in the Upper Tanana Region. Information was collected on estimated harvest levels for a 12-month period, 1983-1984; on changes observed in harvest strategies; and on resource issues of concern to the community. The purpose of the study was to document contemporary and recent historical land use patterns, so that local residents could more actively participate in land and resource management decision-making that affected their community.

**KEYWORDS:****NOTES:**

Hamazaki, T.

**2008 Fishery Closure "Windows" Scheduling as a Means of Changing the Chinook Salmon Subsistence Fishery Pattern: Is It an Effective Management Tool?** Fisheries 33(10):495-501.

**ABSTRACT:** This study examined the effectiveness of subsistence fishery closure "windows" scheduling as a management tool for conservation of Chinook salmon (*Oncorhynchus tshawytscha*) in the Kuskokwim River, Alaska. The windows, which reduced subsistence fishing from seven days to four days a week, were implemented in 2001 to conserve early migrant

upper-river Chinook salmon stock and to provide subsistence harvest opportunities for upper-river communities. The windows were expected to (1) reduce the proportion of Chinook salmon harvests in the early season, (2) delay the harvest timing, and (3) extend the total fishing days. To examine its effectiveness, Subsistence salmon harvest calendars (1989-2006) were collected and examined for changes in harvest timing before and after the windows were implemented. The results showed that the windows did not reduce harvests early in the season, delay the harvest timing, or extend the total fishing days. This suggests that the windows were not effective. Potential reasons for this failure are discussed.

**KEYWORDS:**

**NOTES:** Times Cited: 0

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Hamazaki, Toshihide

**2008 "When people argue about fish, the fish disappear."** Fisheries 33(10):495 - 501.

**ABSTRACT:** This study examined the effectiveness of subsistence fishery closure "windows" scheduling as a management tool for conservation of Chinook salmon (*Oncorhynchus tshawytscha*) in the Kuskokwim River, Alaska. The windows, which reduced subsistence fishing from seven days to four days a week, were implemented in 2001 to conserve early migrant upper-river Chinook salmon stock and to provide subsistence harvest opportunities for upper-river communities. The windows were expected to (1) reduce the proportion of Chinook salmon harvests in the early season, (2) delay the harvest timing, and (3) extend the total fishing days. To examine its effectiveness, subsistence salmon harvest calendars (1989-2006) were collected and examined for changes in harvest timing before and after the windows were implemented. The results showed that the windows did not reduce harvests early in the season, delay the harvest timing, or extend the total fishing days. This suggests that the windows were not effective. Potential reasons for this failure are discussed.

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**2008 "When people argue about fish, the fish disappear."** Fisheries 33(10):495 - 501.

**ABSTRACT:** This study examined the effectiveness of subsistence fishery closure "windows" scheduling as a management tool for conservation of Chinook salmon (*Oncorhynchus tshawytscha*) in the Kuskokwim River, Alaska. The windows, which reduced subsistence fishing from seven days to four days a week, were implemented in 2001 to conserve early migrant upper-river Chinook salmon stock and to provide subsistence harvest opportunities for upper-river communities. The windows were expected to (1) reduce the proportion of Chinook salmon harvests in the early season, (2) delay the harvest timing, and (3) extend the total fishing days. To examine its effectiveness, subsistence salmon harvest calendars (1989–2006) were collected and examined for changes in harvest timing before and after the windows were implemented. The results showed that the windows did not reduce harvests early in the season, delay the harvest timing, or extend the total fishing days. This suggests that the windows were not effective. Potential reasons for this failure are discussed.

**KEYWORDS:**

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Hamelin, Anne-Marie, Jean-Pierre Habicht, and Micheline Beaudry

**1999 Food Insecurity: Consequences for the Household and Broader Social Implications.** *Journal of Nutrition* 129(2):525-.

**ABSTRACT:** A conceptual framework showing the household and social implications of food insecurity was elicited from a qualitative and quantitative study of 98 households from a heterogeneous low income population of Quebec city and rural surroundings; the study was designed to increase understanding of the experience of food insecurity in order to contribute to its prevention. According to the respondents' description, the experience of food insecurity is characterized by two categories of manifestations, i.e., the core characteristics of the phenomenon and a related set of actions and reactions by the household. This second category of manifestations is considered here as a first level of consequences of food insecurity. These consequences at the household level often interact with the larger environment to which the household belongs. On a chronic basis, the resulting interactions have certain implications that are tentatively labeled "social implications" in this paper. Their examination suggests that important aspects of human development depend on food security. It also raises questions concerning the nature of socially acceptable practices of food acquisition and food management, and how such acceptability can be assessed. Guidelines to that effect are proposed. Findings underline the relevance and urgency of working toward the realization of the right to food.

**KEYWORDS:**

**NOTES:**

Hamilton, Lawrence C.

**2007 Climate, fishery and society interactions: Observations from the North Atlantic.** *Deep Sea Research Part II: Topical Studies in Oceanography* 54(23-26):2958-2969.

**ABSTRACT:** Interdisciplinary studies comparing fisheries-dependent regions across the North Atlantic find a number of broad patterns. Large ecological shifts, disastrous to historical fisheries, have resulted when unfavorable climatic events occur atop overfishing. The "teleconnections" linking fisheries crises across long distances include human technology and markets, as well as climate or migratory fish species. Overfishing and climate-driven changes have led to a shift downwards in trophic levels of fisheries takes in some ecosystems, from dominance by bony fish to crustaceans. Fishing societies adapt to new ecological conditions through social reorganization that have benefited some people and places, while leaving others behind. Characteristic patterns of demographic change are among the symptoms of such reorganization. These general observations emerge from a review of recent case studies of individual fishing communities, such as those conducted for the North Atlantic Arc research project.

**KEYWORDS:** Fisheries

Social science

Human dimensions  
Collapse  
Climate

**NOTES:**

Hamilton, Lawrence C., and Angela M. Mitiguy

**2009 Visualizing Population Dynamics of Alaska's Arctic Communities.** Arctic 62(4):393-398.

**ABSTRACT:** Arctic demography has previously been reviewed on a large scale, across the circumpolar nations. We look instead at some recent population dynamics on sub-regional to community scales, focusing on Arctic Alaska. Detailed graphics depicting yearly population changes from 1990 to 2006 in 43 selected Arctic Alaska towns and villages and all 27 of the state's "county-equivalent entities" (e.g., boroughs) have been published online in connection with two International Polar Year projects. Seemingly comparable places within the same borough have taken widely divergent paths. Birth rates generally exceed death rates, although both are high. Year-to-year and place-to-place variations are dominated not by natural increase, but by differences in net migration. Population changes influence demand for resources such as water, electricity, fuel, and capital improvements, and probably for subsistence resources as well. Migration rates provide sensitive indicators that integrate diverse internal and external pressures.

**KEYWORDS:** demography, population, migration, birth rate, mortality, Alaska, Arctic, village, demographic transition, Arctic Observing Network

**NOTES:** Accession Number: 47775413

Hamilton, Lawrence C., and Rasmus Ole Rasmussen

**2010 Population, Sex Ratios and Development in Greenland.** Arctic 63(1):43-52.

**ABSTRACT:** During the 20th century, Greenland society experienced a dramatic transformation from scattered settlements based on hunting, with mostly turf dwellings, to an urbanizing post-industrial economy. This transformation compressed socioeconomic development that took centuries to millennia elsewhere into a few generations. The incomplete demographic transition that accompanied this development broadly followed the classical pattern, but with distinctive variations relating to Greenland's Arctic environment, sparse population, and historical interactions between two cultures: an indigenous Inuit majority and an influential Danish minority. One heritage from Danish colonial administration, and continued more recently under Greenland Home Rule, has been the maintenance of population statistics. Time series of demographic indicators, some going back into the 18th century, provide a uniquely detailed view of the rapid hunting-to-post-industrial transition. Changing sex ratios—an early excess of females, shifting more recently to an excess of males—reflect differential impacts of social, economic, and technological developments.

**KEYWORDS:** Greenland, demography, population, sex ratio, migration, fertility, mortality, demographic transition

**NOTES:**

Hamilton, Lawrence C., and Carole L. Seyfrit

**1993 Town-village contrasts in Alaskan youth aspirations.** Arctic 46(3):255-263.

**ABSTRACT:** Recent surveys of high school students in Alaska's Northwest Arctic and Bristol Bay regions reflect the social changes taking place in rural Native communities. Significant differences exist between the aspirations of young people in small villages and those in the larger towns that constitute regional hubs (Kotzebue and Dillingham). Town students, who attend

more complete and varied high schools, express greater confidence in their educations and more interest in attending college. Jobs at Red Dog Mine, recently opened in the Northwest Arctic, appeal particularly to young males with strong ties to village life. This labor pool presents special challenges for the mine's goal of 100% Native employment, however. A majority of town students and about half of the village students expect to migrate permanently away from their home region. The likelihood of expecting migration increases curvilinearly with community size. Young women and college-aspiring students disproportionately expect outmigration. Differential migration affects the acculturation and life prospects of individuals and shapes the demographic profile of Alaskan villages, towns, and cities.

**KEYWORDS:** Alaska; Eskimo; Inuit; Yu'pik; youth; mining; education; employment; migration; social change

**NOTES:**

Hamilton, Lawrence C., and Carole L. Seyfrit

**1994 Coming out of the country: Community size and gender balance among Alaskan Natives.** *Arctic anthropology* 31(1):16-25.

**ABSTRACT:** Previous studies established that Alaskan Native women are more likely than Alaskan Native men to keep full-time jobs, attend college, or move to cities. We heard accounts of this divergence, and its social consequences, during recent research in the Northwest Arctic and Bristol Bay regions. Informants from several villages claimed that female outmigration was affecting local life. Surveys covering 15 communities confirmed a broad pattern of gender differences in adolescent aspirations and in young adult actions. For this paper we expand our scope beyond the two regions initially studied, and explore the magnitude of Native female outmigration from bush Alaska. Statewide data show a systematic relation between Native gender balance and community size, consistent with differential migration. In some other societies "female flight" occurs along rural/urban and associated social class lines, but its magnitude in Alaska's transcultural context raises particularly acute issues of individual and cultural survival.

**KEYWORDS:** Alaska; migration; gender; Northwest Arctic; Bristol Bay

**NOTES:** "Often women's jobs serve to support men's activities-purchasing snowmachines or boats, for instance. Role expectations place a burden on village females, but at the same time may better prepare them for employment and life elsewhere." (p. 17)  
 "Urban amenities matter to adults too; when one Anchorage-based corporation polled its mostly female Native employees about a proposed headquarters shift to the rural region where many were born, they unanimously opposed the move." (p. 17)  
 "Native women were much likelier than Native men to get married in general (744 versus 557), and to choose a nonNative spouse in particular (351 Native women married whites, while only 186 Native men did so). Indian Health Service statistics report a similar trend towards Native mother/white father births (Williams 1993)." (pp. 17-18)  
 "Successful outmigrants might benefit their rural origin communities in several ways, from providing positive role models to financially helping relatives. Disproportionate female outmigration also harms village life, however. It leaves young men with less chance of finding stable partners, forming a family, and settling down as contributing members of the community. Instead, some face an extended adolescent period of low responsibility, with associated risks of accidents, substance abuse, suicide, and encounters with the law. A sense of having been "left behind" by their female peers could heighten such risks. Younger girls meanwhile experience increasing attention from adult men, contributing to problems of abuse, teen pregnancy, early alcoholism and fetal exposure, high-risk sexual activity, and self-destruction. Pressure from a male majority could add to the incentives for women and girls to leave." (p. 24)  
 "In diverse societies there are women "voting with their feet" regarding the roles available to them in rural/traditional versus urban/modern life. This freedom enhances many lives. In Alaska's

transcultural context, however, outmigration on such a scale also raises particularly acute issues of individual and cultural survival." (p. 24)

Hamilton, Lawrence C, Carole L. Seyfrit, and Christina Bellinger

**1997 Environment and sex ratios among Alaska Natives: An historical perspective.**  
Population & Environment 18(3):283-299.

**ABSTRACT:** Human-environment interactions can affect the sex ratios of resource-dependent societies in a variety of ways. Historical and contemporary data on Alaska Native populations illustrate such effects. Some eighteenth and early nineteenth century observers noted an excess of females, which they attributed to high mortality among hunters. Population counts in the later nineteenth century and well into the twentieth found instead an excess of men in many communities. Female infanticide was credited as the explanation: since family survival depended upon hunting success, males were more valued. Although infanticide explanations for the excess of males have been widely believed, available demographic data point to something else: higher adult female mortality. Finally, in the postwar years, the importance of mortality differentials seems to have faded -- and also changed direction. Female outmigration from villages accounts for much of the gender imbalance among Native populations today. Natural-resource development, particularly North Slope oil, indirectly drives this migration. In Alaska's transcultural communities, the present gender imbalances raise issues of individual and cultural survival.

**KEYWORDS:** gender; Northwest Alaska; Migration

**NOTES:**

Hamilton, Terry, Dana Seagars, Terry Jokela, and David Layton

**2008 137Cs and 210Po in Pacific walrus and bearded seal from St. Lawrence Island, Alaska.** Marine Pollution Bulletin 56(6):1158-1167.

**ABSTRACT:** The activity concentration of Cesium-137 (137Cs) and naturally-occurring Polonium-210 (210Po) were measured in the muscle tissue, kidney and liver of Pacific walrus (*Odobenus rosmarus divergens*) and bearded seal (*Erignathus barbatus*) collected by native hunters from the Bering Sea during May 1996. The mean 137Cs concentrations in muscle, liver and kidney of Pacific walrus were 0.07, 0.09 and 0.07 Bq kg<sup>-1</sup> (n = 5, wet weight), respectively, and 0.17, 0.10, and 0.17 Bq kg<sup>-1</sup> (n = 2, wet weight), respectively, in bearded seal. In general, 137Cs tissue concentrations are significantly lower than those previously reported for mammals from other regions. By comparison, 210Po activity concentrations are more variable and appear to be higher level compared with mammal data from other regions. The mean 210Po concentration in the muscle tissue, liver and kidney of Pacific walrus (n = 5, wet weight) were 28.7, 189, and 174 Bq kg<sup>-1</sup>, respectively. This compares with 210Po concentration values (n = 2, wet weight) of 27, 207 and 68 Bq kg<sup>-1</sup> measured in the muscle tissue, liver and kidney, of bearded seal, respectively. Estimated concentration factors--as defined by the radionuclide concentration ratio between the target tissue to that in sea water--were two to three orders of magnitude higher for 210Po than those of 137Cs. We conclude from radiological dose estimates that ingestion of 137Cs in foods derived from walrus and seal will pose no threat to human health. This work has important implications for assessment of risks of Alaskan coastal communities concerned about the dumping of nuclear waste in the Russia Arctic.

**KEYWORDS:** 137Cs

210Po

Bering sea

Bearded seal

Pacific walrus

Concentration factors

**NOTES:**



Hamilton, Terry, Dana Seagars, Terry Jokela, and David Layton

**2008 137Cs and 210Po in Pacific walrus and bearded seal from St. Lawrence Island, Alaska.** Marine Pollution Bulletin 56(6):1158-1167.

**ABSTRACT:** The activity concentration of Cesium-137 (137Cs) and naturally-occurring Polonium-210 (210Po) were measured in the muscle tissue, kidney and liver of Pacific walrus (*Odobenus rosmarus divergens*) and bearded seal (*Erignathus barbatus*) collected by native hunters from the Bering Sea during May 1996. The mean 137Cs concentrations in muscle, liver and kidney of Pacific walrus were 0.07, 0.09 and 0.07 Bq kg<sup>-1</sup> (n = 5, wet weight), respectively, and 0.17, 0.10, and 0.17 Bq kg<sup>-1</sup> (n = 2, wet weight), respectively, in bearded seal. In general, 137Cs tissue concentrations are significantly lower than those previously reported for mammals from other regions. By comparison, 210Po activity concentrations are more variable and appear to be higher level compared with mammal data from other regions. The mean 210Po concentration in the muscle tissue, liver and kidney of Pacific walrus (n = 5, wet weight) were 28.7, 189, and 174 Bq kg<sup>-1</sup>, respectively. This compares with 210Po concentration values (n = 2, wet weight) of 27, 207 and 68 Bq kg<sup>-1</sup> measured in the muscle tissue, liver and kidney, of bearded seal, respectively. Estimated concentration factors--as defined by the radionuclide concentration ratio between the target tissue to that in sea water--were two to three orders of magnitude higher for 210Po than those of 137Cs. We conclude from radiological dose estimates that ingestion of 137Cs in foods derived from walrus and seal will pose no threat to human health. This work has important implications for assessment of risks of Alaskan coastal communities concerned about the dumping of nuclear waste in the Russia Arctic.

**KEYWORDS:** 137Cs

210Po

Bering sea

Bearded seal

Pacific walrus

Concentration factors

**NOTES:**

Hammond, R. A., and Robert Axelrod

**2006 The evolution of ethnocentrism.** Journal of Conflict Resolution 50(6):926.

**ABSTRACT:** Ethnocentrism is a nearly universal syndrome of attitudes and behaviors, typically including in-group favoritism. Empirical evidence suggests that a predisposition to favor in-groups can be easily triggered by even arbitrary group distinctions and that preferential cooperation within groups occurs even when it is individually costly. The authors study the emergence and robustness of ethnocentric behaviors of in-group favoritism, using an agent-based evolutionary model. They show that such behaviors can become widespread under a broad range of conditions and can support very high levels of cooperation, even in onemove prisoner's dilemma games. When cooperation is especially costly to individuals, the authors show how ethnocentrism itself can be necessary to sustain cooperation

**KEYWORDS:**

**NOTES:**

Hamrick, K. J., and J. Smith

**2004 Potential future studies on the nutritional status among indigenous peoples in Alaska and the Russian Far East: preliminary assessment of the Social Transition in the North data set.** International Journal of Circumpolar Health Suppl 1:43-8.

**ABSTRACT:** OBJECTIVE: The purpose of this assessment is to examine the nutrition-related health data collected during the Social Transitions of the North (STN) study for understanding cultural differences between nations and the impact on nutritional status. METHODS: The nutrition data in the STN study was collected in two regions of Alaska (Northwest Arctic and the

Aleutian Islands) and in two regions of the Russian Far East (Kamchatka and Chukotka). The health questionnaire explored several factors that may contribute to identifying the nutritional status of the study populations. These factors were appetite, weight, subsistence food consumption, vitamin or mineral supplements use self-perception of health, special diets, and number of meals consumed with relatives. RESULTS: US populations were heavier than the Russian population ( $p = 0.0001$ ). Both the Alaskan and Russian populations are frequent users of subsistence foods. The US respondents reported consuming 75% or more of the total protein as subsistence protein more often (40%) than the Russian respondents (25%). CONCLUSION: US respondents perceive themselves as healthier than their Russian counterparts. The US respondents consumed greater amounts of subsistence foods in general, and more of their diet over the year is made up of Native protein.

**KEYWORDS:** Adult

Alaska/epidemiology  
 Appetite  
 Arctic Regions/epidemiology  
 Body Weight  
 Cross-Cultural Comparison  
 Diet  
 Dietary Proteins  
 Female  
 \*Health Transition  
 Humans  
 \*Inuits/statistics & numerical data  
 Male  
 \*Nutritional Status  
 Russia/epidemiology  
 \*Social Change

**NOTES:** Hamrick, Kari J

Smith, Janell  
 RR 16430/RR/NCRR NIH HHS/United States  
 Comparative Study  
 Multicenter Study  
 Research Support, U.S. Gov't, Non-P.H.S.  
 Research Support, U.S. Gov't, P.H.S.  
 Finland  
 International journal of circumpolar health  
 Int J Circumpolar Health. 2004;Suppl 1:43-8.

Hancock, HS

**2010 America's War on Tribal Economies: Federal Attacks on Native Contracting in the SBA 8 (A) Business Development Program.** Washburn LJ 49:717-933.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** "History has taught us that once something is identified as being valuable to Native Americans, the federal government tries to take it away. Congress and the executive branch have enacted laws, adopted policies, and declared war on America's Native Peoples to accomplish such deprivations. The United States broke numerous treaties and diplomatic agreements with Native Nations and engaged in various acts of war to achieve the forced taking of land and other natural resources. During this effort, U.S. military campaigns massacred thousands of Native men, women, and children, displacing the survivors of their homelands and confining them to predetermined, federally controlled areas deemed otherwise worthless to the rest of Americans." (pp 717)

Hansen, James, Makiko Sato, Reto Ruedy, Andrew Lacis, and Valdar Oinas

**2000 Global warming in the twenty-first century: An alternative scenario.** Proceedings of the National Academy of Sciences of the United States of America 97(18):9875-9880.

**ABSTRACT:** A common view is that the current global warming rate will continue or accelerate. But we argue that rapid warming in recent decades has been driven mainly by non-CO greenhouse gases (GHGs), such as chlorofluorocarbons, CH<sub>4</sub>, and NO<sub>x</sub>, not by the products of fossil fuel burning, CO and aerosols, the positive and negative climate forcings of which are partially offsetting. The growth rate of non-CO GHGs has declined in the past decade. If sources of CH<sub>4</sub> and O<sub>3</sub> precursors were reduced in the future, the change in climate forcing by non-CO GHGs in the next 50 years could be near zero. Combined with a reduction of black carbon emissions and plausible success in slowing CO emissions, this reduction of non-CO GHGs could lead to a decline in the rate of global warming, reducing the danger of dramatic climate change. Such a focus on air pollution has practical benefits that unite the interests of developed and developing countries. However, assessment of ongoing and future climate change requires composition-specific long-term global monitoring of aerosol properties.

**KEYWORDS:**

**NOTES:**

Hansen, James, Makiko Sato, Reto Ruedy, Ken Lo, David W. Lea, and Martin Medina-Elizade  
**2006 Global temperature change.** Proceedings of the National Academy of Sciences 103(39):14288-14293.

**ABSTRACT:** Global surface temperature has increased ~0.2°C per decade in the past 30 years, similar to the warming rate predicted in the 1980s in initial global climate model simulations with transient greenhouse gas changes. Warming is larger in the Western Equatorial Pacific than in the Eastern Equatorial Pacific over the past century, and we suggest that the increased West-East temperature gradient may have increased the likelihood of strong El Niños, such as those of 1983 and 1998. Comparison of measured sea surface temperatures in the Western Pacific with paleoclimate data suggests that this critical ocean region, and probably the planet as a whole, is approximately as warm now as at the Holocene maximum and within ~1°C of the maximum temperature of the past million years. We conclude that global warming of more than ~1°C, relative to 2000, will constitute "dangerous" climate change as judged from likely effects on sea level and extermination of species.

**KEYWORDS:** climate change; El Niños; global warming; sea level; species extinctions

**NOTES:**

Harary, F.

**1968 Graph theory** Reading, MA: Addison-Wesley.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Harbo, Sam

**1959 A study of the walrus and the King Island economy.** 1-47.

**ABSTRACT:** A field study of the Eskimo-wildlife relationships, and the ecology of the wildlife on King Island was made during the spring of 1959. Emphasis was placed on the biology of walrus and the importance and relationship of walrus to the native population. Approximately 256 adult and sub-adult walrus and 18 walrus calves were harvested during nine days of hunting. Both the hunting and harvest methods were extremely wasteful. The ivory of adult walrus and the os penis of adult males were the only items invariably saved. The emphasis placed on collecting ivory prevented the preservation of an adequate winter meat supply, although the number of

animals killed was more than five times greater than the number needed for food. Other biological data were collected.

**KEYWORDS:**

**NOTES:**

Harbo, Sam

**1959 A study of the walrus and the King Island economy.** 1-47.

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**KEYWORDS:**

**NOTES:**

Hardin, Garrett

**1968 The Tragedy of the Commons.** Science 162(3859):1243-1248.

**ABSTRACT:** The population problem has no technical solution; it requires a fundamental extension in morality.

**KEYWORDS:**

**NOTES:**

Hardin, G.

**1998 Extensions of "The Tragedy of the Commons".** Science 280(5364):682-683.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** Times Cited: 67

Hardin, G.

**1999 The tragedy of the commons revisited.** Environment 41(2):5-+.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** Times Cited: 1

Hardin, R.

**2006 The Genetics of Cooperation.** Analyse und Kritik 28:57-65.

**ABSTRACT:** Binmore analyzes the genetic basis of cooperation. Much of the literature doing this supposes that we must explain directly the cooperative tendency, whether by individual or group selection. A more effective way to go is to find something more general and likely more deeply embedded in personal traits that enables and even enhances cooperation. Hume, with whom Binmore claims affinities, long ago proposed a psychological phenomenon now called mirroring, which induces good relations through shared sentiments in a way that is essentially hard-wired. Mirroring indirectly contributes to cooperativeness. There may be other similarly indirect ways to account for human cooperativeness.

**KEYWORDS:**

**NOTES:**

Hare, Steven R., and Nathan J. Mantua

**2000 Empirical evidence for North Pacific regime shifts in 1977 and 1989.** Progress In Oceanography 47(2-4):103-145.

**ABSTRACT:** It is now widely accepted that a climatic regime shift transpired in the North Pacific Ocean in the winter of 1976-77. This regime shift has had far reaching consequences for the large marine ecosystems of the North Pacific. Despite the strength and scope of the changes initiated by the shift, it was 10-15 years before it was fully recognized. Subsequent research has suggested that this event was not unique in the historical record but merely the latest in a succession of climatic regime shifts. In this study, we assembled 100 environmental time series, 31 climatic and 69 biological, to determine if there is evidence for common regime signals in the 1965-1997 period of record. Our analysis reproduces previously documented features of the 1977 regime shift, and identifies a further shift in 1989 in some components of the North Pacific ecosystem. The 1989 changes were neither as pervasive as the 1977 changes nor did they signal a simple return to pre-1977 conditions. A notable feature of the 1989 regime shift is the relative clarity that is found in biological records, which contrasts with the relative lack of clear changes expressed by indices of Pacific climate. Thus, the large marine ecosystems of the North Pacific and Bering Sea appear to filter climate variability strongly, and respond nonlinearly to environmental forcing. We conclude that monitoring North Pacific and Bering Sea ecosystems may allow for an earlier identification of regime shifts than is possible from monitoring climate data alone.

**KEYWORDS:****NOTES:**

Harrington, Andrew M., and Peter J. Fix

**2009 Benefits based management study for the Squirrel River area.** Pp. 99. Fairbanks, AK: Department of Resources Management, University of Alaska.

**ABSTRACT:** A study was undertaken in the fall of 2008 to gather information to assist in the implementation of Benefits Based Management and to determine the extent of the perceived conflict in the Squirrel River area. While focus groups and interviews were determined to be the most efficient method of collecting this information from local residents who use the area, a survey was determined to be the best method of collecting information from non-local residents. The study focused on hunting in the area because it was determined to be the most common activity and believed to be directly related to the perceived conflict in the area. Focus groups and interviews were conducted in the villages of Kiana and Noorvik in October and November, respectively, of 2008. This report is divided into two sections: the first section discusses the focus groups and interviews, the second section focuses on the survey targeting non-locals conducted as part of this study.

**KEYWORDS:** user conflict; Squirrel River; Kiana; Noorvik; management

**NOTES:**

Harrison, Gordon S.

**1970 Electoral behavior of Alaska Native villages:** Institute of Social, Economic and Government Research, University of Alaska.

**ABSTRACT:****KEYWORDS:****NOTES:**

Harrison, Gordon S.

**1971 Alaska public policy: Current problems and issues:** Institute of Social, Economic and Government Research, University of Alaska.

**ABSTRACT:****KEYWORDS:****NOTES:**

Harritt, Roger K.

**2010 Variations of Late Prehistoric Houses in Coastal Northwest Alaska: A View from Wales.** *Arctic anthropology* 47(1):57-70.

**ABSTRACT:** A review of literature and archival images reveals a distinctive method of double-walled house construction that predominated at the Beach site at Wales, Alaska, minimally from early contact through ca. 1930. Prior studies have suggested that this house construction form was a widespread convention during the contact period; however, this paper demonstrates that this was not the case. The only other occurrence of this house construction form was a kashim at St. Michael observed by Nelson in the late nineteenth century. The double-walled house represents a set of traits that form a fundamental aspect of the ethnic and group identity of the Kiatanamiut occupants of the Beach site. Recent excavations at Kurigitavik Mound have, however, uncovered remains of a house that is consistent with the double walled construction form. Full documentation of this house awaits the completion of an ongoing excavation and the new data will illuminate the relations between the Kashigitagmiut, Kiatanamiut, and Agianamiut in late prehistoric times.

**KEYWORDS:** Wales, HOUSE construction

**NOTES:**

Hasselbach, L., J. M. Ver Hoef, J. Ford, P. Neitlich, E. Crecelius, S. Berryman, B. Wolk, and T. Bohle

**2005 Spatial patterns of cadmium and lead deposition on and adjacent to National Park Service lands in the vicinity of Red Dog Mine, Alaska.** *Science of The Total Environment* 348(1-3):211-230.

**ABSTRACT:** Heavy metal escapement associated with ore trucks is known to occur along the DeLong Mountain Regional Transportation System (DMTS) haul road corridor in Cape Krusenstern National Monument, northwest Alaska. Heavy metal concentrations in *Hylocomium splendens* moss (n = 226) were used in geostatistical models to predict the extent and pattern of atmospheric deposition of Cd and Pb on Monument lands. A stratified grid-based sample design was used with more intensive sampling near mine-related activity areas. Spatial predictions were used to produce maps of concentration patterns, and to estimate the total area in 10 moss concentration categories. Heavy metal levels in moss were highest immediately adjacent to the DMTS haul road (Cd > 24 mg/kg dw; Pb > 900 mg/kg dw). Spatial regression analyses indicated that heavy metal deposition decreased with the log of distance from the DMTS haul road and the DMTS port site. Analysis of subsurface soil suggested that observed patterns of heavy metal deposition reflected in moss were not attributable to subsurface lithology at the sample points. Further, moss Pb concentrations throughout the northern half of the study area were high relative to concentrations previously reported from other Arctic Alaska sites. Collectively, these findings indicate the presence of mine-related heavy metal deposition throughout the northern portion of Cape Krusenstern National Monument. Geospatial analyses suggest that the Pb depositional area extends 25 km north of the haul road to the Kisimilot/Iyikrok hills, and possibly beyond. More study is needed to determine whether higher moss heavy metal concentrations in the northernmost portion of the study area reflect deposition from mining-related activities, weathering from mineralized Pb/Zn outcrops in the broader region, or a combination of the two. South of the DMTS haul road, airborne deposition appears to be constrained by the Tahinichok Mountains. Heavy metal levels continue to diminish south of the mountains, reaching a minimum in the southernmost portion of the study area near the Igichuk Hills (45 km from the haul road). The influence of the mine site was not studied.

**KEYWORDS:**

**NOTES:**

Hawkes, Kristen, James F. O'Connell, Kim Hill, and Eric L. Charnov

**1985 How much is enough? Hunters and limited needs.** *Ethology and Sociobiology* 6(1):3-15.

**ABSTRACT:** The notion that hunter-gatherers need little and so limit what they take from available resources has been extremely influential in anthropology. We present an optimal foraging model that suggests testable predictions that are inconsistent with the postulate of "limited needs". We evaluate these predictions in light of data from the Aché of eastern Paraguay and other groups, and find that the hypotheses based on the limited needs postulate are generally falsified, whereas those derived from the optimal foraging model are generally supported.

**KEYWORDS:** Hunter-gatherers

Optimal foraging

Hunting effort

Limited needs

Lowland South America

**NOTES:**

Hayes, Miles O., and Erich R. Gundlach

**1980 To determine the oil spill vulnerability of the shorelines of Norton Sound, Alaska.** 20-41.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Haynes, Terry L.

**2003 Ethical issues and subsistence research in Alaska.** *Kroeber Anthropological Society papers*:273-86.

**ABSTRACT:**

**KEYWORDS:** Descriptor: Alaska

Resource management

Subsistence economy

Fisheries

Arctic regions

Ethics in anthropology

CULTURAL ETHNOGRAPHY

AMERICAS

NORTH AMERICA

**NOTES:** Using Smart Source Parsing

89/90, (), p. Journal Code: Kroeber anthrop Soc Pap

in special issue 'Behind many masks: Gerald Berreman and Berkeley anthropology, 1959-2001'

Document Type: article

Haynes, Terry L., Martha F. Case, James A. Fall, Libby Halpin, and Michelle Robert

**1984 The use of Copper River salmon and other wild resources by Upper Tanana communities, 1983-1984.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** In response to a directive from the Alaska Board of Fisheries, households were surveyed in Northway, Tanacross, Tetlin, and Tok, focusing on the harvest and use of Copper River salmon by these communities. This report presents historical, social, and demographic data for each community, as well as information on salmon and other fish and wildlife resources utilized. Attention is given to the historical and contemporary linkages between Upper Tanana

and Copper River Basin communities, and the role played by Copper River salmon in affirming these ties.

**KEYWORDS:**

**NOTES:**

Haynes, Terry L., and Craig Mishler

**1991 The subsistence harvest and use of Steller sea lions in Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** Subsequent to the classification of the Steller sea lion as a threatened species in 1990, a Sea Lion Recovery Team was created and charged with preparing a recovery plan. This report reviews the historical literature and summarizes the limited amount of available information on the harvests and uses of sea lions in coastal Alaskan communities. The report is designed to assist in the creation of a recovery plan sensitive to subsistence uses. Further research and data needs are identified for consideration in the development of a sea lion management plan.

**KEYWORDS:**

**NOTES:**

Haynes, Terry L., and William E. Simeone

**2007 Upper Tanana ethnographic overview and assessment, Wrangell St. Elias National Park and Preserve.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report presents an overview of Alaska Native history and culture in the Upper Tanana region in eastern Interior Alaska focuses on the predominantly Northern Athabaskan Indian villages of Dot Lake, Healy Lake, Northway, Tanacross, and Tetlin. Based on existing ethnographic and historical sources, along with some data collected during earlier periods of field work, this study describes Upper Tanana Athabaskan culture prior to sustained Western contact at the beginning of the 20th century and examines the effects of socioeconomic and cultural changes on traditional lifeways. In addition, the study examines the long standing relationships of the Upper Tanana Indians to the neighboring Ahtna Athabascans and to lands in and near to the Wrangell-St. Elias National Park and Preserve. Recommendations are made for historical and ethnographic research that will enhance understanding of the Upper Tanana Athabascans and further document their cultural heritage.

**KEYWORDS:** Upper Tanana, Athabascans, Interior Alaska, Dot Lake, Healy Lake, Northway, Tanacross, Tetlin, Ahtna, Wrangell-St. Elias National Park and Preserve

**NOTES:**

Haynes, Terry L., and Robert J. Wolfe

**1999 Ecology, harvest, and use of harbor seals and sea lions: interview materials from Alaska Native hunters.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This compendium of interview materials from Alaska Native hunters presents information on contemporary patterns of hunting and uses of harbor seals and sea lions by Alaska Natives during the late 20th century. The interviews with Alaska Native hunters were conducted during the early to mid-1990s. The materials in this report derive from those interviews, and offer information on a range of topics pertaining to harbor seals and sea lions, including contemporary hunting methods, uses made of seals and sea lions for food and raw materials, processing of oil and skins, and other cultural practices. This report also offers information on the ecology of harbor seals and sea lions, as observed by Alaska Native experts within their community's hunting area. Ecological topics include seasonal cycles, population trends, and behavioral habits of harbor seals and sea lions.

**KEYWORDS:**



**NOTES:**

Hazard, Katherine

**1985 Fifteen marine mammal public meetings in Northern and Western Alaska, summary of comments.** Pp. 1-9: Alaska Department of Fish and Game Commissioners Office.

**ABSTRACT:** The purpose of this report is to convey views expressed in fifteen public meetings held in western and northern Alaska about whether or not the State of Alaska should apply to the federal government for management of ten marine mammal species. These meetings, sponsored by the Alaska Department of Fish and Game, were held in Nome, Gambell, Savoonga, Bethel, Kipnuk, Quinhagak, Alakanuk, Hooper Bay, Tununak, Mekoryuk, Deering, Unalakleet, Kaktovik, and Kotzebue between November 20, 1984 and January 29, 1985. I moderated the meetings. An overview of comments is listed below, followed by: 1) a more detailed description of statements against state management, 2) a more detailed description of statements in favor of state management, 3) conclusion, 4) availability of additional materials, and 5) an appendix. Views are stated as presented by people in the meetings, without qualification. For example, if people said sale of raw products would result in waste, rather than could result in waste, that is how it is stated in the report. The concerns and views expressed do not represent the views of the contractor.

**KEYWORDS:****NOTES:**

Hazard, Katherine

**1988 Beluga whale, *delphinapterus leucas*.** *In* Selected marine mammals of Alaska: Species accounts with research and management recommendations. J.W. Lentfer, ed. Pp. 195-235. Washington, D.C.: Marine Mammal Commission.

**ABSTRACT:****KEYWORDS:****NOTES:**

Healy, M.A.

**1889 Report of the cruise of the revenue marine steamer Corwin in the Arctic Ocean in the year 1884:** GPO.

**ABSTRACT:****KEYWORDS:****NOTES:**

Healy, M.A., J.C. Cantwell, S.B. McLenegan, C.H. Townsend, and H.W. Yemans

**1887 Report of the cruise of the revenue marine steamer Corwin in the Arctic Ocean in the year 1885:** Govt. Print. Off.

**ABSTRACT:****KEYWORDS:****NOTES:** 153

Heath, Dwight B.

**1983 Alcohol use among North American Indians: A cross-cultural survey of patterns and problems.** Research advances in alcohol and drug problems 7:343-396.

**ABSTRACT:****KEYWORDS:****NOTES:**

Hébert, Karen E.

**2008 Wild dreams: refashioning production in Bristol Bay, Alaska,** University of Michigan.

**ABSTRACT:** This dissertation examines changing conditions of contemporary capitalism through an analysis of the production of a wild commodity. The Bristol Bay region of rural southwest Alaska is home to the world's largest sockeye salmon populations. Yet its wild salmon industry has struggled since the early 1990s in a global seafood market altered by the rise of cheaper farmed salmon produced overseas. Amid throes of economic crisis, producers have undertaken efforts to "reinvent" the local fishing industry--to draw upon the language they themselves often use--and their own participation in it. The study explores these attempts to restore fishery profitability along with the aspirations that infuse them and become inflected by them. An ethnography that tacks between historical and contemporary sites of salmon fishing, processing, and policymaking, the dissertation focuses on producers' ambitions to reconfigure the salmon commodity to more closely correspond with perceived consumer preferences. The Bristol Bay salmon industry is peculiar in certain respects: It depends not only on the capture of living labor by and for capital, to use Marx's terminology, but also on an even more literal capture of living nature in the form of an organism whose control is often elusive. On one level, the dissertation shows how efforts to refashion production spur transformations in labor practices, social relations, forms of personhood, and modes of collective action alike. On another, it reveals the ways in which the heterogeneous materialities and activities that are pursued for capture repeatedly slip from their objectification as factors of production, both with and as salmon itself wriggles from grasp. In identifying these slippages at the heart of production, the study adds to analyses across disciplines that demonstrate how capitalism is reproduced anew in ever-shifting forms at the same time it remains internally fissured and always incomplete. In delving into the predicaments of rural natural resource producers for changing markets, it reveals the contradictory impulses gathered in the so-called new economy. And in exploring the dreams of wildness that link producers and consumers, it shows the production of contemporary natures to be fraught with visions of both peril and promise.

**KEYWORDS:** salmon, fishing, Bristol Bay, Alaska,

**NOTES:**

Heleniak, Timothy

**2009 The role of attachment to place in migration decisions of the population of the Russian North.** *Polar Geography* 32:31-60.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** doi:10.1080/10889370903000398

Heller, Christine A.

**1947 Alaska nutrition survey report; diet report on four villages—Unalakleet, White Mountain, Kotzebue and Selawik, April 1947-June 1947.** Territorial Dept. of Health, Juneau, Alaska.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Heller, Christine A.

**1964 The diet of some Alaskan Eskimos and Indians.** *Journal of the American Dietetic Association* 45:425.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Heller, Christine A., and Edward M. Scott

**1967 The Alaska dietary survey: 1956-1961.** Pp. 281. Anchorage, Alaska: U.S. Public Health Service, Publication No. 999-AH-2.

**ABSTRACT:** The diet of Eskimos has always been of interest because these people have managed to survive under adverse circumstances by utilization of unusual natural resources. Previous studies of Alaskan diets were limited to a series of weighed studies at Gambell and Anaktuvuk Pass by Rodahl; to a limited diet record study at Nikolski by Moorrees and a study based on one-day diet records from four Eskimo villages by Heller. The present study was begun in 1956 with the following objectives: (1) to determine the present food habits of Alaskan Eskimos and Indians; (2) to estimate the degree of their dependence on local food; (3) to estimate the adequacy of the diet; (4) to predict medical or public health problems which might arise from inadequate diet.

**KEYWORDS:** Alaska; Eskimo; Iñuit; Indian; diet; nutrition; Allakaket; Huslia; Point Hope; Noatak; Shishmaref; Shungnak; Akiak; Napaskiak; Kasigluk; Hooper Bay; Newtok

**NOTES:**

Heller, Christine A., Edward M. Scott, and LM Hammes

**1967 Height, weight, and growth of Alaskan Eskimos.** Archives of Pediatrics and Adolescent Medicine 113(3):338-344.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Helm, June

**1993 Always with them either a feast or a famine: Living off the land with Chipewyan Indians, 1791-1792.** Arctic anthropology 30(2):46-60.

**ABSTRACT:** Peter Fidler's record of food kills by his Chipewyan companions in the boreal forest south of Great Slave Lake through the winter of 1791/92 is combined with calculations of percentages of consumable tissue and kilocalories from the prey animals— bison, moose, and beaver— to yield a high-low range of edible tissues of 6.89-6.15 lbs per person-day and 5780-5140 kcal per person-day.

**KEYWORDS:**

**NOTES:**

Hemming, James E.

**1971 The distribution movement patterns of caribou in Alaska.** Wildlife Technical Bulletin, Alaska Department of Fish and Game Game Technical Bulletin (1):1-60.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Henrich, J.

**2000 Does culture matter in economic behavior? Ultimatum game bargaining among the Machiguenga of the Peruvian Amazon.** American Economic Review:973-979.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Henrich, J.

**2004 Cultural group selection, coevolutionary processes and large-scale cooperation.** Journal of Economic Behavior and Organization 53(1):3-35.

**ABSTRACT:** In constructing improved models of human behavior, both experimental and behavioral economists have increasingly turned to evolutionary theory for insights into human psychology and preferences. Unfortunately, the existing genetic evolutionary approaches can

explain neither the degree of prosociality (altruism and altruistic punishment) observed in humans, nor the patterns of variation in these behaviors across different behavioral domains and social groups. Ongoing misunderstandings about why certain models work, what they predict, and what the place is of “group selection” in evolutionary theory have hampered the use of insights from biology and anthropology. This paper clarifies some of these issues and proposes an approach to the evolution of prosociality rooted in the interaction between cultural and genetic transmission. I explain how, in contrast to non-cultural species, the details of our evolved cultural learning capacities (e.g., imitative abilities) create the conditions for the cultural evolution of prosociality. By producing multiple behavioral equilibria, including group-beneficial equilibria, cultural evolution endogenously generates a mechanism of equilibrium selection that can favor prosociality. Finally, in the novel social environments left in the wake of these cultural evolutionary processes, natural selection is likely to favor prosocial genes that would not be expected in a purely genetic approach.

**KEYWORDS:****NOTES:**

Henrich, J.

**2006 Cooperation, Punishment, and the Evolution of Human Institutions.** *Science* 312(5770):60-61.

**ABSTRACT:****KEYWORDS:****NOTES:**

Henrich, J., R. Boyd, S. Bowles, C. Camerer, E. Fehr, H. Gintis, and R. McElreath

**2001 Cooperation, reciprocity and punishment in fifteen small-scale societies.** *American Economic Review* 91(2):73-78.

**ABSTRACT:****KEYWORDS:****NOTES:**

Henrich, J., R. Boyd, S. Bowles, C. Camerer, E. Fehr, H. Gintis, and R. McElreath

**2001 In search of homo economicus: Behavioral experiments in 15 small-scale societies.** *American Economic Review*:73-78.

**ABSTRACT:****KEYWORDS:****NOTES:**

Henrich, J., R. Boyd, S. Bowles, C. Camerer, E. Fehr, H. Gintis, R. McElreath, M. Alvard, A. Barr, and J. Ensminger

**2005 “Economic man” in cross-cultural perspective: Behavioral experiments in 15 small-scale societies.** *Behavioral and brain sciences* 28(06):795-815.

**ABSTRACT:** Researchers from across the social sciences have found consistent deviations from the predictions of the canonical model of self-interest in hundreds of experiments from around the world. This research, however, cannot determine whether the uniformity results from universal patterns of human behavior or from the limited cultural variation available among the university students used in virtually all prior experimental work. To address this, we undertook a cross-cultural study of behavior in Ultimatum, Public Goods, and Dictator Games in a range of small-scale societies exhibiting a wide variety of economic and cultural conditions. We found, first, that the canonical model – based on pure self-interest – fails in all of the societies studied. Second, our data reveal substantially more behavioral variability across social groups than has been found in previous research. Third, group-level differences in economic organization and the structure of social interactions explain a substantial portion of the behavioral variation across societies: the higher the degree of market integration and the higher the payoffs to cooperation in everyday life, the greater the level of prosociality expressed in experimental games. Fourth,

the available individual-level economic and demographic variables do not consistently explain game behavior, either within or across groups. Fifth, in many cases experimental play appears to reflect the common interactional patterns of everyday life.

**KEYWORDS:**

**NOTES:**

Henrich, Joseph, Richard McElreath, Abigail Barr, Jean Ensminger, Clark Barrett, Alexander Bolyanatz, Juan Camilo Cardenas, Michael Gurven, Edwina Gwako, Natalie Henrich, Carolyn Lesorogol, Frank Marlow, David Tracer, and John Ziker

**2006 Costly punishment across human societies.** Science 312(5781):1767-1770.

**ABSTRACT:** Recent behavioral experiments aimed at understanding the evolutionary foundations of human cooperation have suggested that a willingness to engage in costly punishment, even in one-shot situations, may be part of human psychology and a key element in understanding our sociality. However, because most experiments have been confined to students in industrialized societies, generalizations of these insights to the species have necessarily been tentative. Here, experimental results from 15 diverse populations show that (i) all populations demonstrate some willingness to administer costly punishment as unequal behavior increases, (ii) the magnitude of this punishment varies substantially across populations, and (iii) costly punishment positively covaries with altruistic behavior across populations. These findings are consistent with models of the gene-culture coevolution of human altruism and further sharpen what any theory of human cooperation needs to explain.

**KEYWORDS:**

**NOTES:**

Henrich, J. P.

**2001 Why people punish defectors: Weak conformist transmission can stabilize costly enforcement of norms in cooperative dilemmas.** Journal of Theoretical Biology.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Henrich, J. P.

**2004 Foundations of human sociality: Economic experiments and ethnographic evidence from fifteen small-scale societies.** Oxford University Press, USA.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Hensel, Chase

**1998 Co-management and co-optation: Alaska Native participation in regulatory processes.** In Cultural survival quarterly. Pp. 69-71, Vol. 22.

**ABSTRACT:**

**KEYWORDS:** Descriptor: Phyllis Morrow

Alaska

Tradition

Economy

Management

Communication

Subsistence economy

CULTURAL ETHNOGRAPHY

AMERICAS

NORTH AMERICA

Document Type: article

**NOTES:** Using Smart Source Parsing  
no. 3 (), p. Journal Code: Cult Survival Q

Hensel, Chase, Sven Haakenson Jr, and Gerald Mohatt

**2003 "It's Been Good, Not Drinking": Alaska Native Narratives of Lifetime Sobriety.** Arctic anthropology 40(2):75-82.

**ABSTRACT:** Discusses Alaskan native stories that recount the personal suffering from alcohol abuse. Cultural aspects of alcoholism and medical intervention; Formation of a collaborative research project aimed at studying the therapeutic effects of storytelling and its application on sober people; Collection of data and analysis.

**KEYWORDS:** STORYTELLING

ORAL tradition  
ORAL history  
ALCOHOLISM  
ANTHROPOLOGY  
ALASKA  
UNITED States

**NOTES:** Hensel, Chase 1 Haakenson Jr., Sven 2 Mohatt, Gerald 3; Affiliation: 1: Department of Anthropology, University of Alaska Fairbanks 2: Alutiiq Museum 3: Department of Psychology, University of Alaska Fairbanks; Source Info: 2003, Vol. 40 Issue 2, p75; Subject Term: STORYTELLING; Subject Term: ORAL tradition; Subject Term: ORAL history; Subject Term: ALCOHOLISM; Subject Term: ANTHROPOLOGY; Subject Term: ALASKA; Subject Term: UNITED States; Number of Pages: 8p; Document Type: Article

Hensley, Willie

**1981 Inupiaq spirit.**

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Hensley, William L. "Iggiagruk"

**1966 What rights to land have the Alaska Natives? The Primary Question.** Fairbanks: University of Alaska.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Hensley, William L. "Iggiagruk"

**2008 Fifty Miles from Tomorrow: A Memoir of Alaska and the Real People.** New York: Farrar, Straus and Giroux.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Herrmann, R., R. Stottlemeyer, J. C. Zak, R. L. Edmonds, and H. Van Miegroet

**2000 Biogeochemical effects of global change on US national parks.** Journal of the American Water Resources Association 36(2):337-346.

**ABSTRACT:** Federal parks and other public lands have unique mandates and rules regulating their use and conservation. Because of variation in their response to local, regional, and global-scale disturbance, development of mitigation strategies requires substantial research in

the context of long-term inventory and monitoring. In 1982, the National Park Service began long-term, watershed-level studies in a series of national parks. The objective was to provide a more comprehensive database against which the effects of global change and other issues could be quantified. A subset of five sites in North Carolina, Texas, Washington, Michigan, and Alaska, is examined here. During the last 50 years, temperatures have declined at the southern sites and increased at the northern sites with the greatest increase in Alaska. Only the most southern site has shown an increase in precipitation amount. The net effect of these trends, especially for the most northern and southern sites, would likely be an increase in the growing season and especially the time soil processes could continue without moisture or temperature limitations. During the last 18 years, there were few trends in atmospheric ion inputs. The most evident was the decline in SO<sub>4</sub><sup>2-</sup> deposition. There were no significant relationships between ion input and stream water output. This finding suggests other factors as modification of precipitation or canopy throughfall by soil processes, hydrologic flow path, and snowmelt rates are major processes regulating stream water chemical outputs.

**KEYWORDS:****NOTES:** Times Cited: 5

Hertz, O., and F.O. Kapel

**1986 Commercial and subsistence hunting of marine mammals.** Ambio 15(3):144-151.**ABSTRACT:****KEYWORDS:****NOTES:**

Heyl, Frank

**1976 Staying alive in the Arctic.** Pp. 1-53: Oregon Museum of Science and Industry.**ABSTRACT:****KEYWORDS:****NOTES:**

Hickey, Clifford G.

**1976 An economic view of adaptation.** Contributions to Anthropology: The interior peoples of northern Alaska:235-298.**ABSTRACT:****KEYWORDS:****NOTES:**

Hild, CM

**2007 Engaging Inupiaq values in land management for health through an action research appreciative inquiry process.** Ph.D., Saybrook Graduate School.

**ABSTRACT:** The investigation identified organizational system processes, which allow indigenous cultural values to be formally incorporated into planning and sustainable caring of traditionally used landscapes that promote healing and well-being. This community-based participatory research was based on a two-year effort to identify research needs within the Maniilaq Association's Tribal Doctor Program in Kotzebue, Alaska. Information was requested on the processes required to utilize places of ancient traditional healing (PATH) that are now on public lands managed by the federal government.

**KEYWORDS:****NOTES:**

Hild, Carl M.

**1995 The next step in assessing Arctic human health.** Science of The Total Environment 160-161:559-569.

**ABSTRACT:** The mapping of global pathways along which trace elements and persistent organic compounds are distributed has set the stage for parallel monitoring of levels of contamination in humans. Before expanded monitoring is undertaken, decisions must be made on which contaminants to study, what tissues to sample, how samples should be taken and evaluated, and what units should be used for consistent reporting. Once international guidelines are in place, a process should be initiated to similarly address general human health conditions. It is recommended that the next step be a global mapping of various health conditions and disease. Computer analysis should be performed to identify any correlation to known pollution plumes or deposition patterns. In addition, cultural or behavioral patterns, as well as geographic distributions, should be evaluated. The general trends would be important, as major synergistic effects might be masked if only one contaminant or health concern were monitored at a time.

**KEYWORDS:** Health

Assessment  
Arctic  
Polar  
Environmental  
Pollution

**NOTES:**

Hill, Kim, Hillard Kaplan, Kristen Hawkes, and A. Magdalena Hurtado

**1987 Foraging decisions among Aché hunter-gatherers: New data and implications for optimal foraging models.** *Ethology and Sociobiology* 8(1):1-36.

**ABSTRACT:** This article summarizes 5 years of research on resource choice and foraging strategy among Ache foragers in eastern Paraguay. Successes and failures of simple models from optimal foraging theory (OFT) are discussed and revisions are suggested in order to bring the models in line with empirical evidence from the Ache. The following conclusions emerge: (1) Energetic returns from various alternative resources and foraging strategies is probably the best single predictor of foraging patterns. (2) Nutrient constraints should be added only when they significantly improve the predictive power of the model. Importance of meat versus vegetable resources may be one important modification based on nutrients that enhances the ability of OFT models to account for empirical reality in human foragers. (3) Men's and women's abilities and foraging patterns differ enough that they should be treated separately in all OFT analyses. (4) Opportunity costs associated with resources that are processed when foraging is not possible may be sufficiently low to predict that high processing time resources will be included in the optimal diet even when their associated return rates (including processing) are lower than mean foraging returns. (5) When food sharing is extensive and foraging bands include several adult males and females, foragers may not need to modify foraging strategies in other ways in order to reduce the risk of not eating on some days.

**KEYWORDS:** Hunter-gatherers

Foraging models  
South America

**NOTES:**

Himelbloom, B. H.

**1998 Primer on food-borne pathogens for subsistence food handlers.** *International Journal of Circumpolar Health* 57 Suppl 1:228-34.

**ABSTRACT:** Subsistence food preparations may lead to human illnesses caused by pathogenic bacteria and viruses. Little is known about the incidence of food-borne illnesses other than botulism in circumpolar indigenous populations. Lack of documentation for other pathogens may be related to the sparsely populated communities involved, limited laboratory analysis, and non-lethality to healthy individuals. This overview covers the major food-borne pathogens, their



sources, transmission, growth parameters, and prevention. Examples of indigenous peoples' food preparations that may be susceptible to pathogenic bacterial growth and toxin formation are described.

**KEYWORDS:** Alaska/epidemiology

Arctic Regions  
 Botulism/\*epidemiology/etiology  
 Disease Outbreaks/\*prevention & control  
 Food Contamination/\*prevention & control  
 Food Handling/standards  
 Food Microbiology  
 Foodborne Diseases/\*epidemiology  
 Gastroenteritis/\*epidemiology/microbiology  
 Humans  
 Incidence  
 Inuits  
 Risk Assessment

**NOTES:** Himelbloom, B H

Review  
 Finland  
 International journal of circumpolar health  
 Int J Circumpolar Health. 1998;57 Suppl 1:228-34.

Himley, Matthew

**2009 Nature conservation, rural livelihoods, and territorial control in Andean Ecuador.**  
 Geoforum 40(5):832-842.

**ABSTRACT:** The Ecuadorian sierra, or Andean region, has during recent decades witnessed a marked expansion of nature conservation initiatives. This paper explores the relations and tensions between this proliferation of conservation interventions and the struggles of rural Andean communities to assert territorial authority and to consolidate their livelihoods. Through an analysis of three rounds of conservation initiatives in an indigenous campesino, cooperative in the south-central sierra. I argue for a conceptualization of the outcomes and trajectories of conservation as coproduced through histories of interaction between conservation actors and rural resource users. Within this analytical framework, I underscore the importance of taking into account the agency of rural communities, their historical landscape claims, and the dynamism of their livelihood interests.

**KEYWORDS:**

**NOTES:** Times Cited: 0

Hinman, Robert A.

**1983 Differing trapping philosophies that result in furbearer proposals.**

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Hinzman, LD, ND Bettez, WR Bolton, FS Chapin, MB Dyurgerov, CL Fastie, B Griffith, RD Hollister, A Hope, and HP Huntington

**2005 Evidence and implications of recent climate change in northern Alaska and other arctic regions.** Climatic Change 72(3):251-298.

**ABSTRACT:**

**KEYWORDS:****NOTES:**

Hippler, Arthur E.

**Mythology and reality: some rational perspectives concerning Alaska Eskimo economic and social change in the Arctic.** 1-9.

**ABSTRACT:****KEYWORDS:****NOTES:**

Hippler, Arthur E.

**1969 Barrow and Kotzebue: An exploratory comparison of acculturation and education in two large Northwestern Alaska villages.**

**ABSTRACT:** A brief narrative description of the journal article, document, or resource. Following an introductory chapter on the general migration patterns in Alaska, this report concentrates on the towns of Barrow and Kotzebue. These towns are both affected by the migration of Alaskan natives from smaller to larger villages because of better wages, opportunities for more social interaction, and availability of amenities such as the medical and educational services in the larger villages. It is concluded that Barrow, while it is a boom-bust town economically, has enough social services and job opportunities to attract large numbers of migrants; however, neither the job opportunities nor the services are sufficient to meet the needs of the growing population. The problems of Kotzebue are reportedly more severe than those found in Barrow. The in-migration is of such magnitude that housing and sources of employment are quite inadequate, and the swelling of population is a strain on the economy.

**KEYWORDS:****NOTES:**

Hippler, Arthur E.

**1969 Some observations on the persistence of Alaskan Native village populations.** Pp. 1-20: Institute of Social, Economic and Government Research, Research Note AI. University of Alaska, Fairbanks.

**ABSTRACT:****KEYWORDS:****NOTES:**

Hippler, Arthur E., and S Conn

**1973 Northern Eskimo law ways and their relationship to contemporary problems of "Bush Justice."** Fairbanks: Institute of Social, Economic and Government Research, Occasional Paper 10.

**ABSTRACT:****KEYWORDS:****NOTES:**

Hirschfield, M.

**1991 The Alaska Native Claims Settlement Act: Tribal Sovereignty and the Corporate Form.** Yale Law Journal 101:1331.

**ABSTRACT:****KEYWORDS:****NOTES:**

Hoddinott, John, ed.

**2002 Food security in practice: Methods for rural development.** Washington: International Food Policy Research Institute. ISBN 0-89629-713-6

**ABSTRACT:**

**KEYWORDS:****NOTES:**

Hoekstra, P. F., R. J. Letcher, T. M. O'Hara, S. M. Backus, K. R. Solomon, and D. C. G. Muir

**2003 Hydroxylated and methylsulfone-containing metabolites of polychlorinated biphenyls in the plasma and blubber of bowhead whales (*Balaena mysticetus*).**

Environmental Toxicology and Chemistry 22(11):2650-2658.

**ABSTRACT:** Bowhead whale (*Balaena mysticetus*) blubber (n = 20) and plasma (n = 19) samples were collected during the 1997 to 2000 Inuit subsistence harvests in Barrow, Alaska, USA, to quantify the concentrations of methylsulfone (MeSO<sub>2</sub>)-containing and hydroxylated (OH) polychlorinated biphenyl (PCB) metabolites in this cetacean. The distribution of MeSO<sub>2</sub>-PCBs in blubber was dominated by 4-MeSO<sub>2</sub>-substituted congeners, the most abundant being 4-MeSO<sub>2</sub>-CB-70, 3'-MeSO<sub>2</sub>-CB-132, and 4-MeSO<sub>2</sub>-CB-64. Mean (±1 standard error) sum (Sigma) MeSO<sub>2</sub>-PCBs concentrations in blubber were low (6.23 ± 0.81 ng g<sup>-1</sup> lipid normalized) compared to concentrations previously reported in other marine mammals. However, similar ratios of MeSO<sub>2</sub>-PCB metabolites to parent PCB congeners among marine mammals suggest that cytochrome P450 2B-like biotransformation and other necessary enzyme-mediated processes and mechanisms that influence the formation and clearance of MeSO<sub>2</sub>-PCBs exist in the bowhead whale. Pentachlorophenol was the most abundant halogenated phenolic compound quantified in bowhead plasma (1.55 ± 0.19 ng g<sup>-1</sup> wet wt). Despite indirect evidence for arene epoxidation of the biphenyl moiety inferred from MeSO<sub>2</sub>-PCB formation, SigmaOH-PCB concentrations in bowhead plasma were low (1.52 ± 0.31 ng g<sup>-1</sup> wet wt) compared to humans and marine mammals and were comprised of only two detectable OH-PCB congeners (4'-OH-CB-130 and 4-OH-CB-187). Further research is required to elucidate the toxicokinetics and distribution of OH-PCBs in this cetacean.

**KEYWORDS:**

**NOTES:** Times Cited: 25

Hoekstra, P. F., T. M. O'Hara, S. M. Backus, C. Hanns, and D. C. G. Muir

**2005 Concentrations of persistent organochlorine contaminants in bowhead whale tissues and other biota from northern Alaska: Implications for human exposure from a subsistence diet.** Environmental Research 98(3):329-340.

**ABSTRACT:** Bowhead whale (*Balaena mysticetus*; n=5) blubber, liver, muscle, kidney, heart, diaphragm, tongue, and uncooked maktak (bowhead whale epidermis and blubber) were collected during subsistence hunts at Barrow, AK, USA (1997-1999) to measure concentrations of persistent organochlorine contaminants (OCs). The exposure of humans to OCs via bowhead whales and other biota [fish, ringed (*Phoca hispida*) and bearded seals (*Erignathus barbatus*), and beluga whale (*Delphinapterus leucas*)] as part of a subsistence diet was evaluated. Concentrations of OCs in bowhead whale tissues were correlated with lipid content (P<0.001) and were less than levels in other marine mammals reported herein, reflecting the lower trophic status of this cetacean. The relative proportions of hexachlorobenzene (HCB) and sum ([Sigma]) concentrations of chlordane components ([Sigma]CHL), DDT-related compounds ([Sigma]DDT), and polychlorinated biphenyls ([Sigma]PCB) were not statistically different among the tissues analyzed (P<0.05). However, relatively higher proportions of hexachlorocyclohexane isomers ([Sigma]HCH), particularly [beta]-HCH, were observed in bowhead whale heart and diaphragm (P<0.03). Based on Canadian and World Health Organization daily intake guidelines, "safe" human consumption rates of bowhead whale tissue and other marine biota were calculated. The most restrictive limits (mean value) for daily consumption for bowhead and beluga whale were 302 and 78 g for maktak and maktaaq (beluga whale epidermis and blubber), respectively. The tolerable daily intake limits of dioxin-like compounds from the consumption of bowhead whale blubber and liver were calculated to be 199 g (approximately 600 g for maktak) and 2222 g, respectively. A detailed profile of traditional/country foods consumed by subsistence communities of northern Alaska is required to address chronic exposure in more detail. Overall,

bowhead whale tissues and other biota from northern Alaska are safe to consume at, or below, the levels calculated.

**KEYWORDS:** Arctic

Cetacean

Marine mammal

Subsistence

Traditional food

Tissue distribution

**NOTES:**

Hoekstra, P. F., T. M. O'Hara, S. J. Pallant, K. R. Solomon, and D. C. G. Muir

**2002 Bioaccumulation of organochlorine contaminants in bowhead whales (*Balaena mysticetus*) from Barrow, Alaska.** Archives of Environmental Contamination and Toxicology 42(4):497-507.

**ABSTRACT:** Bowhead whale (*Balaena mysticetus*) blubber (n = 72) and liver (n = 23) samples were collected during seven consecutive subsistence harvests (1997-2000) at Barrow, Alaska, to investigate the bioaccumulation of organochlorine contaminants (OCs) by this long-lived mysticete. The rank order of OC group concentrations (geometric mean, wet weight) in bowhead blubber samples were toxaphene (TOX; 455 ng/g) > polychlorinated biphenyls (SigmaPCBs 410 ng/g) > dichlorodiphenyltrichloroethane-related compounds (SigmaDDT; 331 ng/g) greater than or equal to hexachlorocyclohexane isomers (SigmaHCHs; 203 ng/g) greater than or equal to chlordanes and related isomers (SigmaCHLOR; 183 ng/g) > chlorobenzenes (SigmaCIBz, 106 ng/g). In liver, SigmaHCH (9.5 ng/g; wet weight) was the most abundant SigmaOC group, followed by SigmaPCBs (9.1 ng/g) greater than or equal to TOX (8.8 ng/g) greater than or equal to SigmaCHLOR (5.5 ng/g) > SigmaCIBz (4.2 ng/g) greater than or equal to SigmaDDT (3.7 ng/g). The dominant analyte in blubber and liver was p,p'-DDE and alpha-HCH, respectively. Total TOX, SigmaPCBs, SigmaDDT, and SigmaCHLOR concentrations in blubber generally increased with age of male whales (as interpreted by body length), but this relationship was not significant for adult female whales. Biomagnification factor (BMF) values (0.1-45.5) for OCs from zooplankton (*Calanus* sp.) to bowhead whale were consistent with findings for other mysticetes. Tissue-specific differences in OC patterns in blubber and liver may be attributed to variation of tissue composition and the relatively low capacity of this species to biotransform various OCs. Principal component analysis of contaminants levels in bowhead blubber samples suggest that proportions of OCs, such as beta-HCH, fluctuate with seasonal migration of this species between the Bering, Chukchi, and Beaufort Seas.

**KEYWORDS:**

**NOTES:** Times Cited: 31

Holen, Davin

**2009 The dynamic context of cultural and social sustainability of communities in Southwest Alaska.** Journal of Enterprising Communities: People and Places in the Global Economy 3(3):306-316.

**ABSTRACT:** Purpose – Commercial fishing in Southwest Alaska provides for an opportunity to engage in wage labor jobs while still allowing for time to participate in subsistence hunting and fishing. Salmon therefore is an important part of both the wage labor economy and the subsistence economy. In Southwest Alaska recent studies documenting the subsistence economy and traditional ecological knowledge have centered on the communities that inhabit the Kvichak Watershed. This watershed comprising Iliamna Lake and Lake Clark along with other numerous feeder streams, rivers, and lakes is an important spawning habitat for the Bristol Bay fishery, one of the largest salmon fisheries in the world. Some of these studies are partially due to a proposed copper and gold mine. This paper aims to address these issues. Design

methodology/approach – Interviews for these studies are structured household surveys that document household demographics, subsistence harvest for one study year, and household economics. In addition at the completion of each survey residents are asked to include comments and concerns regarding local subsistence patterns and trends. Findings – Residents during these studies have expressed concern that social and cultural changes are also happening in an environment where they are also seeing rapid ecological changes. These changes included climate variability and unpredictable weather. This creates an environment that is difficult to plan for subsistence hunting and fishing while continuing to take into consideration a work schedule, the money from which provides the means and materials for engaging in subsistence. Originality/value – This paper will examine factors of change and ask the question of whether it can assess the impacts of climate variability and change on rural communities in Southwest Alaska without also trying to understand cultural and social sustainability within the larger dynamic context in which these changes are occurring.

**KEYWORDS:** agricultural and fishing industries; ecology; economic sectors; mining industry; Bristol Bay

**NOTES:**

Holen, Davin

**2009 A resilient subsistence salmon fishery in Southwest Alaska.** Journal of Northern Studies 2009(2):101-115.

**ABSTRACT:** Harvesting and processing salmon is a significant subsistence activity for the residents of Nondalton, a predominantly Dena'ina Athabaskan community in Southwest Alaska. The Nondalton fishery, as a resilient social-ecological system, has had to adapt to change in order to maintain continuity over time. This paper will explore adaptation in a resilient salmon fishery through an ethnographic research project that documents the socio-cultural, economic, and environmental circumstances of fishing, mainly sockeye salmon (*Oncorhynchus nerka*), in the Kvichak Watershed of Southwest Alaska.

**KEYWORDS:** salmon; Alaska; Dena'ina Athabaskan; Bristol Bay; social-ecological systems; resilience; adaptation; traditional ecological knowledge

**NOTES:**

Holen, Davin

**2009 A resilient subsistence salmon fishery in Southwest Alaska.** Journal of Northern Studies 2009(2):101-115.

**ABSTRACT:** Harvesting and processing salmon is a significant subsistence activity for the residents of Nondalton, a predominantly Dena'ina Athabaskan community in Southwest Alaska. The Nondalton fishery, as a resilient social-ecological system, has had to adapt to change in order to maintain continuity over time. This paper will explore adaptation in a resilient salmon fishery through an ethnographic research project that documents the socio-cultural, economic, and environmental circumstances of fishing, mainly sockeye salmon (*Oncorhynchus nerka*), in the Kvichak Watershed of Southwest Alaska.

**KEYWORDS:** salmon; Alaska; Dena'ina Athabaskan; Bristol Bay; social-ecological systems; resilience; adaptation; traditional ecological knowledge

**NOTES:**

Holen, Davin L., Theodore M. Krieg, and Terri Lemmons

**2011 Subsistence harvests and uses of wild resources in King Salmon, Naknek, and South Naknek, Alaska, 2007.** Anchorage, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report presents information about subsistence uses of fish, wildlife, and plant resources in 3 communities of Southwest Alaska: King Salmon, Naknek, and South Naknek. The Alaska Department of Fish and Game Division of Subsistence conducted the study in collaboration with Stephen R. Braund & Associates as part of a multiyear, multiphase study in a region of Southwest Alaska being considered for the development of a large-scale mine. The Pebble Project is a mineral deposit in an advanced exploration stage located near Frying Pan Lake, which is 102 miles northeast of the study community of Naknek. The Pebble Project required updated baseline information about subsistence harvests and uses. Information was collected through systematic household surveys and mapping interviews. Scoping meetings were held in each community to elicit ideas about research questions and to learn more about issues. After preliminary study findings were available, a second round of community meetings took place to review the results. In total, 145 households were interviewed, 45% of the year-round resident households. The study documented the continuing importance of subsistence hunting, fishing, and gathering to the study communities. In 2007, virtually every person in each community participated in subsistence activities and used wild resources. Subsistence harvests were large and diverse. Estimated wild resource harvests were 313.0 pounds usable weight per capita in King Salmon, 264.2 pounds usable weight per capita in Naknek, and 267.5 pounds usable weight per capita in South Naknek. Most participants in this study reported their subsistence uses and harvests have changed in their lifetimes and over the last 5 years, changes which they ascribed to reduced resource populations, shifts in the locations of moose and caribou, competition with nonlocal hunters, and a warming climate. Study community residents voiced concerns about the development of a mine and its impacts on water quality in and near their traditional subsistence harvest areas.

**KEYWORDS:** Harvest survey, subsistence uses, subsistence fishing, subsistence hunting, King Salmon, Naknek, South Naknek, Pebble Project, Bristol Bay

**NOTES:**

Holen, Davin L., Theodore M. Krieg, Robert J. Walker, and Hans Nicholson

**2005 Harvests and uses of caribou, moose, bears, and Dall sheep by communities of Game Management Units 9B and 17, Western Bristol Bay, Alaska 2001-2002.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This research was conducted by the ADF&G Division of Subsistence and the Bristol Bay Native Association (BBNA) and treated subsistence harvests of caribou, moose, bears, and Dall's sheep by residents of the communities of Game Management units (GMUs) 9B and 17. The study period was July 1, 2001-June 31, 2002. The project was partially funded through a cooperative agreement with the US Fish and Wildlife Service. Using local research assistants hired by BBNA, household interviews were conducted to collect harvest and use information for large land mammals. Hunters also mapped areas used to hunt and harvest these species. Study communities were Aleknagik, Clarks Point, Dillingham, Ekwok, Igiugig, Iliamna, Kokhanok, Koliganek, Levelock, Manokotak, Newhalen, New Stuyahok, Nondalton, Pedro Bay, Portage Creek, Port Alsworth, Togiak, and Twin Hills. Key respondent interviews were also conducted in Unit 9B communities to document their traditional ecological knowledge relating to harvest methods, and trends in both the environment and large land mammal populations. These interviews took place in the communities of Igiugig, Iliamna, Kokhanok, Newhalen, Nondalton, Pedro Bay, and Port Alsworth.

**KEYWORDS:** Aleknagik, Clarks Point, Dillingham, Ekwok, Igiugig, Iliamna, Kokhanok, Koliganek, Levelock, Manokotak, Newhalen, New Stuyahok, Nondalton, Pedro Bay, Portage Creek, Port Alsworth, Togiak, Twin Hills, traditional ecological knowledge, caribou, Rangifer t

**NOTES:**

Holen, Davin L., and Terri Lemmons

**2010 Subsistence harvests and uses of wild resources in Lime Village, Alaska, 2007.** Anchorage, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report presents information about subsistence uses of fish, wildlife, and plant resources in Lime Village, Interior Alaska. This is the first harvest assessment survey for this community since a compilation of qualitative harvest data was completed in 1983. The Alaska Department of Fish and Game Division of Subsistence conducted the project in collaboration with Stephen R. Braund & Associates as part of a multiyear, multiphase study in a region of Southwest Alaska being considered for the development of a large scale mine. The Pebble Project is a mineral deposit in an advanced exploration stage located near Frying Pan Lake, which is 100 miles south of Lime Village. The Pebble Project requires updated baseline information about subsistence harvests and uses. Information was collected through systematic household surveys and mapping interviews conducted with the informed consent of the community. Also as part of the informed consent process, researchers presented preliminary project findings to the community for its review. In total, 7 households were interviewed, 64% of the year-round resident households. The project documented the continuing importance of subsistence hunting, fishing, and gathering to the residents of Lime Village. In 2007, every household participated in subsistence activities and used wild resources. Subsistence harvests are large and diverse.

**KEYWORDS:** Harvest survey, subsistence uses, subsistence fishing, subsistence hunting, Lime Village, Nondalton, Dena'ina, Athabascan, Pebble Project, Bristol Bay

**NOTES:**

Holen, Davin L., William E. Simeone, and Liz Williams

**2006 Wild resource harvests and uses by residents of Lake Minchumina and Nikolai Alaska, 2001-2002.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report presents the findings of research that updates and expands information about subsistence uses, needs, and areas traditionally used for subsistence harvests by the communities in the subsistence residence zone of Denali National Park and Preserve: Lake Minchumina and Nikolai. Current community-based subsistence harvest information is lacking for these communities. In both communities, harvest, uses, and areas traditionally used for subsistence harvests have changed, but there is consistency in harvest and use patterns. Most notable were comments made by residents of both communities about recent changes and concerns regarding fish species harvested for subsistence. In addition, residents spoke of a general decline in all species in the local areas. The principal reason Nikolai residents gave to explain for the drop in harvest levels was that resources were not as abundant as they used to be. People provided various reasons for this decline, including environmental change, competition from outsiders or nonlocals, predation by wolves and bears, and changes in traditional values. Residents of Lake Minchumina noted that the lake's ability to support its freshwater fish is in doubt because fish abundance has diminished in the past 20 years. Additionally, it is their understanding that climatic and local ecosystem changes will be the determining factors regarding freshwater fish abundance in the future. Furthermore, residents of both communities feel that caribou Rangifer tarandus are not as prevalent in the area as they once were, and there is general concern regarding the decrease in all species relied upon for meeting subsistence needs.

**KEYWORDS:** Lake Minchumina, Nikolai, Denali National Park and Preserve, subsistence management, subsistence fishing, caribou, Rangifer tarandus, subsistence hunting

**NOTES:**

Holling, CS

**1973 Resilience and stability of ecological systems.** Annual Review of Ecology and Systematics 4(1):1-23.

**ABSTRACT:****KEYWORDS:****NOTES:**

Holling, CS

**1986 The resilience of terrestrial ecosystems: local surprise and global change.**

Sustainable development of the biosphere:292-320.

**ABSTRACT:****KEYWORDS:****NOTES:**

Holling, CS, and LH Gunderson

**2002 Resilience and adaptive cycles.** Panarchy: Understanding transformations in human and natural systems:25–62.

**ABSTRACT:****KEYWORDS:****NOTES:**

Holling, C. S., and Gary K. Meffe

**1996 Command and control and the pathology of natural resource management.**

Conservation Biology 10(2):328-337.

**ABSTRACT:** As the human population grows and natural resources decline, there is pressure to apply increasing levels of top-down, command-and-control management to natural resources. This is manifested in attempts to control ecosystems and in socioeconomic institutions that respond to erratic or surprising ecosystem behavior with more control. Command and control, however, usually results in unforeseen consequences for both natural ecosystems and human welfare in the form of collapsing resources, social and economic strife, and losses of biological diversity. We describe the “pathology of natural resource management,” defined as a loss of system resilience when the range of natural variation in the system is reduced encapsulates the unsustainable environmental, social, and economic outcomes of command-and-control resource management. If natural levels of variation in system behavior are reduced through command-and-control, then the system becomes less resilient to external perturbations, resulting in crises and surprises. We provide several examples of this pathology in management. An ultimate pathology emerges when resource management agencies, through initial success with command and control, lose sight of their original purposes, eliminate research and monitoring, and focus on efficiency of control. They then become isolated from the managed systems and inflexible in structure. Simultaneously, through overcapitalization, society becomes dependent upon command and control, demands it in greater intensity, and ignores the underlying ecological change or collapse that is developing. Solutions to this pathology cannot come from further command and control (regulations) but must come from innovative approaches involving incentives leading to more resilient ecosystems, more flexible agencies, more self-reliant industries, and a more knowledgeable citizenry. We discuss several aspects of ecosystem pattern and dynamics at large scales that provide insight into ecosystem resilience, and we propose a “Golden Rule” of natural resource management that we believe is necessary for sustainability: management should strive to retain critical types and ranges of natural variation in resource systems in order to maintain their resiliency.

**KEYWORDS:****NOTES:**

Hollowell, J

**2006 Moral arguments on subsistence digging.** *In* The ethics of archaeology: Philosophical perspectives on archaeological practice. C. Scarre and G. Scarre, eds. Pp. 69–93. Cambridge: Cambridge University Press.



**ABSTRACT:****KEYWORDS:** St. Lawrence Island, archeology, ethics,

**NOTES:** "The undocumented excavation of archaeological materials for the commercial market, often called 'looting' by archaeologists, clearly damages the archaeological record and conflicts with contemporary principles of archaeological ethics. This chapter reflects upon the ethical divide between archaeologists and 'looters' with a particular focus on attitudes surrounding one form of undocumented excavation, 'subsistence digging'. It may upset some archaeologists to discuss subsistence digging so openly, as if doing so gives credence to the activity itself, but I take the stance that everyone concerned with working towards solutions to what is, for archaeology, a troubling dilemma benefits from a closer look at the situation and trying to understand the social, economic and historical standpoints involved." (p 69)

Holt, Carrie A., Murray B. Rutherford, and Randall M. Peterman

**2008 International cooperation among nation-states of the North Pacific Ocean on the problem of competition among salmon for a common pool of prey resources.** Marine Policy 32(4):607-617.

**ABSTRACT:** A common-pool problem in the North Pacific Ocean that remains largely ignored in international policy is competition for prey resources among salmon populations (*Oncorhynchus* spp.) from different countries. Hatcheries release large abundances of juvenile salmon into the North Pacific and the resulting decrease in mean body size of adult wild and hatchery salmon may lead to reductions in benefits. We examine incentives and disincentives for cooperation among nation-states on this issue. We recommend that either a new international organization be created or that amendments be made to the mandate and powers of an existing organization. The resulting organization could encourage collective action to reduce competition among salmon from different nations by using side-payments to change the incentive structure, by establishing a multi-national scientific assessment team to create a common frame of reference for the problem, and by implementing policy prescriptions.

**KEYWORDS:** common-pool resources, salmon, international cooperation, North Pacific Ocean**NOTES:**

Honigsmann, John J.

**1973 Integration of Canadian Eskimo, Indians, and other Persons of Native Ancestry in modern economic and public life: Evidence from Inuvik.** Circumpolar Problems:61-72.

**ABSTRACT:****KEYWORDS:****NOTES:**

Hooper, Helen M.

**1984 Nutrient analysis of twenty Southeast Alaska native foods.** Alaska Native News:24-28.

**ABSTRACT:** A nutrient analysis was done of twenty southeast Alaska Native foods during 1980. The foods contained an excellent variety of essential nutrients. Seaweeds were outstanding sources of minerals and vitamins; eulachon was very high in Vitamin A; excellent sources of iron were ooligan (eulachon), gum boots (leather chiton) and cockles. Salmon and gum boots (leather chiton) contributed moderate amounts of calcium. Salmonberries, blueberries, huckleberries were found to be low in vitamin C; possibly due to climatic conditions in Southeast Alaska.

**KEYWORDS:****NOTES:**

Hopkins, D.M., and W.H. Arundale

**1989 Research in federally protected lands in Arctic Alaska: needs, opportunities, constraints.** 1-70.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Hopkins, S. E., P. Kwachka, C. Lardon, and G. V. Mohatt

**2007 Keeping busy: A Yup'ik/Cup'ik perspective on health and aging.** International Journal of Circumpolar Health 66(1):42-50.

**ABSTRACT:** Objectives. Knowledge of cultural beliefs about health and how they influence life choices and intervention is essential in forming health policy and health promotion programs to meet the growing needs of aging minority populations. This study explores cultural beliefs and practices of health and well-being of Yup'ik/Cup'ik women in two rural villages in southwestern Alaska. Study Design. Exploratory, descriptive qualitative study. Methods. Interviews were conducted with 15 mid-life and older women to address two key research questions: 1) How do Yup'ik/Cup'ik women define health and wellbeing; and 2) What environmental, social, and cultural factors contribute to healthy aging? Results. The women in this study define health aging within the framework of subsistence living-keeping busy, walking, eating subsistence foods, and respect for elders. These beliefs and practices promote a strong, active body and mind, vital components to healthy aging. Conclusions. While many health beliefs and practices appear very different from those current in research on aging, many commonalities and similarities emerge-concern for family, importance of physical activity and healthy diet. A significant finding of this study is that traditional Yup'ik/Cup'ik ways of living parallel that of current research findings on what constitutes healthy aging in mainstream populations.

**KEYWORDS:**

**NOTES:** Times Cited: 0

Horejsi, Brian L.

**1981 Behavioral response of barren ground caribou to a moving vehicle.** Arctic 34(2):180-185.

**ABSTRACT:** Behavioral responses of individual Barren Ground caribou (*Rangifer tarandus granti*) to a 3/4-ton pickup truck were quantified on 36 occasions. During 34 of those observations the vehicle initially approached at a speed of over 56 km/h. Forty-eight percent of the individual caribou reacted to the vehicle by running away while 38% trotted away. The mean flight duration of females was 73+/- 11 seconds, that of males 38+/-6 seconds. ( $p = 0.09$ ). Caribou encountering a moving vehicle exhibited signs of excitement and fright, including the excitation jump and tail-up response. Reversal of direction and/or splitting of the group involved 29% of the individual caribou. The type of habitat (forested vs. open) did not have an effect on observation duration ( $p > 0.50$ ) or on the mean distance at which caribou were first encountered as great for both sexes as that reported for females with young calves. In forested habitat male caribou allowed a much closer approach than females ( $p = 0.08$ ) but closeness of approach did not differ between the sexes in open habitat ( $p > 0.50$ ).

**KEYWORDS:**

**NOTES:**

Hotez, Peter J.

**2010 Neglected Infections of Poverty among the Indigenous Peoples of the Arctic.** PLoS Negl Trop Dis 4(1):e606.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Hovelsrud, G. K., H. Amundsen, and J. West

**2008 Understanding community vulnerability and adaptation: methodological challenges in analysing coupled social-ecological systems.** *In* Human Dimensions of Global Environmental Change. Berlin.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Hovelsrud, Grete K, Meghan McKenna, and Henry P Huntington

**2008 Marine mammal harvests and other interactions with humans.** *Ecological Applications* 18(sp2):135-147.

**ABSTRACT:** The Arctic is currently undergoing rapid social and environmental changes, and while the peoples of the north have a long history of adapting, the current changes in climate pose unprecedented challenges to the marine mammal-human interactions in the Arctic regions. Arctic marine mammals have been and remain an important resource for many of the indigenous and nonindigenous people of the north. Changes in climate are likely to bring about profound changes to the environment in which these animals live and subsequently to the hunting practices and livelihoods of the people who hunt them. Climate change will lead to reduction in the sea ice extent and thickness and will likely increase shipping through the Northern Sea Route and the Northwest Passage and oil and gas activities in Arctic areas previously inaccessible. Such activities will lead to more frequent interactions between humans and marine mammals. These activities may also change the distribution of marine mammals, affecting the hunters. This paper has three parts. First, an overview of marine mammal harvesting activities in the different circumpolar regions provides a snapshot of current practices and conditions. Second, case studies of selected Arctic regions, indigenous groups, and species provide insight into the manner in which climate change is already impacting marine mammal harvesting activities in the Arctic. Third, we describe how climate change is likely to affect shipping and oil and gas exploration and production activities in the Arctic and describe the possible implications of these changes for the marine mammal populations. We conclude that many of the consequences of climate change are likely to be negative for marine mammal hunters and for marine mammals. Lack of adequate baseline data, however, makes it difficult to identify specific causal mechanisms and thus to develop appropriate conservation measures. Nonetheless, the future of Arctic marine mammals and human uses of them depends on addressing this challenge successfully.

**KEYWORDS:**

**NOTES:**

Hovelsrud-Broda, G. K.

**1997 Arctic seal-hunting households and the anti-sealing controversy.** *Research in Economic Anthropology* 18:17-34.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Hovelsrud-Broda, Grette K

**1999 The integrative role of seals in an East Greenlandic hunting village.** *Arctic anthropology* 36(1-2):37-50.

**ABSTRACT:** In Isortoq, East Greenland, seals are the significant factor that links individuals, households, and other social units. Production activities involving seals are essential in the maintenance of the sociocultural system. Over the last century the socioeconomic system has changed, but many of the fundamental aspects of production (e.g., seal hunting, sealskin processing), distribution, and consumption (e.g., of seal by-products) have been retained. This is because the main source of food and cash from the local environment (as of the last hundred

years)-seals-has remained unchanged. This paper illustrates how seals can be seen as a critical link between the past and present cultural systems and between individual households. Seal products are the main source of food within households; they are the main items in the sharing networks between households; and sealskins are the only significant source of cash from local natural resources. Seal hunting, sealskin processing, and the consumption of seal meat are all central to the cultural system.

**KEYWORDS:** network

**NOTES:**

Hovelsrud-Broda, Grete K

**2000 "Sharing," transfers, transactions and the concept of generalized reciprocity.** Senri Ethnological Studies 53:193-214.

**ABSTRACT:**

**KEYWORDS:**

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Howe, E. Lance

**2009 Patterns of migration in Arctic Alaska.** Polar Geography 32:69-89.

**ABSTRACT:** Migration has always been an important feature of the Arctic. This paper highlights geographic patterns of human migration in Arctic Alaska using origin and destination micro-data from the US Census Decennial Survey. Important migration patterns identified in this paper include large village to village migration flows and large negative net migration from villages to rural regional centers. Hierarchical or step-wise patterns of migration that are not purely distance determined are also observed. Also, migration back to Arctic Alaska from other Alaska and US places is important and these migration patterns conform to general hierarchical migration. Models in the new economics of migration literature appear to better explain Arctic migration patterns in Arctic Alaska compared to models focusing purely on expected wages.

**KEYWORDS:** migration, Alaska

**NOTES:** "Based on analysis of tabular data migration within the Arctic has been shown to be an important component of overall Arctic migration. Also, individuals moving within Arctic Alaska are observed to move within clearly defined Census and Borough boundaries and migration to and from Arctic villages and regional centers is sizeable. In all three regions, **villages lost population on net to regional centers due to migration. However, at the same time most villages gained population due to natural increase.**

"Hierarchical or step-wise patterns of Arctic migration and the importance of return migration to Arctic Alaska were also documented. Inupiat people living in an Arctic Alaska regional center appear more likely to move to an urban area outside of Arctic Alaska relative to Inupiat people living in an Arctic village. Similarly, Alaska Natives living in Anchorage appear more likely to move out of state relative to Alaska Natives living in Arctic regional centers or villages. Finally, it is noted that migration to the Arctic from other US places is important. Return Arctic migration patterns are also consistent with step-wise migration as there are important flows from regional centers back to villages, from urban areas back to regional centers, and from out of state places back to Anchorage and Fairbanks. **Hierarchical patterns of Arctic migration are difficult to explain entirely by distance or a pure expected wages model.**" (p. 85)

Howe, James

**1981 Fox hunting as ritual.** American Ethnologist 8(2):278-300.

**ABSTRACT:** The continuing cultural importance of hunting in modern Western societies, especially to some elites, justifies increased attention from anthropologists. English fox hunting can be seen as a ritual of social class, one dramatizing themes and images about the gentry and

aristocracy, and about rural society as a whole. The present analysis stresses the importance of examining the symbolic forms of modern society in a historical perspective, and it raises the possibility that some key symbols may be second-best substitutes or approximations of an ideal.

**KEYWORDS:**

**NOTES:**

Hruschka, D. J., and J. Henrich

**2006 Friendship, cliquishness, and the emergence of cooperation.** Journal of Theoretical Biology 239(1):1-15.

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Hughes, Charles C.

**1957 Reference group concepts in the study of a changing Eskimo culture,** 1957, pp. 25-35.

**ABSTRACT:**

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**NOTES:** Cultural Stability and Cultural Change: Proceedings of the 1957 Annual Spring Meeting of the American Ethnological Society

Hughes, Charles C.

**1958 An Eskimo deviant from the " Eskimo" type of social organization.** American Anthropologist 60(6):1140-1147.

**ABSTRACT:**

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Hughes, Charles C.

**1958 The patterning of recent cultural change in a Siberian Eskimo village.** Journal of Social Issues 14(4):25-35.

**ABSTRACT:**

**KEYWORDS:**

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Hughes, Charles C.

**1968 Structure, field, and process in Siberian Eskimo political behavior.** Local-Level Politics: Social and Cultural Politics:163-189.

**ABSTRACT:**

**KEYWORDS:**

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Hughes, Charles C.

**2006 From contest to council: Social control among the St. Lawrence Island Eskimos.** Political Anthropology:255-263.

**ABSTRACT:**

**KEYWORDS:**

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Hunn, Eugene S., Darryll R. Johnson, Priscilla N. Russell, and Thomas F. Thornton

**2003 Huna Tlingit traditional environmental knowledge, conservation, and the management of a "wilderness" park.** Multiples methodologies in anthropological research 44(Suppl):79-103.

**ABSTRACT:**

**KEYWORDS:** Tlingit, environmental conditions, environmental management, subsistence, economy, traditional ecological knowledge, natural resources, Glacier Bay National Park and Preserve, gulls, eggs

**NOTES:**

Huntington, Carole C.

**1981 Issue paper on subsistence king salmon drift gillnetting Yukon Area District 4-A (Proposal #463).** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** The Galena Fish and Game Advisory Committee submitted a request to the Alaska Board of Fisheries to implement a ten-day subsistence season for the taking of king salmon by drift net on the middle Yukon River. This report examines that request and discusses responses to a user survey regarding traditional uses, user preferences, and attitudes toward the proposal from residents of Kaltag, Nulato, Koyukuk, Galena, and Ruby.

**KEYWORDS:****NOTES:**

Huntington, HP

**1992 Wildlife management and subsistence hunting in Alaska.** London: Bellhaven Press.

**ABSTRACT:****KEYWORDS:****NOTES:**

Huntington, Henry, Mike Freeman, Bill Lucey, Grant Spearman, and Alex V. Whiting

**2007 Tourism in Rural Alaska.** *In* Prospects for polar tourism. J. Snyder and B. Stonehouse, eds. Pp. 71-83. Wallingford, Oxon, UK: CABI.

**ABSTRACT:****KEYWORDS:****NOTES:**

Huntington, Henry P.

**1989 The Alaska Eskimo Whaling Commission: Effective local management of a subsistence resource.** Cambridge: Scott Polar Research Institute, University of Cambridge:1-71.

**ABSTRACT:** In 1977 the International Whaling Commission (IWC) deleted the exemption that allowed Alaska Eskimos to harvest the bowhead whale. This sparked considerable controversy. The IWC had not previously exerted authority over aboriginal whaling. The Eskimos responded by forming the Alaska Eskimo Whaling Commission (AEWC). Protests by the whalers led to the establishment of a quota system still in effect today. In response to pressures from the IWC and other outside agencies, the AEWG developed its own Management Plan for bowhead harvests. In 1981, this was incorporated into a Cooperative Agreement between the AEWG and the National Oceanic and Atmospheric Administration, a Federal agency. Management authority and administration are delegated to the AEWG, and this system has worked effectively. The AEWG has also made great strides in increasing the efficiency of the harvest, through whaling workshops and through weapons improvements. The challenge ahead is to protect bowhead habitat from the effects of offshore industrial activity, primarily oil and gas exploration. This paper examines the formation of the AEWG, its development as an institution, its management of Eskimo whaling, and the implications for other local wildlife management regimes.

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Huntington, Henry P.

**1998 Observations on the utility of the semi-directive interview for documenting traditional ecological knowledge.** Arctic 51(3):237-242.

**ABSTRACT:**

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Huntington, Henry P.

**1998 Traditional ecological knowledge and Beluga whales.** *In* Cultural survival quarterly. Pp. 66-8, Vol. 22.

**ABSTRACT:**

**KEYWORDS:** Descriptor: Alaska

Tradition

Ecology

Whales

Subsistence economy

CULTURAL ETHNOGRAPHY

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**NOTES:** Using Smart Source Parsing  
no. 3 (), p. Journal Code: Cult Survival Q

Huntington, Henry P.

**1998 Traditional ecological knowledge and Beluga whales.** *In* Cultural survival quarterly. Pp. 66-8, Vol. 22.

**ABSTRACT:**

**KEYWORDS:** Descriptor: Alaska

Tradition

Ecology

Whales

Subsistence economy

CULTURAL ETHNOGRAPHY

AMERICAS

NORTH AMERICA

Document Type: article

**NOTES:** Using Smart Source Parsing  
no. 3 (), p. Journal Code: Cult Survival Q

Huntington, Henry P.

**1999 Traditional knowledge of the ecology of beluga whales (*Delphinapterus leucas*) in the Eastern Chukchi and Northern Bering Seas, Alaska.** Arctic 52(1):49-61.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Huntington, Henry P.

**1999 Traditional knowledge of the ecology of beluga whales (*Delphinapterus leucas*) in the Eastern Chukchi and Northern Bering Seas, Alaska.** Arctic 52(1):49-61.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Huntington, Henry P.

**2000 Using traditional ecological knowledge in science: methods and applications.** Ecological Applications 10(5):1270-1274.

**ABSTRACT:** Advocates of Traditional Ecological Knowledge (TEK) have promoted its use in scientific research, impact assessment, and ecological understanding. While several examples illustrate the utility of applying TEK in these contexts, wider application of TEK-derived information remains elusive. In part, this is due to continued inertia in favor of established scientific practices and the need to describe TEK in Western scientific terms. In part, it is also due to the difficulty of accessing TEK, which is rarely written down and must in most cases be documented as a project on its own prior to its incorporation into another scientific undertaking. This formidable practical obstacle is exacerbated by the need to use social science methods to gather biological data, so that TEK research and application becomes a multidisciplinary undertaking. By examining case studies involving bowhead whales, beluga whales, and herring, this paper describes some of the benefits of using TEK in scientific and management contexts. It also reviews some of the methods that are available to do so, including semi-directive interviews, questionnaires, facilitated workshops, and collaborative field projects.

**KEYWORDS:** Beluga whales; bowhead whales; collaborative field work; herring; impact assessment; semi-directive interview; social science; Traditional Ecological Knowledge; TEK

**NOTES:**

Huntington, Henry P.

**2005 "We dance around in a ring and suppose:" Academic engagement with traditional knowledge.** Arctic anthropology 42(1):29-32.

**ABSTRACT:** The concept of "traditional knowledge" describes not a single entity, but a diverse and complex set of ways of knowing. Debates about the appropriateness of particular approaches to the study of traditional knowledge may miss the point in conflating not only the various forms of traditional knowledge, but also the different ways in which academic study engages that knowledge. Rather than seeking resolution in favor of a particular approach to the study of traditional knowledge, we should recognize that different ways of studying traditional knowledge are more a product of different academic perspectives than of qualities inherent to traditional knowledge. In this view, different approaches are entirely appropriate, if they suit the particular purposes for which traditional knowledge is sought. Instead of seeking to find the "right" way to study traditional knowledge, we should be clearer about our aims, assess each study in its own light, and learn from the various experiences researchers have had with different approaches.

**KEYWORDS:** ecology, methodology, knowledge, tradition

**NOTES:**

Huntington, Henry P.

**2009 A preliminary assessment of threats to arctic marine mammals and their conservation in the coming decades.** Marine Policy 33(1):77-82.

**ABSTRACT:** Over the next several decades, arctic marine mammals will face threats from six areas of human influence: climate change, environmental contaminants, offshore oil and gas activities, shipping, hunting, and commercial fisheries. This paper reviews these factors, the nature and magnitude of the threats they pose, current scientific understanding and management of those threats, and the potential for effective conservation action. Climate change, offshore oil and gas activities, and commercial fisheries likely pose the greatest threats. Addressing the combined effects of all six factors, however, will be particularly difficult but essential to prevent declines beyond those that have already occurred.



**KEYWORDS:** Arctic marine mammals

Conservation  
Climate change  
Industrial development  
Fisheries

**NOTES:**

Huntington, Henry P., and Nikolai I. Mymrin

**1996 Traditional ecological knowledge of beluga whales: an indigenous knowledge pilot project in the Chukchi and northern Bering Seas.** *In* Inuit Circumpolar Conference. Anchorage, AK.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Huntington, Henry P., and Nikolai I. Mymrin

**1996 Traditional ecological knowledge of beluga whales: an indigenous knowledge pilot project in the Chukchi and northern Bering Seas.** *In* Inuit Circumpolar Conference. Anchorage, AK.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Huntington, Henry P., Sarah F. Trainor, David C. Natcher, O. Huntington, L. DeWilde, and F. Stuart Chapin III

**2006 The significance of context in community-based research: understanding discussions about wildfire in Huslia, Alaska.** *Ecology and Society* 11(1):40.

**ABSTRACT:** Community workshops are widely used tools for collaborative research on social-ecological resilience in indigenous communities. Although results have been reported in many publications, few have reflected explicitly on the workshop itself, and specifically on understanding what is said during a workshop. Drawing on experience from workshops held in Huslia, Alaska in 2004 on wildfire and climate change, we discuss the importance of considering cultural, political, and epistemological context when analyzing statements made by indigenous people in community workshops. We provide examples of statements whose meaning and intent were, and may remain, unclear, with descriptions of our attempts to understand what was being said by placing the statements in a variety of contexts. We conclude that, although workshops can be an efficient means of exchanging information, researchers should strive for multiple channels of communication and should be cautious in their interpretations of what is said.

**KEYWORDS:** Alaska; cross-cultural communication; indigenous knowledge; wildfire; workshops

**NOTES:**

Hurwitz, B.

**1977 Subsistence foods: a physician's perspective on the D--2 land proposal.** *Alaska Medicine* 19(5):60-2.

**ABSTRACT:**

**KEYWORDS:** Alaska

Diet  
\*Food Supply  
Inuits  
\*Life Style  
Mental Health

## Nutritional Physiological Phenomena

**NOTES:** Hurwitz, B

United states

Alaska medicine

Alaska Med. 1977 Sep;19(5):60-2.

Huskey, Lee

**1979 Statewide Impacts of OCS Petroleum Facilities Development in Alaska.** Anchorage: U.S. Department of the Interior/Bureau of Land Management/Alaska OCS Office.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Huskey, L.

**2004 Alaska's Village Economies.** Journal of Land, Resources, & Environmental Law 24:435.

**ABSTRACT:** Alaska Native villages have local economies that are unusual for the United States. They are essentially three-part economies --with market, transfer, and subsistence sectors all helping sustain villages throughout Alaska. But most villages are economically fragile, with few jobs, low incomes, and limited access to commercial resources. Native leaders and others are continually investigating ways to help Alaska's small, remote villages become more self-sufficient. This paper describes the structure of village economies and discusses the problems they faced going into the 1990s. At the end of the paper, the author discusses broad changes in the village economic outlook in the intervening decade. But the fundamentals as described here remain the same, and an understanding of those fundamentals is critical to anyone interested in the future of Alaska Native villages.

**KEYWORDS:** market, transfer payments, subsistence, economics

**NOTES:**

Huskey, Lee

**2009 Community migration in Alaska's north: the places people stay and the places they leave.** Polar Geography 32:17-30.

**ABSTRACT:** Arctic Alaska is a vast sparsely settled region encompassing Alaska's three most northern census areas. The Arctic has been a region of net out-migration for the past three decades. Despite this regional migration pattern, many of the region's villages have experienced net in-migration. The paper looks at the village migration patterns in the region in two periods. Census micro data was used to describe the flows of migrants into and out of villages between two periods, from 1985 to 1990 and from 1995 to 2000. The pattern has varied over time with many villages switching between net out-migration and net in-migration. Preliminary explanations of these differences are investigated. Examining village characteristics and community migration rates provides some support for the idea that migration differences across communities may reflect variation in economic growth, housing supply, social benefits, and the demographic character of villages.

**KEYWORDS:** migration; Alaska

**NOTES:** doi:10.1080/10889370903000448

Huskey, L., M. Berman, and A. Hill

**2004 Leaving home, returning home: Migration as a labor market choice for Alaska Natives.** The Annals of Regional Science 38(1):75-92.

**ABSTRACT:** We investigate determinants of the pattern of recent migration of Alaska Natives between rural, homelands urban areas. A review of the literature on moving in the North American North suggests that economic opportunities draw migrants, although such opportunities must be viewed in the context of the mixed subsistence-cash economy prevailing in rural areas of the region. Consequently we model Native migration as a simultaneous decision with labor market participation in a mixed economy. Estimated equations explaining individual Alaska Native migration choices using the U. S. Census Public Use Microdata Sample are consistent with the model also suggest that perceived opportunities differ between, women, men.

**KEYWORDS:**

**NOTES:** (PUMS)

Huskey, Lee, and Will Nebesky

**1978 The growth of the Alaskan economy: Future conditions without the proposal.** 1-54.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Huskey, Lee, William Serow, and Ted Volin

**1979 A model for assessing the population impacts of Alaskan outer continental shelf development on small Alaskan communities** Pp. 1-125: Bureau of Land Management Alaska Outer Continental Shelf Office

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Hutchinson-Scarborough, Lisa B., and James A. Fall

**1995 An overview of subsistence salmon and other subsistence fisheries of the Chignik Management Area, Alaska Peninsula, Southwest Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** The report describes contemporary subsistence uses of Pacific salmon and other finfish by the communities of the Chignik Management Area on the Alaska Peninsula, Southwest Alaska. The study communities were Chignik Bay, Chignik Lagoon, Chignik Lake, Perryville, and Ivanof Bay. The report is based on systematic household interviews, key respondent interviews, permit data, and participant observation in the subsistence salmon fishery. Topics discussed include a historical background, harvest data, case studies of fishing households, and descriptions of fishing methods and methods used to process and preserve salmon for subsistence uses. Limited information on subsistence uses of other finfish and marine invertebrates is also presented.

**KEYWORDS:**

**NOTES:**

Ikuta, Hiroko

**2010 Eskimo language and Eskimo song in Alaska: A sociolinguistics of deglobalisation in endangered language.** *Pragmatics* 20(2):171-189.

**ABSTRACT:** Across Alaska, the popularity of indigenous forms of dance has risen, particularly in indigenous communities in which English dominates the heritage languages and Native youth have become monolingual English speakers. Some indigenous people say that Native dance accompanied by indigenous song is a way of preserving their endangered languages. With two case studies from Alaskan Eskimo communities, Yupiget on St. Lawrence Island and Inupiat in Barrow, this article explores how use of endangered languages among Alaskan Eskimos is related to the activity of performing Eskimo dance. I suggest that practice of Eskimo dancing and singing that local people value as an important linguistic resource can be considered as a de-globalised sociolinguistic phenomenon, a process of performance and localisation in which

people construct a particular linguistic repertoire withdrawn from globalisable circulation in multilingualism.

**KEYWORDS:** Deglobalisation

Globalisation  
Truncated multilingualism  
Endangered  
languages  
Dance and song  
Eskimo  
Alaska  
multilingualism

**NOTES:**

Innis, S. M., and H. V. Kuhnlein

**1987 The fatty acid composition of Northern-Canadian marine and terrestrial mammals.**  
Acta Med Scand 222(2):105-9.

**ABSTRACT:** The low mortality from cardiovascular disease in Greenland Eskimos has been attributed to their consumption of diets rich in omega-3 fatty acids. These fatty acids are found in fish and marine mammal lipids. Whereas the fatty acid composition of several fish species has been documented, information is more limited on the mammals which feature significantly in the diets of many Arctic populations. This study investigated the fatty acid composition of commonly eaten marine mammals, as well as the polar bear and caribou. The tissue fatty acid composition was species-dependent, probably reflecting to some degree differences in feeding habits. The marine mammals and the amphibious polar bear, but not the caribou, contained substantial quantities of long chain omega-3 fatty acids. These studies further document the transfer of omega-3 fatty acids through the food chain to man and suggest that marine mammal and polar bear lipids are significant sources of omega-3 fatty acids.

**KEYWORDS:** Animals

Canada  
Dietary Fats/ analysis  
Fatty Acids/ analysis  
Food Habits  
Humans  
Inuits  
Meat/ analysis  
Pinnipedia  
Reindeer  
Whales

**NOTES:** Innis, S M

Kuhnlein, H V  
Research Support, Non-U.S. Gov't  
Sweden  
Acta medica Scandinavica  
Acta Med Scand. 1987;222(2):105-9.

Innis, S. M., H. V. Kuhnlein, and D. Kinloch

**1988 The composition of red cell membrane phospholipids in Canadian Inuit consuming a diet high in marine mammals.** Lipids 23(11):1064-8.

**ABSTRACT:** A study of the fatty acid composition of red cell phosphatidylcholine and phosphatidylethanolamine and serum cholesterol was undertaken in 185 Canadian Inuit (age 2

months-82 years). Samples from 24 Canadian men and women (21-50 years) living in Vancouver were also analyzed as a reference for the Inuit in this age range. Dietary survey of the Inuit community (325 Inuit) demonstrated a diet based on traditional foods in which the principal source of n-3 fatty acid was marine mammal flesh (mean intake: 164 g/person/day) rather than fish (mean intake: 13 g/person/day). Compared to the Vancouver samples, the Inuit phosphatidylethanolamine had higher 20:5n-3 and 22:6n-3 and lower 20:4n-6, but similar 18:2n-6 levels. The level of 20:5n-3 was higher and 20:4n-6 was lower in the Inuit than in the Vancouver red cell phosphatidylcholine. Despite these differences in percentage content of C20 and C22 n-6 and n-3 fatty acids, the mean chain length and unsaturation index of the Inuit and Vancouver red cell phosphatidylcholine and phosphatidylethanolamine were very similar. Serum cholesterol concentration showed no sex difference within the Inuit, and no difference from Vancouver men and women of similar age. The analyses suggest that the fatty acid composition of the Inuit red cell phospholipids are primarily a reflection of their diet-fat composition.

**KEYWORDS:** Adolescent

Adult  
Aged  
Aged  
80 and over  
Animals  
Canada  
Child  
Child  
Preschool  
Diet  
Dietary Fats  
Unsaturated/administration & dosage  
Erythrocyte Membrane/ analysis  
Fatty Acids  
Unsaturated/administration & dosage  
Female  
Humans  
Infant  
Inuits  
Male  
Mammals  
Meat  
Middle Aged  
Phospholipids/ blood

**NOTES:** Innis, S M

Kuhnlein, H V  
Kinloch, D  
Research Support, Non-U.S. Gov't  
United states  
Lipids  
Lipids. 1988 Nov;23(11):1064-8.

Inoue, Toshiaki

**2004 The Gwich'in gathering : the subsistence tradition in their modern life and the gathering against oil development by the Gwich'in Athabaskan.** Circumpolar ethnicity and identity 66(2004):183-204.

**ABSTRACT:**

**KEYWORDS:** Descriptor: Oil industries -- Alaska -- Cultural aspects.  
Environmental protection -- Alaska -- Cultural aspects.

Gwich'in Indians -- Alaska -- Social life and customs.  
 Environmental ethics -- Alaska -- Cultural aspects.  
 Subsistence economy  
 Inuit.

**NOTES:** Using Smart Source Parsing  
 ( p. Additional Info: Osaka National Museum of Ethnology. Series: Senri ethnological studies  
 Source of data: Anthropological Literature, Harvard University.  
 by Toshiaki Inoue.

Institute of Social and Economic Research

**1978 Beaufort Sea Petroleum Development Scenarios: Economic and Demographic Impacts.** Anchorage: U.S. Department of the Interior/Bureau of Land Management/Alaska OCS Office.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** This report will describe the use of this econometric model to estimate the impacts of various alternative Beaufort Sea development scenarios. Part II presents the forecasts of economic activity in a base case which includes no offshore activity in the Beaufort Sea. Part III then turns to a description of the alternative scenarios for Beaufort Sea development and the impact of these scenarios on each of the four dimensions presented earlier, Part IV then attempts to capture the uncertainty attached to these estimated impacts by examining the sensitivity of the conclusions of Part III to several of the most uncertain elements in the scenarios. Finally, Part V summarizes our major findings.

Irving, Lawrence

**1958 On the naming of birds by Eskimos.** Anthropological Papers of the University of Alaska 6(2):61-77.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Jackson, Matthew O., and Brian W. Rogers

**2004 The Economics of Small Worlds.**

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

purely mathematical model

Jacobson, Cynthia A., Tommy L. Brown, and Dietram A. Scheufele

**2007 Gender-Biased Data in Survey Research Regarding Wildlife.** Society & Natural Resources 20(4):373-377.

**ABSTRACT:** Underrepresentation of females among respondents to mail surveys focused on wildlife is a growing concern for survey researchers. In an effort to better understand why females are underrepresented, we analyzed the sample frame of a wildlife-focused survey for which a notable disparity existed between the number of male and female respondents in relation to actual population figures. An analysis of the sample frame used for this study indicated that male bias existed that likely contributed to female underrepresentation among survey respondents. Suggestions are made for improving sampling frames to minimize gender bias.

**KEYWORDS:** social science research, conservation, sex discrimination, gender bias, human dimensions, survey research, wildlife

**NOTES:**

Jacobson, Joseph L., Sandra W. Jacobson, Gina Muckle, Melissa Kaplan-Estrin, Pierre Ayotte, and Eric Dewailly

**2008 Beneficial Effects of a Polyunsaturated Fatty Acid on Infant Development: Evidence from the Inuit of Arctic Quebec.** *The Journal of Pediatrics* 152(3):356-364.e1.

**ABSTRACT:** Objectives To examine the relation of cord plasma docosahexaenoic acid (DHA) concentration to gestation length, birth size, growth, and infant visual acuity, cognitive, and motor development and the effects on growth and development associated with DHA intake from breast-feeding. Study design DHA, other polyunsaturated fatty acids, and 3 environmental contaminants (polychlorinated biphenyls, mercury, and lead) were assessed in cord plasma and maternal plasma and milk in 109 Inuit infants in Arctic Quebec. Multiple regression was used to examine the relation of cord DHA and DHA from breast-feeding on growth and development at 6 and 11 months, after controlling for contaminant exposure and other potential confounders. Results Higher cord DHA concentration was associated with longer gestation, better visual acuity and novelty preference on the Fagan Test at 6 months, and better Bayley Scale mental and psychomotor performance at 11 months. By contrast, DHA from breast-feeding was not related to any indicator of cognitive or motor development in this full-term sample. Conclusions The association of higher cord DHA concentration with more optimal visual, cognitive, and motor development is consistent with the need for substantial increases in this critically important fatty acid during the third trimester spurt of synaptogenesis in brain and photoreceptor development.

**KEYWORDS:**

**NOTES:**

Jacobson, Steven A.

**2005 History of the Naukan Yupik Eskimo dictionary with implications for a future Siberian Yupik dictionary.** *Etudes/Inuit/Studies* 29(1):149-161.

**ABSTRACT:** Naukan est une langue Yupik qui n'est parlée de nos jours que par quelques personnes du côté russe du détroit de Béring, qui ont toutefois de fortes affinités alaskiennes. Dobrieva de Lavrentiya, qui parle naukan, le linguiste Golovko de St Petersburg et les linguistes Krauss et Jacobson de Fairbanks ont compilé un dictionnaire naukan en deux volumes parallèles: naukan-anglais avec le naukan orthographié en lettres latines et, naukan-russe avec le naukan transcrit dans l'alphabet cyrillique modifié que l'on utilise pour les langues eskimo de Tchoukotka. L'implication dans ce projet de gens de l'Alaska, de l'Europe russe et de la Tchoukotka était à la fois appropriée et bénéfique. Le dictionnaire a été publié récemment par le Centre des langues Autochtones d'Alaska de l'Université d'Alaska à Fairbanks. Le dictionnaire naukan en deux volumes parallèles peut servir de modèle pour produire un nouveau dictionnaire du yupik (central) sibérien, une langue parlée, au moins ancestralement, par à peu près autant de gens sur l'île Saint-Laurent en Alaska que dans la région de Novo Chaplino-Sirenik en Tchoukotka russe. Un tel dictionnaire pourrait aider à revigorer cette langue et lui permettre de mieux servir de pont entre les deux moitiés d'un même peuple et d'une même culture, divisés seulement depuis quelques décennies par une frontière qu'ils n'ont pas créée. Naukan is a Yupik Eskimo language spoken now by only a few people on the Russian side of the Bering Strait, but with strong Alaskan affinities. Naukan speaker Dobrieva of Lavrentiya, linguist Golovko of St. Petersburg, and linguists Jacobson and Krauss of Fairbanks have compiled a Naukan dictionary in two parallel volumes: Naukan in a latin-letter orthography to English, and Naukan in the modified Cyrillic alphabet used for Chukotkan Eskimo languages to Russian. It was both appropriate and beneficial that this project involved people from Alaska, European Russia, and Chukotka. The dictionary was recently published by the Alaska Native Language Center of the University of Alaska Fairbanks. The Naukan dictionary in

two parallel volumes can serve as a model for a new dictionary of (Central) Siberian Yupik, a language spoken, at least ancestrally, by roughly equal numbers on St. Lawrence Island Alaska and in the New Chaplino-Sirenik area of Chukotka, Russia. Such a dictionary could help to reinvigorate that language and allow it better to serve as a bridge between the two halves of a single people and culture divided only in recent decades by a boundary not of their own making.

**KEYWORDS:**

**NOTES:**

Jacoby, Gordon C., and Rosanne D. D'Arrigo

**1995 Tree ring width and density evidence of climatic and potential forest change in Alaska.** *Global Biogeochemical Cycles* 9(2):227-234.

**ABSTRACT:** Ring width and density measurements from the same trees can produce distinctly different climatic information. Ring width variations and recorded data in central and nonhern Alaska indicate annual temperatures increased over the past century, peaked in the 1940s, and are still near the highest level for the past 3 centuries. Density variations indicate summer temperatures are now warm but not above some previous levels occurring prior to this century. The early cooler period, corresponding to the Little Ice Age, was interrupted by brief warm intervals. The recent increase in temperatures combined with drier years may be changing the tree response to climate and raising the potential for some forest changes in Alaskan and other boreal forests.

**KEYWORDS:** Alaska; climate change; tree ring

**NOTES:**

James, Joseph

**1986 No desire to be white.** *In* *Tundra Times*. Pp. 6.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

James Lindsay and Associates

**1978 Beaufort Sea Petroleum Development Scenario: Summary of Socioeconomic Impacts.** Anchorage: U.S. Department of the Interior/Bureau of Land Management/Alaska OCS Office.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Janssen, M. A., and E. Ostrom

**2006 Resilience, vulnerability, and adaptation: A cross-cutting theme of the International Human Dimensions Programme on Global Environmental Change.** *Global Environmental Change* 16(3):237-239.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Jenkins, David

**2003 Atlantic Salmon, Endangered Species, and the Failure of Environmental Policies.** *Comparative Studies in Society and History* 45(04):843-872.

**ABSTRACT:** The struggle to control nature takes many forms. In the State of Maine, one current struggle for control has been focused on declining stocks of Atlantic salmon. The varied participants in the debates and struggles over Atlantic salmon include federal and state governments and many of their bureaucracies, large international timber corporations, small



local businesses, salmon farmers, dam owners, blueberry growers, commercial fishers, recreational fishers, scientists, and a raft of environmental organizations. In different ways, these participants all have a stake in the fate of Atlantic salmon, but they do not have the same power to effect ecological change or to define the debate in terms most favorable to their wishes.

**KEYWORDS:**

**NOTES:**

Jenness, D.

**1929 Little Diomed Island, Bering Strait.** *Geographical Review* 19(1):78-86.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Jensen, Anne M.

**1983 Patterns of bearded seal exploitation in Greenland.** *In* 6th ICAES. Pp. 1-41. Vancouver, Canada.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Jensen, Anne M., Glenn W. Sheehan, and Stephen A. MacLean

**2009 Inuit and Marine Mammals.** *In* Encyclopedia of Marine Mammals (Second Edition). F.P. William, W. Bernd, and J.G.M. Thewissen, eds. Pp. 628-637. London: Academic Press.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Jewett, Stephen, Lisa Clough, Arny Blanchard, William Ambrose, Howard Feder, Max Hoberg, and Alex Whiting

**2009 Nearshore macrobenthos of northern Kotzebue Sound, Alaska, with reference to local sewage disposal.** *Polar Biology* 32(11):1665-1680.

**ABSTRACT:** Macrobenthos of the shallow (10 m) nearshore marine waters of northern Kotzebue Sound was examined in 2002–2004 to (1) determine nearshore community structure and (2) assess the influence of sewage disposal. A variable number of benthic stations were sampled during three summers, with extensive effort at the disposal zone in 2003. The benthic community structure is similar to other nearshore Arctic locations, and was similar to a previous benthic study done in 1986–1987. The potential of sewage impact was assessed at the request of the community, because sewage is occasionally discharged into the Sound, in volumes of up to 38 million liters, typically through the ice in early spring. Only minimal effects of disposal on the benthos were evident and the effects could not be separated from the impacts of low salinity and relatively high water pigments. Low diversity ( $H'$ ) and species richness ( $d$ ) and high biomass characterized stations in the sewage area. Parameters often associated with extreme sewage pollution, particularly hypoxic and/or anoxic conditions and high abundance of opportunistic taxa, were not observed. Local traditional ecological knowledge was solicited throughout the study, and was used to help define the area potentially affected by sewage disposal.

**KEYWORDS:** Kotzebue Sound, benthic, contaminants, Biomedical and Life Sciences

**NOTES:**

Jewett, Stephen C., Thomas A. Dean, Bruce R. Woodin, Max K. Hoberg, and John J. Stegeman

**2002 Exposure to hydrocarbons 10 years after the Exxon Valdez oil spill: evidence from cytochrome P4501A expression and biliary FACs in nearshore demersal fishes.** *Marine Environmental Research* 54(1):21-48.

**ABSTRACT:** Three biomarkers of hydrocarbon exposure, CYP1A in liver vascular endothelium, liver ethoxyresorufin O-deethylase (EROD), and biliary fluorescent aromatic compounds (FACs), were examined in the nearshore fishes, masked greenling (*Hexagrammos octogrammus*) and crescent gunnel (*Pholis laeta*), collected in Prince William Sound, Alaska, 7-10 years after the Exxon Valdez oil spill (EVOS). All biomarkers were elevated in fish collected from sites originally oiled, in comparison to fish from unoiled sites. In 1998, endothelial CYP1A in masked greenling from sites that were heavily oiled in 1989 was significantly higher than in fish collected outside the spill trajectory. In 1999, fishes collected from sites adjacent to intertidal mussel beds containing lingering Exxon Valdez oil had elevated endothelial CYP1A and EROD, and high concentrations of biliary FACs. Fishes from sites near unoiled mussel beds, but within the original spill trajectory, also showed evidence of hydrocarbon exposure, although there were no correlations between sediment petroleum hydrocarbon and any of the biomarkers. Our data show that 10 years after the spill, nearshore fishes within the original spill zone were still exposed to residual EVOS hydrocarbons.

**KEYWORDS:** Biomarker

CYP1A  
Effects-fish  
EROD  
Exxon Valdez  
FACs  
Hydrocarbons  
Oil spills

**NOTES:**

Jewett, Stephen C., and Lawrence K. Duffy

**2007 Mercury in fishes of Alaska, with emphasis on subsistence species.** Science of The Total Environment 387(1-3):3-27.

**ABSTRACT:** In the north, the presence of mercury (Hg) in food leading to chronic exposure is a scientific, economic and political issue. Guidelines have been established for the safe consumption of fish containing Hg, however, adherence to these guidelines must be weighed against the health benefits of consuming fish, such as from the omega-3 polyunsaturated fatty acids, vitamins and minerals. Alaskan Natives generally consume much more fish than the national average. This review summarizes and synthesizes the significant amount of data that has been generated on Hg in Alaska fish, particularly those consumed by Alaskans. Also included are a review of the benefits of eating fish, human health concerns relating to Hg toxicity and various risk assessment guidelines for food consumption. Emphasis was placed on methylmercury (MeHg), the most toxic form to humans. Hg concentrations were examined in 17 freshwater fish species and 24 anadromous and marine fish species, for a total of 2692 specimens. For freshwater fish the greatest database was on northern pike (*Esox lucius*). For anadromous and marine fish the greatest database was on Pacific halibut (*Hippoglossus stenolepis*) and the five species of Pacific salmon (*Oncorhynchus* spp.). Overall, most fish had muscle Hg concentrations of  $\leq 1$  mg kg<sup>-1</sup> (wet wt.), within the USFDA's Action Level and Alaska's guideline for safe concentrations of MeHg in edible fish. Pacific salmon, the most commonly consumed fish group, had exceptionally low ( $\leq 0.1$  mg kg<sup>-1</sup>) Hg concentrations. Pacific halibut muscle Hg content was less than 0.3 mg kg<sup>-1</sup>. Northern pike, a piscivorous (fish-eating) and long-lived fish, contained the highest muscle Hg values, often exceeding the state's guidelines for food consumption. A discussion of the safe consumption level for pike is included.

**KEYWORDS:** Alaska

Subsistence  
Mercury  
Fish  
Salmon

Pike  
Halibut

**NOTES:**

Jewett, Stephen C., and Lawrence K. Duffy

**2007 Mercury in fishes of Alaska, with emphasis on subsistence species.** Science of The Total Environment 387(1-3):3-27.

**ABSTRACT:** In the north, the presence of mercury (Hg) in food leading to chronic exposure is a scientific, economic and political issue. Guidelines have been established for the safe consumption of fish containing Hg, however, adherence to these guidelines must be weighed against the health benefits of consuming fish, such as from the omega-3 polyunsaturated fatty acids, vitamins and minerals. Alaskan Natives generally consume much more fish than the national average. This review summarizes and synthesizes the significant amount of data that has been generated on Hg in Alaska fish, particularly those consumed by Alaskans. Also included are a review of the benefits of eating fish, human health concerns relating to Hg toxicity and various risk assessment guidelines for food consumption. Emphasis was placed on methylmercury (MeHg), the most toxic form to humans. Hg concentrations were examined in 17 freshwater fish species and 24 anadromous and marine fish species, for a total of 2692 specimens. For freshwater fish the greatest database was on northern pike (*Esox lucius*). For anadromous and marine fish the greatest database was on Pacific halibut (*Hippoglossus stenolepis*) and the five species of Pacific salmon (*Oncorhynchus* spp.). Overall, most fish had muscle Hg concentrations of  $\leq 1$  mg kg<sup>-1</sup> (wet wt.), within the USFDA's Action Level and Alaska's guideline for safe concentrations of MeHg in edible fish. Pacific salmon, the most commonly consumed fish group, had exceptionally low ( $\leq 0.1$  mg kg<sup>-1</sup>) Hg concentrations. Pacific halibut muscle Hg content was less than 0.3 mg kg<sup>-1</sup>. Northern pike, a piscivorous (fish-eating) and long-lived fish, contained the highest muscle Hg values, often exceeding the state's guidelines for food consumption. A discussion of the safe consumption level for pike is included.

**KEYWORDS:** Alaska

Subsistence  
Mercury  
Fish  
Salmon  
Pike  
Halibut

**NOTES:**

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**KEYWORDS:** Alaska

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Mercury  
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Halibut

**NOTES:**

Jewett, S. C., H. M. Feder, and A. Blanchard

**1999 Assessment of the benthic environment following offshore placer gold mining in the northeastern Bering Sea.** Marine Environmental Research 48(2):91-122.

**ABSTRACT:** The effects of offshore placer gold mining on benthic invertebrates were assessed on ['sand' and ['cobble' substrates in Norton Sound, northeastern Bering Sea. Mining with a bucket-line dredge occurred nearshore in 9-20 m during June to November 1986-90. Sampling nearly a year subsequent to mining demonstrated minor alteration of substrate granulometry with no clear trends. However, benthic macrofaunal community parameters (total abundance, biomass, diversity) and abundance of dominant families were significantly reduced at mined stations. Many of the dominant taxa are known prey of the locally important red king crab (*Paralithodes camtschaticus*). Dominance of opportunistic species and small sizes at unmined and mined sites represents faunal responses to the natural dynamics of the region where establishment of populations of large, sexually-mature individuals is typically precluded. Multi-year bathymetric surveys of an area only mined in 1986 showed a continued smoothing of ocean bottom relief, decreasing size of tailing footprint, and shoaling of depressions left by mining. An ordination (multidimensional scaling) of taxon abundance data from mined (1 year after mining), recolonizing (2-7 years after mining) and unmined stations shows configurations that reflect disturbance. Recovery of the biota was underway in both substrates after 4 years, but this process was interrupted in the fall of the fourth year (1990) by several severe storms. Mining effects are contrasted with local natural disturbances.

**KEYWORDS:** Benthos

Bering Sea  
Disturbance  
Effects  
Mining  
King crab  
Monitoring  
Recolonization

**NOTES:**

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Recolonization

**NOTES:**

Jewett, Stephen C., and A. Sathy Naidu

**2000 Assessment of Heavy Metals in Red King Crabs Following Offshore Placer Gold Mining.** Marine Pollution Bulletin 40(6):478-490.

**ABSTRACT:** Red king crabs, *Paralithodes camtschaticus*, with commercial and subsistence importance, seasonally occur nearshore in Norton Sound, north-eastern Bering Sea, Arctic Alaska. Since the end of the nineteenth century, the coastal area in the northern Sound has been intensively mined for placer gold. Mining was extended offshore in 1986-1990. Heavy metal concentrations in the crabs were monitored during 1987-1990 to assess the impact of offshore mining. Crabs were only present in the study area during ice-covered months when mining was seasonally suspended. Arsenic, Cd, Cr, Cu, Pb, Ni, Zn and Hg concentrations in muscle and hepatopancreas tissues were generally not different between mined and unmined reference (control) areas. Furthermore, concentrations of these metals were not different in similar surficial sediments upcurrent and downcurrent of mining. The concentrations of most metals in both tissues fluctuated over the study period, with no temporal trend. Exceptions were for Hg in muscle tissue and As in hepatopancreas tissue which showed progressive significant increases each year. Also, there was a fractionation of selected metals between the two tissues; Cr, Pb and Zn were greater in muscles, whereas Cd, Cu and Ni were greater in hepatopancreas. Arsenic and Hg had similar concentrations in both tissues. All elemental concentrations in the crab muscles from Norton Sound were below or within the range of concentrations observed in red king crabs from five other locations in the North Pacific, including a mined area. In Norton Sound, all metals, except Cd, were at least an order of magnitude below the US Food and Drug Administration guidance levels for contamination or human consumption. This investigation demonstrated that mining activities did not affect the concentrations of the heavy metals measured in red king crabs.

**KEYWORDS:** mining

Norton Sound

disturbance  
impact  
heavy metals  
king crab

**NOTES:**

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disturbance  
impact  
heavy metals  
king crab

**NOTES:**

Jewett, Stephen C., Xiaoming Zhang, A. Sathy Naidu, John J. Kelley, Doug Dasher, and Lawrence K. Duffy

**2003 Comparison of mercury and methylmercury in northern pike and Arctic grayling from western Alaska rivers.** Chemosphere 50(3):383-392.

**ABSTRACT:** In western Alaska, mercury (Hg) could be a potential health risk to people whose diet is primarily fish-based. In 2000, total Hg (THg) and methylmercury (MeHg) were examined in northern pike (*Esox lucius*) and Arctic grayling (*Thymallus arcticus*) from two watersheds in western Alaska, the Yukon and Kuskokwim rivers. Whitefish (*Coregonus* sp.) were also examined from the Kuskokwim River. Pike from the Yukon and Kuskokwim rivers had mean concentrations of THg in muscle of 1.506 and 0.628 mg/kg wet wt, respectively. The mean concentrations of THg in grayling muscle from these rivers were 0.264 and 0.078 mg/kg, respectively. Whitefish had a mean THg concentration in muscle of 0.032 mg/kg. MeHg, in pike and grayling constituted nearly 100% of the THg concentrations; the proportion was less in whitefish. A significant positive correlation between Hg levels and fish length was also found.

Generally, there were no changes in Hg concentrations in pike or grayling over the last several years. Only pike from the Yukon River had THg concentrations that exceeded the USFDA action level for human consumption of edible fish (1 mg/kg). Human hazard index for pike was 1 for both adults and children, indicating a potential for toxic concern, especially among children. Further studies are needed to determine the environmental and human health impacts associated with these Hg concentrations in western Alaska, especially in the context of potentially increased consumption of resident fishes when anadromous salmon catches are reduced.

**KEYWORDS:** Alaska; Pike; Grayling; Whitefish; Mercury; Methylmercury

**NOTES:**

Jewett, Stephen C., Xiaoming Zhang, A. Sathy Naidu, John J. Kelley, Doug Dasher, and Lawrence K. Duffy

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**KEYWORDS:** Alaska; Pike; Grayling; Whitefish; Mercury; Methylmercury

**NOTES:**

Johannes, R., M. Freeman, and R. Hamilton

**2000 Ignore fishers' knowledge and miss the boat.** *Fish and Fisheries* 1(3):257-271.

**ABSTRACT:** We describe five examples of how, by ignoring fishers' ecological knowledge (FEK), marine researchers and resource managers may put fishery resources at risk, or unnecessarily compromise the welfare of resource users. Fishers can provide critical information on such things as interannual, seasonal, lunar, diel, tide-related and habitat-related differences in behaviour and abundance of target species, and on how these influence fishing strategies. Where long-term data sets are unavailable, older fishers are also often the only source of information on historical changes in local marine stocks and in marine environmental conditions. FEK can thus help improve management of target stocks and rebuild marine ecosystems. It can play important roles in the siting of marine protected areas and in environmental impact assessment. The fact that studying FEK does not meet criteria for acceptable research advanced by some marine biologists highlights the inadequacy of those criteria.

**KEYWORDS:** traditional ecological knowledge; fisheries management; research methodology

**NOTES:**

Johannes, R.E.

**1981 The traditional conservation ethic and its decline.** *In* Words of the lagoon: Fishing and marine lore in the Palau district of Micronesia. Pp. 63-75: University of California Press.

**ABSTRACT:****KEYWORDS:****NOTES:**

Johannes, R.E.

**1982 Traditional conservation methods and protected marine areas in Oceania.** *Ambio*. Stockholm 11(5):258-261.

**ABSTRACT:** Local fisherman in Polynesia, Micronesia and eastern Melanesia have an understanding of shallow tropical fisheries which can be invaluable to planners of marine resource use. Their knowledge is often superior to that obtained from conventional resource surveys. They have also developed traditional methods of conservation that provide a variety of opportunities for those concerned with establishing and managing protected areas. Recognition of traditional fishing rights and an understanding of local traditions are important factors in protecting fisheries from over-exploitation.

**KEYWORDS:****NOTES:**

Johannes, R.E.

**1983 Traditional knowledge and management of marine coastal systems.** *In* Biology International. D.T. Younes, ed. Pp. 3-18, Vol. Special Issue 4. Paris, France: UNESCO Headquarters.

**ABSTRACT:****KEYWORDS:****NOTES:**

Johannes, R.E.

**1993 Integrating traditional ecological knowledge and management with environmental impact assessment.** *In* CONCEPTS AND CASES. J.T. Inglis, ed. Pp. 33-39.

**ABSTRACT:****KEYWORDS:****NOTES:**

Johns, Kenneth

**1998 Subsistence and the cultural survival of the Athabascan people.** *In* Cultural survival quarterly. Pp. 44-6, Vol. 23.

**ABSTRACT:**

**KEYWORDS:** Descriptor: Alaska

Athapaskans

Subsistence economy

Survival strategies (human ecology)

Hunting

Fishing

CULTURAL ETHNOGRAPHY

AMERICAS

NORTH AMERICA

Document Type: article

**NOTES:** Using Smart Source Parsing



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Johnson, Jennifer S., Elizabeth D. Nobmann, Elvin Asay, and Anne P. Lanier

**2009 Developing a validated Alaska Native food frequency questionnaire for western Alaska, 2002-2006.** International Journal of Circumpolar Health 68(2):99-108.

**ABSTRACT:** **OBJECTIVES:** The purpose of this study was to develop a dietary instrument (food frequency questionnaire [FFQ]) that measured total dietary intake over 1 year among Alaska Native people in 2 regions. Ways of assessing diet are needed in order to accurately evaluate how the diets of Alaska Natives relate to their health. **STUDY DESIGN:** Seasonal 24-hour (24-h) diet recalls were collected for developing an FFQ that described the average dietary foods and nutrients consumed. Alaska Native people living in 12 small communities in 2 regions of the state were eligible to participate. **METHODS:** Each participant was to provide 4 24-h diet recalls, 1 per season. Recalls were used to develop an FFQ using regression techniques. The FFQ was administered to 58 of the 333 original participants. Responses to the FFQ were compared to the averages of their 24-h recalls using the Spearman Correlation Coefficient. **RESULTS:** Energy-adjusted correlations ranged from 0.15 for protein to 0.49 for monounsaturated fatty acids. Fifteen of 26 nutrients examined were significantly correlated (total carbohydrates, sucrose, fructose, total fat, fatty acids [monounsaturated, polyunsaturated, omega 3, EPA, DHA], folate, vitamins A, C, D, potassium and selenium). **CONCLUSIONS:** The FFQ can be used to evaluate intakes of Alaska Natives in western Alaska for the correlated nutrients.

**KEYWORDS:** diet; food frequency questionnaire; Alaska; Alaska Native

**NOTES:**

Johnson, Jennifer S., Elizabeth D. Nobmann, Elvin Asay, and Anne P. Lanier

**2009 Dietary intake of Alaska Native people in two regions and implications for health: The Alaska Native dietary and subsistence food assessment project.** International Journal of Circumpolar Health 68(2):109-122.

**ABSTRACT:** Objectives. To calculate the energy and nutrient intake in 2 regions of Alaska and to describe the implications for development of chronic disease among Alaska Native people (AN). Study design. Cross-sectional observation; 10 villages and 2 hub communities in rural Alaska; 333 participants ages 13 to 88 years old. Methods. Trained interviewers collected 24-hour diet recalls during 4 seasons. Results. In both regions, AN reported a combination of traditional Native foods and store bought foods; most of the energy comes from store-bought foods; a high proportion of nutrients come from Native foods, especially protein, iron and omega-3 fatty acids. Mean intakes of omega-3 fatty acids, from fish and sea mammals, are over twenty times greater than those of the general U.S. population. Mean intakes of protein, iron, selenium, vitamin A, vitamin C (men) and folate (men) met recommended levels; intakes of calcium and fiber were below recommended levels; carbohydrate and saturated fat (% energy) were above. Conclusions. Traditional foods continue to contribute a significant amount of nutrients to the diet in rural Alaska. Excess simple sugars may be contributing to the rise in obesity and diabetes. Low intakes of calcium, dietary fiber, fruits and vegetables may contribute to the increased incidence of cancers of the digestive system. Emphasis on the positive aspects of Native foods and increased consumption of fruits, vegetables and calcium-rich foods are warranted.

**KEYWORDS:** diet; Alaska Native; health; diet-related disease; 24-h recall

**NOTES:** This report includes multiple significant findings about the consumption of Native subsistence foods and nutrients by Alaska Natives. It confirms the important role of Native foods to the Native diet by contributing to a high consumption of protein, iron, and omega 3 fatty acids. Fish and seafood in particular contribute to energy, protein, mono and polyunsaturated fatty acids, selenium, magnesium and vitamins D and E. Subsistence foods consumed most often by

participants were salmon (mostly king and chum), seal oil, and other fish species followed by caribou, moose, berries, reindeer, and muktuk. The report lists several positive health implications of a Native foods diet. It also discusses the negative health implications of consuming high levels of sodium and sugars from store bought foods. The consumption of store bought foods vs. Native subsistence foods may be contributing to a rise in obesity and diabetes among Alaska Natives.

Johnson, Jennifer S., Elizabeth D. Nobmann, Elvin Asay, and Anne P. Lanier

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Johnson, Murray L., Clifford H. Fiscus, Burton T. Ostenson, and Myron L. Barbour

**1966 Marine mammals.** In Environment of the Cape Thompson region, Alaska. US Atomic Energy Commission Division of Technical Information. N.J. Wilimovsky and J.N. Wolfe, eds. Pp. 877-924, Vol. 1250. Oak Ridge, TN.

**ABSTRACT:** Marine mammals are used by the Eskimos for food and clothing and as a source of income. They are the most important item among natural resources. Data were secured on nine species, but only the ringed seal and ebardeed seal were taken in numbers. The ringed seal is present in abundance from November through June. Pups are born in late March. Mating, with an 86.7% pregnancy rate, occurs in April and May. Food is principally fish in the winter and invertebrates in the spring, and many species of both are used. The bearded seal is present in

numbers only in June. Pups are born in late April and are completely molted. Food is principally invertebrates of many species. All marine mammals are migratory, and most of the animals used by the Eskimos are absent in the ice-free months.

**KEYWORDS:**

**NOTES:**

Joint WHO/FAOE Consultation

**2003 Diet, nutrition and the prevention of chronic diseases.** Geneve: World Health Organization.

**ABSTRACT:** Nutrition is coming to the fore as a major modifiable determinant of chronic disease, with scientific evidence increasingly supporting the view that alterations in diet have strong effects, both positive and negative, on health throughout life. Most importantly, dietary adjustments may not only influence present health, but may determine whether or not an individual will develop such diseases as cancer, cardiovascular disease and diabetes much later in life. However, these concepts have not led to a change in policies or in practice. In many developing countries, food policies remain focused only on undernutrition and are not addressing the prevention of chronic disease... This report calls for a shift in the conceptual framework for developing strategies for action, placing nutrition --- together with the other principal risk factors for chronic disease, namely, tobacco use and alcohol consumption --- at the forefront of public health policies and programmes.

**KEYWORDS:**

**NOTES:**

Jolles, Carol Zane

**1989 Salvation on St. Lawrence Island; Protestant conversion among the Sivuqaghhmiit.** Arctic anthropology 26(2):12-27.

**ABSTRACT:** Sivuqaq (Gambell, St. Lawrence Island, Alaska) is a Yup'ik Eskimo community located 38 mi from the Soviet shore. While Sivuqaq has a socioreligious heritage shared with its Soviet Yup'ik relatives, contemporary religious belief and practice in Sivuqaq has been significantly shaped by nearly a century of Protestant Christian influence. In 1894, Presbyterian missionaries opened a spiritual dialogue with the Sivuqaghhmiit which resulted in the latter's acceptance of a new cosmology and a new language. In this paper I give a brief ethnohistory of the missionary encounter and suggest that while Protestant Christianity succeeded in enlarging the compass of Yup'ik religious and ethnic perceptions to include cross-cultural bonding with nonnative Christians through a common religious identity, it also reinforced local ethnic identity and inspired a Yup'ik Christian world view.

**KEYWORDS:**

**NOTES:**

Jolles, Carol Zane

**1994 Cutting meat, sewing skins, telling tales: Women's stories in Gambell, Alaska.** Arctic anthropology 31(1):86.

**ABSTRACT:** Explores the construction of ethnographer/consultant relationships and the nature of narratives which develop in the context of data collection. Major concerns in anthropology; Presentation of three women narratives tied to the Yup'ik Eskimo village of Gambell, St. Lawrence, Alaska; Examination of sensitive partnerships characterized by the specific ties between researcher and consultant.

**KEYWORDS:** ANTHROPOLOGY -- Research

YUPIK Eskimos

METHODOLOGY

ALASKA

GAMBELL (Alaska)  
UNITED States

**NOTES:** Jolles, Carol Zane; Source Info: 1994, Vol. 31 Issue 1, p86; Subject Term: ANTHROPOLOGY -- Research; Subject Term: YUPIK Eskimos; Subject Term: METHODOLOGY; Subject Term: ALASKA; Subject Term: GAMBELL (Alaska); Subject Term: UNITED States; Number of Pages: 17p; Illustrations: 1 Diagram; Document Type: Article

Jolles, C. Z., and Kaningok

**1991 "Qayuutat" and "angyapiget": gender relations and subsistence activities in Sivuqaq (Gambell, St. Lawrence island, Alaska).** Inuit studies 15:23-53.

**ABSTRACT:**

**KEYWORDS:** Descriptor: Yupik

Marine mammal hunting

Yupik

Gender role and identity

Yupik

Alaska

CULTURAL ETHNOGRAPHY

AMERICAS

NORTH AMERICA

United States

**NOTES:** Using Smart Source Parsing  
no. 2 (), p. Journal Code: Etud inuit  
French summary Document Type: article

Joly, K., P. Bente, and J. Dau

**2007 Response of overwintering caribou to burned habitat in northwest Alaska.** Arctic 60(4):401-410.

**ABSTRACT:** Caribou (*Rangifer tarandus granti*) use lichens, when available, as primary forage on their winter range. In boreal forest habitats, wildland fires effectively destroy lichens, and overwintering caribou are known to avoid burned areas for decades while lichen communities regenerate. However, little has been published about caribou response to burned habitat in tundra ecosystems. To assess the relationship between winter caribou distribution and burned areas, we instrumented Western Arctic Herd caribou with satellite telemetry collars and evaluated their locations in relation to recent burns of known age ( $\leq 55$  years old) across northwestern Alaska. We analyzed caribou distribution for different habitat types (tundra and boreal forest), age categories of burns, and possible edge effects. We also reanalyzed the data, limiting available habitat to a uniform traveling distance (5658 m) from daily satellite locations. Using selection indices that compared caribou use of burns and buffers to their availability, we found that caribou strongly selected against burned areas within the tundra ecosystem. Recent burns were selected against at both large (range-wide) and intermediate (5658 m) spatial scales. Caribou particularly selected against 26- to 55-year-old burns and the interior (core) portions of all burns. We found that caribou were more likely to select burned areas in the late fall and early spring than midwinter. Increased fires in northwestern Alaska could decrease the availability and quality of winter habitat available to the herd over the short term (up to 55 years), potentially influencing herd population dynamics and reducing sustainable harvest levels. We recommend that fire managers consider caribou midwinter range condition and extent: however, management that achieves a mosaic pattern of fire history may benefit a wide array of species, including caribou. A better understanding of the current regional fire regime and the distribution of available winter range will be required before practicable management recommendations can be developed for this herd.

**KEYWORDS:****NOTES:** Times Cited: 4

Joly, K., P. Bente, and J. Dau

**2007 Response of overwintering caribou to burned habitat in northwest Alaska.** *Arctic* 60(4):401-410.

**ABSTRACT:** Caribou (*Rangifer tarandus granti*) use lichens, when available, as primary forage on their winter range. In boreal forest habitats, wildland fires effectively destroy lichens, and overwintering caribou are known to avoid burned areas for decades while lichen communities regenerate. However, little has been published about caribou response to burned habitat in tundra ecosystems. To assess the relationship between winter caribou distribution and burned areas, we instrumented Western Arctic Herd caribou with satellite telemetry collars and evaluated their locations in relation to recent burns of known age ( $\leq 55$  years old) across northwestern Alaska. We analyzed caribou distribution for different habitat types (tundra and boreal forest), age categories of burns, and possible edge effects. We also reanalyzed the data, limiting available habitat to a uniform traveling distance (5658 m) from daily satellite locations. Using selection indices that compared caribou use of burns and buffers to their availability, we found that caribou strongly selected against burned areas within the tundra ecosystem. Recent burns were selected against at both large (range-wide) and intermediate (5658 m) spatial scales. Caribou particularly selected against 26- to 55-year-old burns and the interior (core) portions of all burns. We found that caribou were more likely to select burned areas in the late fall and early spring than midwinter. Increased fires in northwestern Alaska could decrease the availability and quality of winter habitat available to the herd over the short term (up to 55 years), potentially influencing herd population dynamics and reducing sustainable harvest levels. We recommend that fire managers consider caribou midwinter range condition and extent: however, management that achieves a mosaic pattern of fire history may benefit a wide array of species, including caribou. A better understanding of the current regional fire regime and the distribution of available winter range will be required before practicable management recommendations can be developed for this herd.

**KEYWORDS:****NOTES:** Times Cited: 4

Joly, K., R. R. Jandt, and D. R. Klein

**2009 Decrease of lichens in Arctic ecosystems: the role of wildfire, caribou, reindeer, competition and climate in north-western Alaska.** *Polar Research* 28(3):433-442.

**ABSTRACT:** We review and present a synthesis of the existing research dealing with changing Arctic tundra ecosystems, in relation to caribou and reindeer winter ranges. Whereas pan-Arctic studies have documented the effects on tundra vegetation from simulated climate change, we draw upon recent long-term regional studies in Alaska that have documented the actual, on-the-ground effects. Our review reveals signs of marked change in Arctic tundra ecosystems. Factors known to be affecting these changes include wildfire, disturbance by caribou and reindeer, differential growth responses of vascular plants and lichens, and associated competition under climate warming scenarios. These factors are interrelated, and, we posit, unidirectional: that is, they are all implicated in the significant reduction of terricolous lichen ground cover and biomass during recent decades. Lichens constitute the primary winter forage for large, migratory caribou and reindeer herds, which in turn are a critical subsistence resource for rural residents in Alaska. Thus, declines in these lichens are a major concern for rural people who harvest caribou and reindeer for subsistence, as well as for sport hunters, reindeer herders, wildlife enthusiasts and land managers. We believe a more widely distributed and better integrated research programme is warranted to quantify the magnitude and extent of the decline in lichen communities across the Arctic.

**KEYWORDS:****NOTES:** Times Cited: 2

Jones, Dorothy M.

**1976 Urban native men and women: differences in their work adaptations.** Fairbanks: Institute of Social, Economic and Government Research, University of Alaska.**ABSTRACT:****KEYWORDS:****NOTES:**

Jones, Peter N., and Darby Stapp

**2005 Half a Century of Collaboration: Articles Concerning Native Americans in Human Organization, 1941-2005 and Practicing Anthropology, 1978-2005.** SSRN eLibrary.**ABSTRACT:****KEYWORDS:** applied anthropology

Native Americans

American Indians

social science

research

collaboration

North America

**NOTES:**

Jonrowe, Dee Dee

**1980 Middle Kuskokwim food survey December 1979.** Juneau, Alaska: ADF&G Division of Subsistence.**ABSTRACT:** In this report, the results of a food survey conducted in the villages along the Middle Kuskokwim River, between Stony River and Lower Kalskag, are presented. Findings emphasize the harvest and uses of moose in the area.**KEYWORDS:****NOTES:**

Jorgensen, Joseph G.

**1993 Social Indicators Study of Alaskan Coastal Villages II. Research Methodology: Design, Sampling, Reliability, and Validity.** Anchorage: U.S. Department of the Interior, Minerals Management Service, Alaska OCS Region.**ABSTRACT:****KEYWORDS:****NOTES:** In late 1986, the Minerals Management Service Joseph G. Jorgensen as principal investigator, through (MMS) awarded a contract to the Human Relations Area Files, Inc. (HRAF), for the analysis of contemporary life in 30 Alaskan villages located among seven ANCSA Native regions from Kodiak Island to the North Slope. The MMS requested that special attention be paid to distinguishing differences, if they existed, among ANCSA regions, between Native and non-Native residents (ethnicity/race), between villages that possessed well-developed infrastructures and uperstructures and those that did not, and between Outer Continental Shelf (OCS) oil-related activities and other activities that might affect village organizations and life within villages. The 30 villages in the original sample were selected to provide contrasts along each of these dimensions.

Josephson, A

**1997 Katie John and Totemoff: The United States and Alaska Clash Over the Reserved Water Rights Doctrine and Native Alaska Hunting and Fishing Rights-The US Supreme Court Passes on an Opportunity to Resolve the Subsistence Debate.** Dick. J. Env. L. Pol. 6:225-299.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Josephson, Karla

**1974 Alaska Natives and the Law of the Sea.** Anchorage, Alaska: Arctic Environmental Information and Data Center, University of Alaska.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Juul, Sandra

**1979 Portrait of an Eskimo tribal health doctor.** Alaska Medicine 21(6):66.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Kahru, M., V. Brotas, M. Manzano-Sarabia, and B. G. Mitchell

**2011 Are phytoplankton blooms occurring earlier in the Arctic?** Global Change Biology 17(4):1733-1739.

**ABSTRACT:** Time series of satellite-derived surface chlorophyll- a concentration ( Chl) in 1997-2009 were used to examine for trends in the timing of the annual phytoplankton bloom maximum. Significant trends towards earlier phytoplankton blooms were detected in about 11% of the area of the Arctic Ocean with valid Chl data, e.g. in the Hudson Bay, Foxe Basin, Baffin Sea, off the coasts of Greenland, in the Kara Sea and around Novaya Zemlya. These areas roughly coincide with areas where ice concentration has decreased in early summer (June), thus making the earlier blooms possible. In the selected areas, the annual phytoplankton bloom maximum has advanced by up to 50 days which may have consequences for the Arctic food chain and carbon cycling. Outside the Arctic, the annual Chl maximum has become earlier in boreal North Pacific but later in the North Atlantic.

**KEYWORDS:** CLIMATIC changes, PHYTOPLANKTON, REMOTE sensing, PRIMARY productivity (Biology), BIOTIC communities, OCEAN color, FRESHWATER phytoplankton, MARINE phytoplankton, ARCTIC regions, arctic, climate change, phenology

**NOTES:**

Kaliss, Anthony M.

**1999 Europeans and native peoples: a comparison of the policies of the United States and Soviet/Russian governments towards the native peoples on both sides of the Bering Strait,** University of Hawaii.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Kaliss, Tony

**1997 What was the 'other' that came on Columbus's ships? An interpretation of the writing about the interaction between northern native people in Canada and the United States and the 'other'.** Journal of Indigenous Studies 3(2):27-42.

**ABSTRACT:** This paper explores definitions, drawn from academic writing during the last thirty years, of the "other" from Europe that has so drastically impacted on Northern Native people. It is suggested that definitions of the nature of that "other" have too often been unclear, partial or incorrect with the result that most academic writing seriously underestimated the nature of Native resistance to the "other" and to this day lags behind the Native peoples' own understanding of the situation they face. Academic studies are challenged to more accurately explore the nature of the two interacting social-economic systems and to develop more accurate terms to describe them.

**KEYWORDS:** Indigenous peoples, Canada, language

**NOTES:** "It is Chance who best states the central analytical issue: 'could a historically cooperative economic system based on sharing, reciprocity, and redistribution through exchange prevail when conjoined with one based on competition, one which concentrated its attention on the accumulation of wealth?' (1990:168, 169) (p. 35)

Kancewicz, Mary, and Eric Smith

**1990 Subsistence in Alaska: Towards a Native Priority.** UMKC Law Review 59:645.

**ABSTRACT:** We have attempted in this Article to establish the distinction between Native and non-Native subsistence. With this understanding, it will be possible to recast the Alaska subsistence controversy so that everybody wins. It becomes clear that each group is asking for different things, that the basis of right for each of these things is clearly different and that a different party is responsible for the protection of each of these different senses of subsistence. When the drafters of ANILCA allowed political expediency to win over political integrity and changed the intended Native subsistence priority to a subsistence preference for "rural residents" of Alaska, they made a mistake with consequences. The time has come to rectify this mistake.

**KEYWORDS:**

**NOTES:**

Kaplan, L. D.

**2006 Inupiaq.** *In* Encyclopedia of Language & Linguistics. B. Keith, ed. Pp. 1-3. Oxford: Elsevier.

**ABSTRACT:** Inupiaq, spoken in northern and northwestern Alaska, is part of the Inuit dialect complex and is closely related to dialects spoken in Northern Canada and Greenland. This article describes Inupiaq dialectology as well as phonology, orthography, grammar, and lexical borrowing, also giving an account of the current state of the language, which is today endangered due to a shift to English.

**KEYWORDS:** Alaska

Eskimo

Inupiaq

**NOTES:**

Kaplan, Lawrence D., and Steven McNabb

**1979 Village English in Northwest Alaska.**

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Kari, Priscilla Russell

**1983 Land use and economy of Lime Village.** Juneau, Alaska: ADF&G Division of Subsistence.



**ABSTRACT:** This report describes the contemporary local economy of Lime Village, a predominantly Athabaskan community in the upper Stony River area. The study found the community to be heavily-dependent on local wild resources. A traditional kin-based system of exchange operates to distribute locally-harvested resources among community residents.

**KEYWORDS:**

**NOTES:**

Kari, Priscilla Russell

**1985 Wild resource use and economy of Stony River Village.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** The contemporary local economy of Stony River is portrayed in order to provide background information on fish and wildlife use in an area which is the subject of various land development proposals and plans. Traditional and contemporary land use areas are described, along with descriptions of resource harvesting activities and cash-earning opportunities.

**KEYWORDS:**

**NOTES:**

Keeley, Lawrence H.

**1988 Hunter-gatherer economic complexity and "population pressure": A cross-cultural analysis.** Journal of Anthropological Archaeology 7(4):373-411.

**ABSTRACT:** This paper examines the relationship between "population pressure" and socioeconomic complexity among hunter-gatherers. Population pressure is defined as the ratio between population density and the density of available resources. Socioeconomic complexity is measured by means of several correlated variables: storage-dependence, sedentism, social inequality, and use of a medium of exchange. Correlations between these variables are calculated from an ethnographic sample of 94 hunter-gatherer groups. The correlations between population pressure and socioeconomic complexity are found to be extremely high. Two major types of hunter-gatherers exist which are distinguished by a number of variables and may be termed "simple" and "complex." Transitional groups between these two types are quite rare. It is also noted that population pressure does not arise in continental climates where famine mortality is common because of high-amplitude changes in productivity from year to year. It is argued that population pressure is a necessary and sufficient condition for and the efficient cause of socioeconomic complexity. The widespread disavowal by archaeologists of population pressure as a possible explanation for the prehistoric development of complex hunter-gatherers has no basis in ethnographic fact.

**KEYWORDS:**

**NOTES:**

Keen, E. A.

**1983 Common property in fisheries : Is sole ownership an option?** Marine Policy 7(3):197-211.

**ABSTRACT:** Limited entry has been instituted in a variety of fisheries in different countries. The volume of literature evaluating its use and developing ways to make it more effective as a fisheries management tool is large and growing. It has not worked well, primarily because rights have created a focus on harvest, not on husbandry. The efficacy of sole ownership rights in management of resources of the forest and field are clear. A case for research and development of sole ownership as a rights system for fishery resources is made in this article.

**KEYWORDS:** fisheries, management, property rights

**NOTES:**

Keenleyside, A.

**1998 Skeletal evidence of health and disease in pre-contact Alaskan Eskimos and Aleuts.** Am J Phys Anthropol 107(1):51-70.

**ABSTRACT:** There have been relatively few paleopathological studies of arctic populations to date, compared to other regions of North America. Studies aimed at elucidating patterns of health and disease in arctic peoples prior to contact and assessing inter- and intraregional differences in disease patterns have been particularly few. In the present study, five pre-contact skeletal samples (N = 193), representing 4 Eskimo populations from northern coastal Alaska and 1 Aleut population from the eastern Aleutian Islands, were examined macroscopically for the following indicators of health status: cribra orbitalia, porotic hyperostosis, trauma, infection, dental caries, abscesses, antemortem tooth loss, periodontal disease, and dental attrition. In addition, archeological and epidemiological data were used to help reconstruct the health of these populations. The goals of the analysis were 2-fold: 1) to assess the pre-contact health of North Alaskan Eskimos and Aleuts in order to provide a baseline comparison for the post-contact health of these groups, and 2) to determine if any differences in disease patterns exist between the Eskimos and Aleuts that might be related to differences in their physical environment, subsistence patterns, and cultural practices. The analysis revealed that both groups suffered from a variety of health problems prior to contact, including iron deficiency anemia, trauma, infection, and various forms of dental pathology. Statistical comparisons of the 2 groups revealed that Eskimos and Aleuts had different patterns of health and disease prior to contact. Most notably, the Aleuts had a significantly higher frequency of cranial trauma and intracranial infection than the Eskimos, while the latter had a significantly higher frequency of enamel hypoplasia. An examination of the physical and cultural environment of the 2 groups reveals several possible explanations for these differences, including warfare, subsistence pursuits, and housing practices. The documentation of these differences indicates that variability in pre-contact disease patterns can be identified between hunter-gatherer populations living in similar environments and exhibiting similar general lifestyles.

**KEYWORDS:** Alaska

Bone and Bones/\*pathology  
Environment  
Female  
\*Health Status  
History, Ancient  
Humans  
Infection/history/pathology  
Inuits/\*history  
Life Style/ethnology  
Male  
Paleodontology  
Paleopathology  
Tooth/pathology  
Tooth Diseases/history/pathology  
Wounds and Injuries/history/pathology

**NOTES:** Keenleyside, A

Historical Article  
Research Support, Non-U.S. Gov't  
United states  
American journal of physical anthropology  
Am J Phys Anthropol. 1998 Sep;107(1):51-70.

Kellert, Stephen R., Jai N. Mehta, Syma A. Ebbin, and Laly L. Lichtenfeld

**2000 Community natural resource management: promise, rhetoric, and reality.** Society & Natural Resources 13(8):705-715.

**ABSTRACT:** Community natural resource management (CNRM) has been extensively promoted in recent years as an approach for pursuing biological conservation and socioeconomic objectives. The rationale for CNRM is often compelling and convincing. Relatively little data exists, however, regarding its implementation, particularly the reconciliation of social and environmental goals. This article summarizes empirical evidence regarding the implementation of CNRM, based on five case studies in Nepal, the U.S. states of Alaska and Washington, and Kenya. Six social and environmental indicators are used to evaluate and compare these cases, including equity, empowerment, conflict resolution, knowledge and awareness, biodiversity protection, and sustainable resource utilization. The results of this analysis indicate that, despite sincere attempts and some success, serious deficiencies are widely evident. In especially Nepal and Kenya, CNRM rarely resulted in more equitable distribution of power and economic benefits, reduced conflict, increased consideration of traditional or modern environmental knowledge, protection of biological diversity, or sustainable resource use. By contrast, CNRM in the North American cases was more successful. Institutional, environmental, and organizational factors help explain the observed differences.

**KEYWORDS:** conservation, natural resources, community resource management, Kenya, Nepal, Alaska, Washington, sustainability

**NOTES:** "The arguments for CNRM are important and relevant. Yet the evidence accumulated in the five case studies examined in three countries on three continents suggests the reality often falls far short of the rhetoric and promise of CNRM. The complexity of goals, interests, and organizational features of CNRM renders its implementation exceedingly difficult. A major and consistent obstacle was the inability to control and guide the behavior of complex organizations, particularly bureaucratic and local institutions. Effectively managing organizations is difficult and alien terrain for most government sponsored programs. The eventual success of CNRM may depend, however, as much on institution building and organizational reform as on socioeconomic development and scientific considerations." (p. 713)

Kelly, Brendan P., Andrew Whiteley, and David Tallmon

**2010 The Arctic melting pot.** *Nature* 468(7326):891-891.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** Researchers have little idea how much hybridization is occurring, let alone how it will affect populations. Plans must be developed immediately to monitor the genetics of Arctic animals and to deal with hybrids before currently discrete populations merge and at-risk species are bred out of existence.

We have counted at least 34 possible hybridizations between discrete populations, species and genera of Arctic and near-Arctic marine mammals (see Supplementary Information). Of the 22 species involved, 14 are listed — or are candidates for listing — as endangered, threatened or of special concern by one or more nations. Twelve cases are of hybridization between different species — half involving crosses between what are normally classified as distinct genera. Twenty-two cases involve isolated populations at risk of intra-species mixing, nine of which are classified as distinct subspecies. (p. 891)

Kelso, Dennis D.

**1976 Legal issues in federal protection for subsistence on the proposed national interest lands.**

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Kelso, Dennis D.

**1980 Implementation issues posed by Title VIII of the Senate-passed D-2 Bill.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This memorandum discusses the implications of Title VIII of the D-2 Bill as it relates to state management of fish and game resources. It identifies potential problem areas related to implementation and analyzes the differences in the specific legal language of the state and federal laws governing subsistence.

**KEYWORDS:**

**NOTES:**

Kelso, Dennis D.

**1981 Presentation to the special committee on subsistence. House of Representatives, Alaska State Legislature.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report summarizes the legislative history leading to the passage of Alaska's subsistence law (Chapter 151, Session Laws of Alaska, 1978; Alaska Legislature, second session). It also describes the operational provisions of the statute in terms of regulatory action by the Boards of Fisheries and Game.

**KEYWORDS:**

**NOTES:**

Kelso, Dennis D.

**1981 Technical overview of the state's subsistence program.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report provides a review of elements in the state's subsistence program and documents events leading up to and surrounding the enactment of the subsistence priority law in 1978 and the establishment of the Division of Subsistence. It also contains descriptions of early division activities and policy development, subsistence-related Board actions, current research activities of the division and the ANILCA Title VIII implementation program.

**KEYWORDS:**

**NOTES:**

Kelso, Dennis D.

**1982 Subsistence use of fish and game resources in Alaska: considerations in formulating effective management policies.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report reviews the contemporary legal framework and functional role of subsistence in Alaska and the activities of the Division of Subsistence. Based on the experience of the division thus far, 5 components considered essential for effective subsistence policy formulation are offered to other resource managers. The importance of subsistence information in wildlife management is stressed.

**KEYWORDS:**

**NOTES:**

Kelso, Dennis D.

**1982 Subsistence use of fish and game resources in Alaska: Consideration in formulating effective management policies.** *In* 47th North American Wildlife and Natural Resources Conference. Portland, Oregon.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Kemp, Andrew C., Benjamin P. Horton, Jeffrey P. Donnelly, Michael E. Mann, Martin Vermeer, and Stefan Rahmstorf

**2011 Climate related sea-level variations over the past two millennia.** Proceedings of the National Academy of Sciences.

**ABSTRACT:** We present new sea-level reconstructions for the past 2100 y based on salt-marsh sedimentary sequences from the US Atlantic coast. The data from North Carolina reveal four phases of persistent sea-level change after correction for glacial isostatic adjustment. Sea level was stable from at least BC 100 until AD 950. Sea level then increased for 400 y at a rate of 0.6 mm/y, followed by a further period of stable, or slightly falling, sea level that persisted until the late 19th century. Since then, sea level has risen at an average rate of 2.1 mm/y, representing the steepest century-scale increase of the past two millennia. This rate was initiated between AD 1865 and 1892. Using an extended semiempirical modeling approach, we show that these sea-level changes are consistent with global temperature for at least the past millennium.

**KEYWORDS:**

**NOTES:**

Kerin, E. J., and H. K. Lin

**2010 Fugitive dust and human exposure to heavy metals around the Red Dog Mine.** Rev Environ Contam Toxicol 206:49-63.

**ABSTRACT:** Fugitive dust from the Red Dog Mine is a potential source of exposure to heavy metals for residents of the surrounding area. Possible pathways of exposure include direct inhalation of particles, dermal contact with or ingestion of contaminated soils, residential exposure of individuals who have close association with mine workers, and subsistence activities. Study results indicate that soils and mosses close to the haul road are contaminated with dust and metals from hauling activities. However, investigations of exposure from subsistence activities performed near Red Dog Mine do not indicate that human health has been negatively affected by metal contamination. Epidemiological studies of nearby village residents do not show blood lead levels that exceed the CDC level of concern for children. The mine currently uses several control practices to reduce dust and control human dust and metal exposure. Nonetheless, the potential for human health impairment will persist throughout the life of the mine and beyond. Sound environmental management and monitoring of human health should remain a priority for the Red Dog Mine and for agencies that provide regulatory oversight to the mine.

**KEYWORDS:** Animals

\*Dust

\*Environmental Exposure

Environmental Pollutants

Humans

\*Metals, Heavy

\*Mining

**NOTES:** Kerin, Elizabeth J

Lin, Hsing K

Review

United States

Reviews of environmental contamination and toxicology

Rev Environ Contam Toxicol. 2010;206:49-63.

Kerkvliet, Joe, and William Nebesky

**1997 Whaling and Wages on Alaska's North Slope: A Time Allocation Approach to Natural Resource Use.** Economic Development and Cultural Change 45(3):651-665.

**ABSTRACT:**

**KEYWORDS:** Alaska, Whales, Hunting, Remuneration, Natural resources, Resource management; Labor, Subsistence

**NOTES:** "Native peoples' traditional ways of living are challenged by expanding modern economic systems. The outcomes of these challenges will depend in part on individual decisions made in response to changing opportunities. One important set of decisions is the allocation of time between wage labor and subsistence activities. Subsistence activities may decline as their opportunity costs increase with better wage offers. Opposite outcomes arise if wages provide cash for modern inputs that increase the productivity of subsistence time or if large benefits are derived from subsistence activities per se." (p. 651)

"Four conclusions emerge from this research. **First**, NS Inupiat use natural resources differently than non-Inupiat. Alaska's public lands subsistence policies should consider these differences. **Second**, the results confirm some previous findings that both tradition and economic incentives influence the allocation of time to subsistence relative to wage labor. We find strong support for the importance of generalized reciprocity on the relative time allocation decisions of NS residents, especially Inupiat. **Third**, NS residents appear to make labor supply decisions first and then subsistence harvest decisions. This finding does not diminish the importance of subsistence production but indicates that Inupiat have adapted to labor market conditions. **Fourth**, we find an inverse relationship between active subsistence harvesting and wage labor time among Inupiat. This predicts that events that reduce employment opportunities, such as the depletion of Prudhoe Bay oil reserves, will result in increased subsistence activity." (p. 663)

Kevin Waring Associates, Glen Lundell & Associates, and Fison & Associates

**1985 Monitoring Oil Exploration Activities in the Beaufort Sea.** Anchorage: U.S. Department of the Interior, Minerals Management Service, Alaska OCS Region.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Kevin Waring Associates, Steven McNabb, Edward Busch, Paul Wasserman, and Ernest S. Burch, Jr. Northwest Arctic

**1988 Kotzebue Sociocultural Monitoring Study.** Anchorage: U.S. Department of the Interior, Minerals Management Service, Alaska OCS Region.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** The central purpose of this study is to provide a single source of data on demography and employment, formal and informal social institutions and infrastructure for analysis of sociocultural and socioeconomic conditions in Kotzebue, the administrative and commercial center for a northwest Alaska region of eleven Inupiaq villages with a 1985 population of about 5,790 persons and headquarters for the NANA Regional Corporation and for the recently (1986) formed Northwest Arctic Borough.

Kevin Waring Associates, Steven McNabb, Rachel Craig, Bertha Jennings, and Barbara Armstrong Northwest Arctic

**1992 Hope Basin Socioeconomic Baseline Study.** J. Brogan, ed, Vol. II. Anchorage: U.S. Department of the Interior, Minerals Management Service, Alaska OCS Region.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** One component of the Minerals Management Service Hope Basin Socioeconomic Baseline Study is the identification, cataloging, transcription and translation of Elders Conference and Elders Council Iñupiaq-language audiotapes in custody of the Northwest Arctic Borough School District. The rationale for this effort is two-fold. On the one hand, verbatim statements

from regional residents, particularly elders, about their views on cultural heritage, roles of elders, problems of youth and elders and their families, and economic development will provide an "inside" view about these issues that will complement existing documentation and supply information for readers that is not easily accessible. (In addition, these transcripts convey the style and mannerisms of dialogue in regional villages.) On the other hand, the federal government and its contractors are also able to return this information to regional residents and institutions so that it can be preserved and disseminated.

Kingston, Deanna Paniataaq

**2008 The persistence of conflict avoidance among the King Island Inupiat.** *Etudes/Inuit Studies* 32(2):151-167.

**ABSTRACT:** Durant les étés 2005 et 2006, un groupe d'Ugiuvangmiut (Inupiat de l'île King) et de chercheurs occidentaux participèrent à un projet de recherche intitulé «Documenter la géographie culturelle, la biogéographie et les savoirs écologiques traditionnels de l'île King, Alaska». L'objectif consistait à ramener des Ugiuvangmiut sur l'île King pour recueillir des toponymes et identifier leur location, ainsi que documenter les sites archéologiques et ceux liés aux activités de subsistance. Au cours du travail de terrain, des conflits éclatèrent entre les chercheurs, entre les membres de la communauté, ainsi qu'entre les chercheurs et les membres et de la communauté. En tant que directrice du projet, je choisis de faire face à ces conflits en 2005, mais mes actions ne firent qu'exacerber des tensions présentes depuis longtemps dans la communauté, et deux aînés me dirent par la suite que je n'aurais pas dû prendre part au conflit. Quand un conflit se reproduisit en 2006, plutôt que de l'affronter, je choisis de me retirer du projet pour quelques jours, ce qui eut pour résultat d'apaiser les tensions dans la communauté. Sur la base de ces expériences et d'autres, je conclus que l'évitement du conflit perdure chez les Ugiuvangmiut. De surcroît, j'écris «contre culture» (pour reprendre l'expression d'Abu-Lughod) pour expliquer de quelle manière mon héritage ethnique métis et l'héritage ethnique de deux membres de la communauté produisirent des réactions contraires à l'évitement du conflit, montrant ainsi qu'entrent en jeu des valeurs culturelles «multiples, polysémiques et antagonistes». Je termine l'article avec des suggestions pour les chercheurs faisant de la recherche dans le Nord. During the summers of 2005 and 2006, a group of Ugiuvangmiut (King Island Inupiat) and western scientists participated in a project entitled "Documenting the Cultural Geography, Biogeography, and Traditional Ecological Knowledge of King Island, Alaska." The intent was to bring Ugiuvangmiut to King Island in order to document and map place names, as well as archaeological and subsistence sites. Throughout fieldwork, conflicts occurred between scientists, between community members, and between scientists and community members. As the principal investigator, I confronted one conflict in 2005, but my actions exacerbated long-standing tensions within the community and I was later advised by two community members that I should not have confronted the conflict. When conflict occurred again in 2006, instead of confronting the conflict, I chose to take a break from the project for several days. The result was that the overt conflict within the community lessened. Based upon these experiences and other examples, I conclude that conflict avoidance still persists among the Ugiuvangmiut. In addition, I "write against culture" (to borrow Abu-Lughod's phrase) to explain how my mixed ethnic background and the backgrounds of two community members resulted in actions that run counter to conflict avoidance, showing that there are "multiple, shifting, and competing" cultural values at play. I end with suggestions for scientists conducting fieldwork in the North.

**KEYWORDS:**

**NOTES:**

Kirby, Chester

**1933 The English game law system.** *The American Historical Review* 38(2):240-262.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Kirkpatrick, Sharon I., and Valerie Tarasuk

**2008 Food Insecurity Is Associated with Nutrient Inadequacies among Canadian Adults and Adolescents.** *Journal of Nutrition* 138(3):604-612.

**ABSTRACT:** Household food insecurity constrains food selection, but whether the dietary compromises associated with this problem heighten the risk of nutrient inadequacies is unclear. The objectives of this study were to examine the relationship between household food security status and adults' and children's dietary intakes and to estimate the prevalence of nutrient inadequacies among adults and children, differentiating by household food security status. We analyzed 24-h recall and household food security data for persons aged 1-70 y from the 2004 Canadian Community Health Survey (cycle 2.2). The relationship between adults' and children's nutrient and food intakes and household food security status was assessed using regression analysis. Estimates of the prevalence of inadequate nutrient intakes by food security status and age/sex group were calculated using probability assessment methods. Poorer dietary intakes were observed among adolescents and adults in food-insecure households and many of the differences by food security status persisted after accounting for potential confounders in multivariate analyses. Higher estimated prevalences of nutrient inadequacy were apparent among adolescents and adults in food-insecure households, with the differences most marked for protein, vitamin A, thiamin, riboflavin, vitamin B-6, folate, vitamin B-12, magnesium, phosphorus, and zinc. Among children, few differences in dietary intakes by household food security status were apparent and there was little indication of nutrient inadequacy. This study indicates that for adults and, to some degree, adolescents, food insecurity is associated with inadequate nutrient intakes. These findings highlight the need for concerted public policy responses to ameliorate household food insecurity.

**KEYWORDS:**

**NOTES:**

Kishigami, Nobuhiro

**2000 Contemporary Inuit food sharing and hunter support program of Nunavik, Canada.** *Senri Ethnological Studies* (53):171-192.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Kishigami, Nobuhiro

**2004 Contemporary Inuit food sharing: A case study from Akulivik, PQ, Canada, 2004.**

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** 5th International congress of Arctic Social Sciences (IcASS V): University of Alaska, Fairbanks

Kishigami, Nobuhiro

**2004 A new typology of food-sharing practices among hunter-gatherers, with a special focus on Inuit examples.** *Journal of Anthropological Research* 60(3):341-358.

**ABSTRACT:** This article first examines several anthropological studies to illustrate some substantial limitations of the concepts of "reciprocity" and "exchange" as applied to food sharing among hunter-gatherer societies. I then propose a new typology of food sharing for identification, classification, description, and comparison. The new typology includes nine types of sharing: giving based on rules: voluntary giving, demand giving, exchange based on rules, voluntary exchange, demand exchange, redistribution based on rules, voluntary redistribution, and demand redistribution. Finally, I demonstrate the utility of the new typology by using it to analyze food sharing among two Inuit groups in the Canadian Arctic.



**KEYWORDS:****NOTES:**

Kishigami, Nobuhiro

**2008 Homeless Inuit in Montreal.** *Etudes/Inuit/Studies* 32(1):73-90.

**ABSTRACT:** La migration des Inuit depuis l'Arctique vers les villes du sud du Canada a augmenté sensiblement pendant les années 1980. Environ 10 000 Inuit sur un total approximatif de 50 000 vivaient à l'extérieur des régions arctiques du Canada en 2006. À mesure que le nombre d'Inuit vivant dans les villes augmente, celui d'Inuit sans-abri s'accroît dans des grandes villes du sud. On estime à plus de 90 personnes les Inuit sans-abri à Montréal, dont la population Inuit s'élève environ à 800 individus. La présente étude a pour objet de décrire la vie et les caractéristiques des Inuit sans abri à Montréal, ainsi que les activités de deux organisations essentielles à leur survie: le Centre d'amitié autochtone de Montréal et l'Association des Inuit de Montréal. Les Inuit de Montréal doivent dorénavant former des réseaux sociaux utiles pour faciliter leur adaptation en ville. Un centre communautaire inuit, où des informations et de la nourriture pourraient être partagées, devrait être mis en place à Montréal afin de changer la situation actuelle des Inuit sans-abri. Migration of the Inuit into southern Canadian cities from the Arctic increased substantially during the 1980s. Approximately 10,000 out of a total of 50,000 Inuit lived outside the Canadian Arctic regions in 2006. As the number of urban Inuit is increasing, so too is that of homeless Inuit in large southern cities. It is estimated that there are more than 90 homeless Inuit in Montreal, which has an Inuit population of about 800. This paper describes the life and characteristics of homeless urban Inuit in Montreal, and the activities of the Native Friendship Centre of Montreal and of the Association of Montreal Inuit, which are essential for their survival. The Inuit of Montreal have yet to form useful social networks to ease their urban adaptation. An Inuit community centre, where information and food can be shared, should be established in Montreal to change the present situation of homeless Inuit

**KEYWORDS:****NOTES:**

Kishigami, Nobuhiro

**2010 Climate change, oil and gas development, and Inupiat whaling in northwest Alaska.** *Etudes/Inuit/Studies* 34(1):91-107.

**ABSTRACT:** Les relations entre les êtres humains et les baleines varient temporellement et spatialement. Les Inupiat du nord-ouest de l'Alaska ont créé historiquement un lien social avec les baleines franches qu'ils chassent pour leur subsistance. La chasse à la baleine est encore au cœur de la vie de la majorité des Inupiat côtiers et elle est liée à leurs autres activités même si leur culture s'est diversifiée et a changé. Par le biais d'une perspective politico-économique de la théorie de l'acteur-réseau, cet article décrit plusieurs facteurs (acteurs) internes et externes interreliés qui menacent le maintien de la chasse à la baleine. L'auteur conclut que la question de la chasse est directement liée à la sécurité culturelle des Inupiat. Relationships between human beings and whales vary temporally and spatially. The Inupiat in northwest Alaska have historically formed a social relationship with bowhead whales, which they hunt for their subsistence. Whaling still occupies a core position in the lives of the majority of the coastal Inupiat and is related to their other activities although their culture has diversified and changed. Using actor-network theory from a political economy perspective, this paper describes several interrelated internal and external factors (actors) that threaten the continuation of whaling. The author concludes that whaling is directly linked to the cultural security of the Inupiat.

**KEYWORDS:****NOTES:**

Kishigami, Nobuhiro, and Molly Lee

**2008 Les Inuit urbains.** *Etudes/Inuit/Studies* 32(1):5-11.

**ABSTRACT:****KEYWORDS:****NOTES:**

Klein, David R.

**1980 An evaluation of reindeer grazing in relation to proposed national park and wildlife refuge lands in Northwestern Alaska.** Anchorage, Alaska: U.S. Fish and Wildlife Service.

**ABSTRACT:****KEYWORDS:****NOTES:**

Klein, David R.

**1980 An evaluation of reindeer grazing in relation to proposed national park and wildlife refuge lands in Northwestern Alaska.** Anchorage, Alaska: U.S. Fish and Wildlife Service.

**ABSTRACT:****KEYWORDS:****NOTES:**

Klein, Laura Frances, and Lillian Alice Ackerman

**2000 Women and power in native North America:** University of Oklahoma Press.

**ABSTRACT:** The chapters in this volume are the result of a symposium presented at the December 1988 annual meeting of the American Anthropological Association in Phoenix, Arizona. In an effort to bring together some of the diverse studies of gender undertaken in North America, north of Mexico, scholars, both men and women, gathered to present their descriptions of these Native worlds. All the chapters challenge the stereotypes of gender relations and replace them with a much more complex reality that includes real respect and usually power for Native women within their societies. One goal of the colonization that Native American societies were forced to endure was the reduction of the cultural valuation of women. But success varied widely. The views of the contemporary roles of Native women presented here will challenge many readers' assumptions. Significantly, this collection disputes not only the popular and academic generalizations of Native North American cultures but also some of the long-held theories of human gender relations.

**KEYWORDS:****NOTES:**

Kleinfeld, Judith

**1970 Cognitive strengths of Eskimos and implications for education.** 1-25.

**ABSTRACT:** The study suggested (1) that Eskimos possess unusual cognitive strengths which are rarely recognized and (2) that these talents may reflect high intellectual abilities in such areas as perceptual analysis and image memory. It was noted that the performances of Eskimos on measures of these cognitive abilities approximate and in some instances exceed norms for the United States. It was also noted that, in some cases, Eskimo students have surpassed urban Caucasian students in ability to recall complex structured images. The study pointed to the early explorers of Alaska who recognized the skill and ability of Eskimos to analyze spatial relationships or to recall complex patterns through structured mental images. Studies cited in the document substantiate that these unusual talents are possessed by the Natives of Alaska. It is believed that these cognitive strengths should enable the Natives to make significant contributions in areas such as map-making, spelling, or mechanics. With advanced training, Native talents could apply in other fields.

**KEYWORDS:****NOTES:**

Kleinfeld, Judith

**1971 Visual memory in village Eskimo and urban caucasian children.** Arctic 24(2):132-138.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Kleinfeld, Judith

**1973 1973 Preparing teachers for the cross-cultural classroom.**

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Kleinfeld, Judith

**1973 Intellectual strengths in culturally different groups: An Eskimo illustration.** Review of Educational Research 43(3):341.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Kleinfeld, Judith

**1975 Economic, demographic, and sociocultural effects of development in Alaska.**

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Kleinfeld, Judith

**1981 Different paths of iñupiat men and women in the wage economy.** Alaska Review of Social and Economic Conditions, XVIII 1.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Kleinfeld, Judith

**1982 Effective teachers of Indian and Eskimo high school students.** Cultural Influences in Alaskan Native Education:11-35.

**ABSTRACT:** The focus of this study is upon analyzing effective and ineffective teachers in terms of their behavior in the classroom, not in terms of their personalities or attitudes. It is suggested that 2 fundamental characteristics distinguish effective from ineffective teachers of American Indian and Eskimo students: (1) a high level of personal warmth, especially warmth communicated nonverbally through facial expression, body distance, and touch; and (2) a high level of active demandingness in the classroom--demandingness expressed as an aspect of the teacher's personal concern for the student, rather than a concern for subject matter. This study also suggests the need for pre-service and in-service training for teachers to acquire the type of interpersonal behavior that facilitates learning among the Indian and Eskimo students. Teachers of Indian and Eskimo students were observed in 2 boarding schools and in 5 integrated urban high schools during the 1970-71 school year. The focus was on teachers of 9th grade Indian and Eskimo students. The teachers were videotaped to permit a more intensive analysis and interviewed to discuss problems of village students and effective teaching methods. The "Supportive Gadflies," who exhibited personal warmth and active demandingness, appeared to be successful with the Indian and Eskimo students as compared to the other types of teachers (traditionalists, sophisticates, and sentimentalists).

**KEYWORDS:**

**NOTES:**

Kleinfeld, Judith, and Justin J. Andrews

**2006 Postsecondary education gender disparities among Inuit in Alaska: A symptom of male malaise?** *Etudes/Inuit/Studies* 30(1):111-121.

**ABSTRACT:** En Alaska, les femmes inuit sont de loin plus nombreuses dans l'enseignement postsecondaire que les hommes. Chez les Inupiat de l'Alaska, seulement 28% des étudiants inscrits dans les programmes du baccalauréat à l'Université de l'Alaska sont des hommes, et la proportion d'hommes ayant obtenu un diplôme de baccalauréat a décliné entre 2000 et 2003. Parmi les Yupiit, 30% des étudiants inscrits au baccalauréat sont des hommes. De semblables disparités entre les sexes se constatent chez les lycéens suivant des programmes destinés à préparer académiquement les étudiants autochtones au collège. Ce phénomène peut s'interpréter soit comme un signe de «malaise masculin», de désengagement vis-à-vis de l'instruction scolaire et des emplois salariés auxquels la scolarité est une préparation, soit comme une adaptation fonctionnelle à un mode de vie alliant emploi salarié et subsistance traditionnelle où l'instruction, et en particulier la formation supérieure, paraît moins importante aux hommes qu'aux femmes inuit. Afin d'argumenter l'explication de ce «malaise masculin», nous comparons deux régions inuit de l'Alaska, la région des Inupiat au nord-ouest, où la Corporation autochtone régionale a mis l'accent sur la création d'emplois au niveau local par le biais de la Red Dog Mine, et la région des Yupiit au sud-ouest, qui offre peu d'emplois, en particulier en dehors du réseau régional de Bethel. Dans le nord-ouest de l'Alaska, 49% des jeunes hommes inuit ayant entre 22 et 29 ans se décrivent eux-mêmes, dans le recensement de l'an 2000, comme étant «sans emploi» ou bien «en dehors de la force de travail». Dans le sud-ouest de l'Alaska, 48% des jeunes hommes inuit disent la même chose. Ces schémas soutiennent l'explication de ce «malaise masculin». Cependant, les études communautaires, qui permettent des analyses domestiques fines de la participation des hommes et des femmes dans l'emploi salarié et l'économie de subsistance, s'avèrent nécessaires pour distinguer entre ces deux explications ou suggérer d'autres interprétations. Far more Inuit women in Alaska are pursuing postsecondary education compared to Inuit men. Among Inupiat in Alaska, only 28% of students pursuing baccalaureate degrees at the University of Alaska are male, and the proportion of males receiving baccalaureate degrees declined from 2000 to 2003. Among Yupiit, 30% of students pursuing baccalaureate degrees are male. Similar gender disparities occur in programs for high school students designed to prepare academically able Indigenous students for college. This phenomenon can be interpreted either as a sign of "male malaise," of disengagement from education and the wage employment for which education is a preparation, or as a functional adaptation to a mixed wage and subsistence way of life where education and particularly higher education is less important to Inuit males than females. To examine support for the explanation of "male malaise," we compare two Inuit regions of Alaska, the Inupiaq region of Northwest Alaska, where the regional Native corporation has emphasized providing employment within the region through the Red Dog Mine, and the Yup'ik region of southwestern Alaska, which has low numbers of jobs, particularly outside the regional hub of Bethel. In Northwest Alaska, 49% of young Inuit men, ages 22 to 29, described themselves in the 2000 census as either "unemployed" or "out of the labor force." In Southwest Alaska, 48% of young Inuit men said the same thing. These patterns support the explanation of "male malaise." However, community studies, which allow fine-grained, household analyses of male and female participation in the wage and subsistence economies are needed to distinguish between these two explanations or suggest other interpretations.

**KEYWORDS:**

**NOTES:**

Kleinfeld, Judith, D. Hagstrom, and W. McDermid

**1985 Alaska's small rural high schools: Are they working?:** University of Alaska, Institute of Social & Economic Research.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Knapp, Barbara

**1978 Southwest Alaska Eskimo dietary survey of 1978.** Bethel, Alaska: Yukon Kuskokwim Health Corporation Publishing.

**ABSTRACT:****KEYWORDS:****NOTES:**

Knapp, Gunnar

**2011 Local permit ownership in Alaska salmon fisheries.** Marine Policy 35(5):658-666.

**ABSTRACT:** Changes in ownership of limited entry permits by "local" residents of the region where a fishery occurs may have significant economic and social implications for fishery-dependent regions. This paper examines changes in local permit ownership in Alaska salmon fisheries, for which a long-term decline in rural local permit ownership is an important policy concern. Theoretically, permit markets allocate permits over time to the individuals who are willing to pay the most for them. Any factors that differentially affect what local and non-local residents are willing to pay for permits may affect the equilibrium share of permits held by local residents. For remote rural fisheries in particular, these may include differences between local and non-local residents with respect to access to and costs of financing permits and boats, costs of travel to the fishery, opportunity costs of participation in the fishery, and many other factors. As a fishery increases in profitability, differences between local and non-local residents in access to financing matter more while differences in costs of travel and opportunity costs matter less in the relative ranking of what local and non-local residents are willing to pay for permits. This tends to increase the share of non-local residents among buyers willing to pay the market price for permits, reducing the equilibrium share of permits held by local residents. This leads to a conflict between two important policy goals: increasing fishery profitability and maintaining rural local permit ownership. Consistent with predictions of this theory, the local share of permit ownership in Alaska salmon fisheries is negatively related to permit prices (an indicator of fishery profitability).

**KEYWORDS:** Alaska, fishing, commercial, salmon, limited entry, permits, local ownership, local participation

**NOTES:**

Knapp, Gunnar, Stephen Colt, and Troy Henley

**1986 Economic and Demographic Systems of the North Slope Borough: Beaufort Sea Lease Sale 97 and Chukchi Sea Lease Sale 109, Volume I: Description and Projections,** Vol. I. Anchorage: U.S. Department of the Interior, Minerals Management Service, Alaska OCS Region.

**ABSTRACT:****KEYWORDS:**

**NOTES:** This report may be divided into four parts. The first part is an extensive description of the cash economy of the North Slope Borough, with separate chapters on the Borough's population, revenues, debt, expenditures, employment, and income. There is an extensive discussion of factors affecting North Slope Borough revenues, which are extremely important to the Borough's resident economy.

Knapp, Gunnar, Stephen Colt, and Troy Henley

**1986 Economic and Demographic Systems of the North Slope Borough: Beaufort Sea Lease Sale 97 and Chukchi Sea Lease Sale 109, Volume II: Data Appendices,** Vol. II. Anchorage: U.S. Department of the Interior, Minerals Management Service, Alaska OCS Region.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** We collected the data in this volume the economy of Alaska's North Slope as appendixes to a study of Borough for the Minerals Management Service's Social and Economic Studies Program. Our purpose in presenting these data is to provide a reference volume which may be useful to the North Slope Borough as well as to other researchers.

Knapp, Gunnar, and L. E. E. Huskey

**1988 Effects of Transfers on Remote Regional Economies: The Transfer Economy in Rural Alaska.** *Growth and Change* 19(2):25-39.

**ABSTRACT:** In this paper we examine the effects of transfers on the economies of remote regions. A model which describes the consequences of different types of transfers on settlement patterns is developed. The growth of the transfer economy in rural Alaska and its effect on population and income is reviewed. We find that transfer programs in remote regions may have consequences far broader than their original intent. While the programs may improve the standard of living for regional residents, they may also lead to inefficient settlement patterns, increasing dependence on transfers, and a higher cost of eventual adjustment.

**KEYWORDS:****NOTES:**

Knapp, Gunnar, and William Nebesky

**1983 Economic and Demographic Systems Analysis, North Slope Borough.** Anchorage: U.S. Department of the Interior, Minerals Management Service, Alaska OCS Region.

**ABSTRACT:****KEYWORDS:**

**NOTES:** In this report, we examine possible impacts of future Outer Continental Shelf (OCS) oil and gas development upon the economy and population of the North Slope Borough. Our analysis is focused upon the resident population of the Borough, in particular the Native or Inupiat population. We describe the resident and nonresident population in Chapter II. Our analysis in Chapter III suggests that OCS development is not likely to significantly affect North Slope Borough revenues or expenditures. In Chapter IV, we use our North Slope model to develop a range of projections for future Inupiat employment, taking account of these uncertainties. In general, the low current levels of Inupiat employment in the oil industry suggest that the current limiting factor upon Inupiat employment is not the size of the industry or the total number of jobs. As a result, OCS development in itself, which would tend simply to expand rather than to change the industry, is likely to have relatively little impact upon Inupiat employment.

Kofinas, G. P., F. S. Chapin, S. BurnSilver, J. I. Schmidt, N. L. Fresco, K. Kielland, S. Martin, A. Springsteen, and T. S. Rupp

**2010 Resilience of Athabascan subsistence systems to interior Alaska's changing climate.** *Canadian Journal of Forest Research-Revue Canadienne De Recherche Forestiere* 40(7):1347-1359.

**ABSTRACT:** Subsistence harvesting and wild food production by Athabascan peoples is part of an integrated social-ecological system of interior Alaska. We describe effects of recent trends and future climate change projections on the boreal ecosystem of interior Alaska and relate changes in ecosystem services to Athabascan subsistence. We focus primarily on moose, a keystone terrestrial subsistence resource of villages in that region. Although recent climate change has affected the boreal forest, moose, and Athabascan moose harvesting, a high dependence by village households on moose persists. An historical account of 20th century socioeconomic changes demonstrates that the vulnerability of Athabascan subsistence systems to climatic change has in some respects increased while at the same time has improved aspects of village resilience. In the face of future climate and socioeconomic changes, communities have

limited but potentially effective mitigation and adaptation opportunities. The extent to which residents can realize those opportunities depends on the responsiveness of formal and informal institutions to local needs. For example, increases in Alaska's urban population coupled with climate-induced habitat shifts may increase hunting conflicts in low-moose years. This problem could be mitigated through adaptive co-management strategies that project future moose densities and redirect urban hunters to areas of lower conflict.

**KEYWORDS:**

**NOTES:** Times Cited: 0

Kofinas, Gary P., Gail Osherenko, David R. Klein, and Bruce Forbes

**2000 Research planning in the face of change: the human role in reindeer/caribou systems.** Polar Research 19(1):3-21.

**ABSTRACT:** Reindeer/caribou (*Rangifer tarandus*) constitute a biological resource of vital importance to the physical and culture! survival of Arctic residents since time immemorial. Recent and possible future economic, social and ecological changes raise concern for sustainability of these resources and the well-being of those who depend on them. In February 1999 eighty scientists, reindeer/caribou users and resource managers gathered in Rovaniemi, Finland, for an interdisciplinary workshop to develop a circumpolar research plan that addressed the sustainability of human reindeer/caribou systems. Small working groups addressed six themes: hunting systems, herding systems, rangeland/habitat protection, minimizing industrial impacts, maintaining the strength of indigenous cultures, and responding to global change. The resulting Research Plan calls for interdisciplinary comparative studies, advancement of tools for assessing cumulative effects, implementation of regional and a circumpolar monitoring and assessment programmes, and cultural studies on the transmission of knowledge. Cross-cutting directives for future research include:

- improving humans' ability to anticipate and respond to change;
- understanding better the dynamics of human-reindeer/caribou systems;
- developing research methods that are both more instructive and less intrusive;
- facilitating open communication among groups with interests in reindeer/caribou resources;
- organizing researchers into a strong, coordinated network;
- re-framing the conventional research paradigm to be more inclusive of differing cultural perspectives.

Three follow-up initiatives are proposed: 1) development of a web-based resource on the human role in reindeer/caribou systems ([www.rangifer.net](http://www.rangifer.net)); 2) establishment of a Profile of Herds database to support comparative research; and 3) convening of working groups to address specific problems identified by workshop participants.

**KEYWORDS:**

**NOTES:**

Kofinas, Gary P., Gail Osherenko, David R. Klein, and Bruce Forbes

**2000 Research planning in the face of change: the human role in reindeer/caribou systems.** Polar Research 19(1):3-21.

**ABSTRACT:** Reindeer/caribou (*Rangifer tarandus*) constitute a biological resource of vital importance to the physical and culture! survival of Arctic residents since time immemorial. Recent and possible future economic, social and ecological changes raise concern for sustainability of these resources and the well-being of those who depend on them. In February 1999 eighty scientists, reindeer/caribou users and resource managers gathered in Rovaniemi, Finland, for an interdisciplinary workshop to develop a circumpolar research plan that addressed the sustainability of human reindeer/caribou systems. Small working groups addressed six themes: hunting systems, herding systems, rangeland/habitat protection, minimizing industrial impacts, maintaining the strength of indigenous cultures, and responding to global change. The resulting Research Plan calls for interdisciplinary comparative studies, advancement of tools for

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- organizing researchers into a strong, coordinated network;
- re-framing the conventional research paradigm to be more inclusive of differing cultural perspectives.

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**KEYWORDS:**

**NOTES:**

Koskey, Michael, and Kristin Mull

**2011 Traditional ecological knowledge and biological sampling of nonsalmon fish species in the Yukon Flats region, Alaska.** Anchorage, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This project combines social scientific and biological methods to contribute to contemporary knowledge of nonsalmon fish species in the communities of Fort Yukon, Circle, Central, Beaver, and Birch Creek. Centered in the Birch Creek area, these communities have long relied on nonsalmon fish species for subsistence purposes. This project complements other projects funded by the Office of Subsistence Management to present a comprehensive picture of subsistence harvests of whitefish *Coregonus* and *Prosopium cylindraceum*, sheefish *Stenodus leucichthys*, northern pike *Esox lucius*, Arctic grayling *Thymallus arcticus*, longnose sucker *Catostomus catostomus*, burbot *Lota lota*, and Alaska blackfish *Dallia pectoralis* for a significant stretch of the Yukon, Koyukuk, and Tanana River drainages. Since the beginning of this study in April 2006, 20 key respondent interviews were completed with 21 individuals, and all five study communities were surveyed for their nonsalmon fish harvests. This study revealed the highly variable use of whitefish and other nonsalmon fish in the southern Yukon Flats. The importance of these resources, both in the past and at present, and the change in relative importance of specific species is now better understood. Several themes emerged from the harvest surveys and key respondent interviews. For example, the use of specific nonsalmon fish is based on a variety of factors, including the presence and influence of elders, the perceived need for food by those who cannot obtain wild foods on their own, the need to prepare for cultural events such as potlatches, and the perceived relative condition (i.e., health, taste, appearance, size) of the fish as compared to another species. Although the use of geographic placenames is almost entirely in English, some elders recalled the Gwich'in names for certain land features that served to provide information about changing land and water conditions due to climate change.

**KEYWORDS:** Interior Alaska, Yukon River, Fort Yukon, Beaver, Birch Creek, Circle, Central, Yukon Flats National Wildlife Refuge, nonsalmon fish, traditional ecological knowledge, harvest monitoring

**NOTES:**

Kotzebue, Otto von Lloyd Hannibal Evans, Ivan Fedorovich Kruzenshtern, Johann Caspar Horner, Johann Friedrich Eschscholtz, and Adelbert von Chamisso

**1821 A voyage of discovery into the South sea and Beering's straits, for the purpose of exploring a north-east passage, undertaken in the years 1815-1818, at the expense of His Highness ... Count Romanzoff, in the ship Rurick, under the command of the lieutenant in**



**the Russian imperial navy.** 3 vols. H.E. Lloyd, transl. London: Longman, Hurst, Rees, Orme, and Brown.

**ABSTRACT:**

**KEYWORDS:** Voyages, Discoveries, geography, natural history, Riurik (Brig), Northeast Passage.

**NOTES:**

Kraemer, L., J.E. Berner, and C.M. Furgal

**2005 The potential impact of climate on human exposure to contaminants in the Arctic.** International Journal of Circumpolar Health 64(5):498.

**ABSTRACT:** Many northern indigenous populations are exposed to elevated concentrations of contaminants through traditional food and many of these contaminants come from regions exterior to the Arctic. Global contaminant pathways include the atmosphere, ocean currents, and river outflow, all of which are affected by climate. In addition to these pathways, precipitation, animal availability, UV radiation, cryosphere degradation and human industrial activities in the North are also affected by climate change. The processes governing contaminant behaviour in both the physical and biological environment are complex and therefore, in order to understand how climate change will affect the exposure of northern people to contaminants, we must have a better understanding of the processes that influence how contaminants behave in the Arctic environment. Furthermore, to predict changes in contaminant levels, we need to first have a good understanding of current contaminant levels in the Arctic environment, biota and human populations. For this reason, it is critical that both spatial and temporal trends in contaminant levels are monitored in the environment, biota and human populations from all the Arctic regions.

**KEYWORDS:** climate change, contaminants

**NOTES:**

Krause, A. E., Kenneth A. Frank, D. M. Mason, R. E. Ulanowicz, and W. W. Taylor

**2003 Compartments revealed in food-web structure.** Nature 426(6964):282-285.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Krauss, Michael E.

**1980 Alaska Native languages: past, present, and future**, Vol. 4. Fairbanks, Alaska: Alaska Native Language Center.

**ABSTRACT:**

**KEYWORDS:** Alaska Native; language

**NOTES:** Three papers (1978-80) written for the non-linguistic public about Alaska Native languages are combined here. The first is an introduction to the prehistory, history, present status, and future prospects of all Alaska Native languages, both Eskimo-Aleut and Athabaskan Indian. The second and third, presented as appendices to the first, deal in greater depth with the future of all the languages and then with the past, present, and future of the Alaskan Indian languages. The main paper contains: a section devoted to Haida and Tsimshian; general prehistory of Eskimo-Aleut languages and of Athabaskan, Eyak, and Tlingit; notes on the present status of Tsimshian, Haida, and Tlingit, of Eyak, of the Athabaskan languages in general, of Aleut, and of Eskimo languages in general; and an overall assessment of the future for Alaska Native languages. The paper on the future of the Alaska Native languages looks at whether the future holds survival or extinction, the role of schools, bilingual education, and mass media in saving the languages, and community responsibility for cultural survival. The third paper, on Eskimo languages, discusses general status, government policy concerning language education and

maintenance, and specific situations of Alutiiq, Central Alaskan Yupik, Siberian Yupik, and Inupiaq.

Krauss, Michael E.

**1980 Alaska Native languages: Past, present, future.** Alaska Native Language Center Research Papers (4):1-110.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Krauss, Michael E.

**2005 Eskimo languages in Asia, 1791 on, and the Wrangel Island-Point Hope connection.** *Etudes/Inuit/Studies* 29(1):163-185.

**ABSTRACT:** Ce que constate Merck à propos des quatre langues «tchouktches sédentaires» (Eskimo), ou quatre variétés de langue le long de la côte Tchouktche en 1791, est absolument remarquable et mérite d'être interprété avec soin. Par sa description de leur répartition géographique, il est très facile d'identifier les trois premières langues comme étant 1) le sireniskski, 2) le yupik sibérien central, y compris expressément l'île St Laurent et 3) le naukanski. Étonnamment, Merck prétend que sa langue numéro 4, le «Uwelenski», était parlée le long de la côte arctique de la Tchoukotka, depuis Ouelen aussi loin que le cap Tchelagsky, à environ 1000 km (600 milles) au nord-ouest. Assez heureusement, Merck, tout au long de son texte, transcrit quelque 70 mots «Uwelenski» d'intérêt culturel. L'étude méticuleuse de ces mots par l'auteur et par Mikhail Chlenov montre que le «Uwelenski » est en fait un dialecte du Yupik sibérien central, par conséquent une langue parlée en continu depuis l'île St Laurent jusqu'à l'avancée de Chaplino et de la côte est de la Tchoukotka, et de là, jusqu'à la côte nord du continent. Ceci amène à considérer Naukan comme une «troisième Diomède» plutôt que comme une interruption du continent. Cependant, il n'y a pas d'indication que la langue numéro quatre «Uwelenski », en fait un dialecte de la langue numéro deux de Merck, n'ait jamais été parlée au-delà de la baie de Kolioutchine. Au-delà de ce point, pourtant, il y avait bien une quatrième langue eskimo. La deuxième moitié de cet article conclut, à partir d'au moins sept sources indépendantes, que cette quatrième langue était en fait nulle autre que l'inupiaq du nord de l'Alaska, parlé de façon intermittente, par poches, entre Kolioutchine et le cap Tchelagsky, au moins depuis l'établissement des postes russes de la Kolyma jusque dans le 19e siècle par des Nord-Alaskiens (ceux de la région de Point Hope), qui utilisaient aussi l'île Wrangel comme point d'étape. Merck's statement about four "Sedentary Chukchi" (Eskimo) languages or language varieties along the coast of Chukotka in 1791 is thoroughly remarkable and worthy of careful interpretation. By his statement of their geographical distribution, the first three languages are very easy to identify, as 1) Sireniskski, 2) Central Siberian Yupik, explicitly including St. Lawrence Island, and 3) Naukanski. Merck's language number four, "Uwelenski" he claims, startlingly, to be spoken along the Arctic Coast of Chukotka from Uelen as far as Shelagski Cape, 600 miles to the northwest. Serendipitously enough, Merck has 70 or so "Uwelenski" words of cultural interest transcribed throughout his text. Careful studies of these words by this writer and also by Mikhail Chlenov show that "Uwelenski" is in fact a dialect of Central Siberian Yupik, thus part of a language continuum spoken from St. Lawrence Island to the Chaplino corner and the East coast of Chukotka, thence to the North coast of that mainland, treating Naukan as a "third Diomede" rather than as a mainland interruption. However there is no evidence that language number four, "Uwelenski," actually a dialect of Merck's language number two, was spoken beyond Kolyuchin Bay. Beyond that point, however, there was indeed a fourth Eskimo language. The second half of the paper concludes, from at least seven independent sources, that that fourth language was in fact none other than North Alaskan Inupiaq, spoken intermittently in pockets between Kolyuchin and Shelagski Cape, at least since the opening of Russian posts at Kolyma and into the nineteenth century, by north Alaskans from the Point Hope area, who also used Wrangel Island as a stopping place.

**KEYWORDS:****NOTES:**

Krauss, Michael E.

**2005 Manifeste (13 décembre 2003).** Etudes/Inuit/Studies 29(1):31-34.

**ABSTRACT:****KEYWORDS:****NOTES:**

Krauthoefer, Tracie, James J. Simon, Michael W. Coffing, Madel Kerlin, and Wayne Morgan

**2007 The harvest of non-salmon fish by residents of Aniak and Chuathbaluk, Alaska, 2001-2003.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report presents the results of a project to identify and understand changes in nonsalmon subsistence patterns in the Aniak River drainage during 2001-2003. Data were collected through key respondent interviews and household surveys in Aniak and Chuathbaluk. Key respondent interviews were conducted with 5 individuals in Aniak in 2002, and documented local knowledge related to critical habitats, life histories, and seasonal movements of nonsalmon species, along with changes in the quality and abundance of fish over time in the drainage. Household surveys on nonsalmon harvests were completed with most (80-90%) Aniak and Chuathbaluk households in 2002 and 2003, resulting in baseline subsistence harvest estimates for 11 nonsalmon species by gear type and season. This detailed examination of contemporary subsistence fishing patterns provides new understanding of subsistence harvests of nonsalmon fish in the Middle Kuskokwim River area. It can be used to support future research and may assist in policy development.

**KEYWORDS:** Kuskokwim River, Yukon-Kuskokwim Delta, Aniak River, Aniak, Chuathbaluk, northern pike, *Esox lucius*, whitefish, *Coregonus* spp., *Propisopium cylindraceum*, inconnu, sheefish, *Stenodus leucichthys*, burbot, *Lota lota*, Alaska blackfish, *Dallia pectoralis*

**NOTES:**

Krieg, Theodore M., Molly B. Chythlook, Philippa A. Coiley-Kenner, Davin Holen, Kurt Kamletz, and Hans Nicholson

**2005 Freshwater fish harvest and use in communities of the Kvichak watershed, 2003.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** The project collected information about subsistence harvests of nonsalmon freshwater fish by residents of 8 communities on the Kvichak River watershed, Bristol Bay Area, Southwest Alaska, for a 12-month period October 2002-September 2003. Local research assistants were hired and trained to collect harvest calendars from participating households and conduct a post-season harvest survey. Data were collected on amounts harvested, gear types used, timing of harvests, and location of harvests. There was a high level of involvement in the subsistence uses of nonsalmon fish in the study communities, although harvests were low compared to estimates from the 1970s, 1980s, and 1990s, primarily because the warm winter of 2002-2003 inhibited travel as well as the use of traditional harvesting methods, such as ice fishing. Also, traditional ecological knowledge (TEK) interviews were conducted with 28 individuals, covering such topics as population trends, fish ecology, and traditional harvest methods. These interviews were transcribed and incorporated into a searchable database using the Division's askSam program, and a species-by-species description was written.

**KEYWORDS:** Kvichak River, Igiugig, Iliamna, Levelock, Newhalen, Nondalton, Kokhanok, Pedro Bay, Port Alsworth, Alagnak River, Branch River, Lake Clark, burbot, *Lota lota*, Alaska blackfish, *Dallia pectoralis*, lake trout, *Salvelinus namaycush*, rainbow trout, *Oncorhynchus*

**NOTES:**

Krieg, Theodore M., Philippa A. Coiley-Kenner, Lisa B. Hutchinson-Scarborough, and Louis Brown

**1996 Subsistence harvests and uses of caribou, moose and brown bear in 12 Alaska Peninsula communities, 1994/95.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** The report presents the results of a cooperative research project conducted by the Natural Resources Department of the Bristol Bay Native Association, the ADF&G Division of Subsistence and the U. S. Fish and Wildlife Service. The goal of the research was to document contemporary subsistence use patterns of caribou, moose, and brown bear by 12 Alaska Peninsula communities: Chignik Bay, Chignik Lagoon, Chignik Lake, Egegik, Ivanof Bay, King Salmon, Naknek, Perryville, Pilot Point, Port Heiden, South Naknek, and Ugashik. A total of 316 household interviews were conducted. Maps that depict harvests by uniform coding subunit are included in the report. The report concludes with a summary of issues raised by interviewed households concerning subsistence hunting for large land mammals on the northern Alaska Peninsula.

**KEYWORDS:**

**NOTES:**

Krieg, Theodore M., James A. Fall, Molly B. Chythlook, Robbin La Vine, and David Koster

**2007 Sharing, bartering, and cash trade of subsistence resources in the Bristol Bay Area, Southwest Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report presents the results of a study that investigated the cash trade and barter of subsistence-caught fish in 5 communities of the Bristol Bay Area of Southwest Alaska: Dillingham, King Salmon, Naknek, Nondalton, and Togiak. State and federal statutory definitions of subsistence uses include customary trade, the limited noncommercial exchange of subsistence resources for minimal amounts of cash, as determined by regulatory boards. However, little information about trading and bartering practices in Bristol Bay communities was available prior to this study. Research methods included a systematic survey of 128 households and 12 key respondent interviews involving 22 individuals. Traditional values about sharing, barter, and trade encouraged the generous distribution of subsistence resources, although traditional forms of barter and trade in Yup'ik and Dena'ina communities included notions of balance as well.

**KEYWORDS:** subsistence fishing, Pacific salmon, Bristol Bay, Dillingham, Togiak, Nondalton, Naknek, King Salmon, Central Yup'ik, Dena'ina Athabascan

**NOTES:**

Krieg, Theodore M., James A. Fall, Charles J. Utermohle, and Bron

**1998 Subsistence harvests and uses of caribou, moose, and brown bear in 12 Alaska Peninsula communities, 1995/96 and 1996/97.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report presents the results of a collaborative research project conducted by the Natural Resources Department of the Bristol Bay Native Association, the ADF&G Division of Subsistence, and the U. S. Fish and Wildlife Service. The goal of the research was to document contemporary subsistence use patterns of caribou, moose, and brown bears by 12 Alaska Peninsula communities.

**KEYWORDS:**

**NOTES:**

Krieg, Theodore M., Davin L. Holen, and David S. Koster

**2009 Subsistence harvests and uses of wild resources in Igiugig, Kokhanok, Koliganek, Levelock, and New Stuyahok, Alaska, 2005.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report presents information about subsistence uses of fish, wildlife, and plant resources in 5 communities of Southwest Alaska: Igiugig, Kokhanok, Koliganek, Levelock, and

New Stuyahok. The Alaska Department of Fish and Game Division of Subsistence conducted the study in collaboration with Stephen R. Braund & Associates. This report documents findings from phase II, which expanded the study to include 2005 data and 5 additional communities within the watersheds that could be affected by mine development. The Pebble Project is a mineral deposit in an advanced exploration stage located near Frying Pan Lake, which is 70 miles to the northeast of the study community of Koliganek and 35 miles northwest of the study community of Kokhanok. The Pebble Project required updated baseline information about subsistence harvests and uses. Information was collected through systematic household surveys and mapping interviews. In 2005, virtually every person in each community participated in subsistence activities and used wild resources. Subsistence harvests were large and diverse. Estimated wild resource harvests were 542 lb usable weight per person in Igiugig, 680 lb usable weight per person in Kokhanok, 899 lb usable weight per person in Koliganek, 527 lb usable weight per person in Levelock, and 389 lb usable weight per person in New Stuyahok.

**KEYWORDS:** Harvest survey, subsistence uses, subsistence fishing, subsistence hunting, Lake Iliamna, Igiugig, Kokhanok, Koliganek, Levelock, New Stuyahok, Pebble Project, Kvichak River, Bristol Bay.

**NOTES:**

Krone, C. A., P. A. Robisch, K. L. Tilbury, J. E. Stein, E. A. Mackey, P. R. Becker, T. M. O'Hara, and L. M. Philo

**1999 Elements in liver tissues of bowhead whales (*Balaena mysticetus*).** Marine Mammal Science 15(1):123-142.

**ABSTRACT:** Livers from 20 bowhead whales taken in subsistence hunts at Barrow, Alaska, were analyzed for essential and non-essential elements. Concentrations of essential elements were similar to those found in other cetaceans. Non-essential element concentrations were generally comparable to other baleen whales and very low compared to most odontocetes. One deviation from this pattern was a relatively high level of hepatic cadmium that may be related to specific dietary factors of this krill-dependent species. No sex-related differences were found in element concentrations. Hepatic cadmium and mercury increased with animal length, and significant positive interelement correlations were found between copper/zinc and mercury selenium. We found a mercury-to-selenium ratio much lower (1:40) than the frequently reported ratio of one to one. The data suggest that further studies of the postulated mercury-detoxifying role of selenium are warranted.

**KEYWORDS:**

**NOTES:** Times Cited: 16

Krueger, Charles C., Richard L. Wilmot, and Rebecca J. Everett

**1999 Stock Origins of Dolly Varden Collected from Beaufort Sea Coastal Sites of Arctic Alaska and Canada.** Transactions of the American Fisheries Society 128(1):49 - 57.

**ABSTRACT:** Anadromous northern Dolly Varden *Salvelinus malma* support a summer subsistence fishery in Beaufort Sea coastal waters. These same waters coincide with areas of oil and gas exploration and development. The purpose of this study was to assess variation in stock origins of Dolly Varden collected from sites along 400 km of Beaufort Sea coast. Mixed-stock analyses (MSA) of allozyme data were used to compare collections from four sites (Endicott near Prudhoe Bay, Mikkelsen Bay, and Kaktovik in Alaska and Phillips Bay in Canada) and to assess variation in stock contributions among summer months and between 1987 and 1988. The MSA estimates for individual stocks were summed into estimates for three stock groups: western stocks from the area near Sagavarnirktok River and Prudhoe Bay (SAG), Arctic National Wildlife Refuge stocks (Arctic Refuge), and Canadian stocks. The MSA of Endicott samples taken in 1987 and 1988 did not differ among months in terms of contributions from local SAG stocks (range, 71–95%). Contributions from nonlocal (>100 km distant) Canadian and Arctic Refuge

stocks were not different from zero in 1987, but contributions from Canadian stocks were so in July (17%) and August (20%) but not in September of 1988. Thus, stock contributions to Endicott collections were different between 1987 and 1988. Samples from the Kaktovik area in 1988 were different between months in terms of contributions from nonlocal SAG stocks (July, 7%; August, 27%). Significant contributions to these samples were made both months by Canadian (25% and 17%) and local Arctic Refuge stocks (68% and 56%). Among the four coastal sites, local stocks typically contributed most to collections; however, every site had collections that contained significant contributions from nonlocal stocks. The MSA estimates clearly revealed the movement of Dolly Varden between U.S. and Canada coastal waters. If local stocks are affected by oil and gas development activities, distant subsistence fisheries along the coast could also be affected.

**KEYWORDS:** Dolly Varden, subsistence, fishery, Beaufort Sea

**NOTES:**

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**KEYWORDS:** Dolly Varden, subsistence, fishery, Beaufort Sea

**NOTES:**

Krupnik, Igor

**2005 "When our words are put to paper." Heritage documentation and reversing knowledge shift in the Bering Strait region.** Etudes/Inuit/Studies 29(1):67-90.

**ABSTRACT:** L'article étudie la relation entre les savoirs autochtones et les efforts de documentation du patrimoine générés par des scientifiques et d'autres formes d'activités locales qui travaillent à renforcer l'identité et la tradition culturelle autochtones. Alors que les études sur le patrimoine autochtone et les savoirs environnementaux sont parmi les champs de recherche en culture nordique les plus rapides à s'être développés, la compétition est rude pour des

ressources limitées et, plus encore, pour le temps, la bienveillance et l'attention des circonscriptions du nord. Des projets scientifiques sur le patrimoine et la documentation des savoirs ne représentent qu'un courant parmi l'effort public actuel, mais il est important et visible. Ces projets ont bien un impact sur les communautés locales ; toutefois un tel impact est souvent subtil, indirect et n'est sans doute pas viable une fois abandonné à l'auto-gestion. Les savoirs locaux, tout comme les langues vivantes, reposent principalement sur la transmission orale, les liens familiaux, les événements communautaires et les activités de subsistance. Aussi longtemps que ces canaux principaux de continuité culturelle fonctionnent, «nos mots transcrits sur papier» - les livres sources des savoirs et du patrimoine, les documents scolaires, et les catalogues - doivent être considérés comme des avoirs culturels à long terme qui jouent et joueront peut-être un rôle essentiel dans les sociétés nordiques transformées d'aujourd'hui et de demain. The paper examines the relationship between indigenous knowledge and heritage documentation efforts generated by scientists and other forms of local activities that work in strengthening indigenous cultural identity and tradition. As the studies in indigenous heritage and environmental knowledge have become one of the fastest-growing fields in northern cultural research, there is tough competition for limited resources and, even more, for the time, goodwill, and attention of northern constituencies. Scholarly projects in heritage and knowledge documentation represent just one stream within today's public efforts, though an important and visible one. Those projects do have an impact in local communities; but such impact is often subtle, circumstantial, and may not be sustainable when left standing on its own. Local knowledge, very much like active language, relies primarily on oral transmission, family ties, community events, and subsistence activities. As long as those prime channels of cultural continuity are working, "our words put to paper"-knowledge and heritage sourcebooks, school materials, and catalogs-should be regarded as long-term cultural assets that may play a crucial role in the transformed northern societies of today and of tomorrow.

**KEYWORDS:****NOTES:**

Krupnik, Igor

**2009 "The way we see it coming" - Building the legacy of indigenous observations in IPY 2007-2008.** In *Smithsonian at the Poles: Contributions to International Polar Year Science*. I. Krupnik, M.A. Lang, and S.E. Miller, eds. Pp. 129-142. Washington, DC: Smithsonian Institution Scholarly Press.

**ABSTRACT:** All early International Polar Year/International Geophysical Year (IPY/IGY) initiatives were primarily geophysical programs and were exemplary products of the long-established paradigm of "polar science." Under that paradigm, scholarly data to be used in academic publications were to be collected by professional scientists and/or by specially trained observers. Arctic indigenous residents had hardly any documented voice in the early IPY/IGY ventures, except by serving as "subjects" for museum collecting or while working as dog-drivers, guides, and unskilled assistants to research expeditions. Natural scientists with strong interest in Native cultures were the first to break that pattern and to seek polar residents as a valuable source of expertise on the Arctic environment. The Smithsonian has a distinguished tradition in working with indigenous experts and documenting their knowledge, from the days of the First IPY 1882– 1883 to the most recent projects on indigenous observations on Arctic climate change. The paper explores the unique role of IPY 2007– 2008 and of recent efforts focused on the documentation of indigenous knowledge of Arctic environment and climate change, by using the experience of one IPY project, SIKU— Sea Ice Knowledge and Use— and research collaboration with local Yupik Eskimo experts from St. Lawrence Island, Alaska.

**KEYWORDS:****NOTES:**

Krupnik, Igor, and Mikhail Chlenov

**2007 The end of "Eskimo land": Yupik relocation in Chukotka, 1958-1959.** *Etudes/Inuit Studies* 31(1):59-81.

**ABSTRACT:** Il y a cinquante ans, pendant l'été 1958, les autorités russes ont entrepris un programme de relocalisation massive de la population yupik de la péninsule des Tchouktches en Sibérie. Quelques 800 personnes, ou environ 70% de cette petite nation de 1100 individus à l'époque, ont été forcées de quitter leur lieu de résidence et ont été transférées vers d'autres communautés. L'essentiel des faits relatifs à la relocalisation yupik est connu depuis les années 1960 mais aucun récit de première main n'a jamais été publié. Cet article présente une vue d'ensemble de la fermeture des trois plus grands villages yupik sibériens, Naukan, Ungaziq (Chaplino) et Plover en 1958-1959 ainsi que du déplacement de leurs résidents, à travers leurs souvenirs et leurs récits personnels que les auteurs ont recueillis durant les années 1970 et 1980. L'article soutient que ces relocalisations yupik par les autorités soviétiques dans les années 1950 ont été sans précédent en terme d'échelle et d'effet traumatisant, même si on les compare aux programmes de repeuplement initiés par d'autres États qui visaient de nombreuses communautés inuit en Alaska, au Canada et au Groenland. Fifty years ago, in summer 1958, Russian authorities started a program of massive relocation of the Yupik population on the Chukchi Peninsula, Siberia. About 800 people, or roughly 70% of the small nation of 1,100 at that time, were forced to leave their home sites and were moved to other communities. Some basic facts related to the Yupik relocations of the 1950s have been known since the 1960s; but no first-hand narratives of the displaced people were ever published. The paper overviews the closing of the three largest Siberian Yupik communities of Naukan, Ungaziq (Chaplino) and Plover in 1958-1959, and the displacement of their residents as recalled from their memories and personal accounts collected by the authors during the 1970s and 1980s. The paper argues that Soviet Yupik relocations of the 1950s were unprecedented in their scale and traumatic impact, even when compared to other state-initiated resettlement programs that targeted many Inuit communities in Alaska, Canada and Greenland.

**KEYWORDS:**

**NOTES:**

Krupnik, Igor, and G. Carleton Ray

**2007 Pacific walruses, indigenous hunters, and climate change: Bridging scientific and indigenous knowledge.** Deep Sea Research Part II: Topical Studies in Oceanography 54(23-26):2946-2957.

**ABSTRACT:** This paper presents and evaluates two perspectives on changing climate-walrus-human relationships in the Beringian region, from the viewpoints of marine biology and ecology, and from that of indigenous hunters. Bridging these types of knowledge is vital in order to grasp the complexity of the processes involved and for advancing understanding of subarctic marine ecosystems that are currently experiencing rapid ecological and social change. We argue that despite substantial gaps and distinctions, information generated by scientists and indigenous hunters have many similarities. Differences in interpretation are primarily due to scaling and temporal rates of change of knowledge, which could be rectified through more active sharing of expertise and records, enhanced documentation of indigenous observations, more collaborative research, and increased insight from the social sciences.

**KEYWORDS:** Bering Sea, Climate change, Indigenous knowledge, *Odobenus rosmarus*, Walrus

**NOTES:**

Krupnik, Igor, and G. Carleton Ray

**2007 Pacific walruses, indigenous hunters, and climate change: Bridging scientific and indigenous knowledge.** Deep Sea Research Part II: Topical Studies in Oceanography 54(23-26):2946-2957.

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**KEYWORDS:** Bering Sea, Climate change, Indigenous knowledge, *Odobenus rosmarus*, Walrus

**NOTES:**

Krupnik, I.I.

**1981 Asiatic Eskimo traditional subsistence model: Cultural continuity and possibilities for reconstruction.** *Etudes/Inuit/Studies* 5(2).

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Krupnik, I.I., L.S. Bogoslovskaya, and L.M. Votrogov

**1983 Gray whaling off the Chukotka Peninsula: Past and present status.** *Reports of the International Whaling Commission* 33:557–562.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Kruse, Jack

**1979 Subsistence: A discussion of relevant concepts and some observations on patterns of change in Alaska.** *In* The subsistence lifestyle in Alaska: Now and in the future. M. Murray, ed. Pp. 79-82: University of Alaska School of Agriculture.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Kruse, Jack

**1984 The characteristics of Alaska hunters and fisherman.**

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Kruse, JA

**1991 Alaska Inupiat subsistence and wage employment patterns: understanding individual choice.** *Human Organization* 50(4):317-326.

**ABSTRACT:** Following a decade of intense wage employment activity, North Slope Inupiat continue to engage in subsistence activities. Two surveys conducted a decade apart are used to examine the role of individual choice in the persistence of subsistence activities. Survey results document an increase in labor force participation, an increase in household income, and a decrease in household size. At the same time, the percentage of households on the North Slope obtaining over half their food from subsistence activities has increased. These and other findings suggest that continued subsistence activity is not simply a matter of necessity; it is also a matter of individual choice. Subsistence harvest and distribution activities may offer benefits well beyond nutrition that are less commonly available in wage jobs. Further research in this area may not only help explain the persistence of subsistence activities, but also provide a link with research on the mental wellbeing of Inupiat.

**KEYWORDS:** subsistence; development; motivation; Alaska natives; hunting

**NOTES:**

Kruse, Jack

**2011** **Developing an Arctic subsistence observation system.** *Polar Geography* 34(1-2):9-35.

**ABSTRACT:** The goal of the Arctic Observing Network Social Indicators Project subsistence component is to assess the adequacy of existing subsistence harvest data to advance our understanding of arctic change and to serve as the basis for recommending steps that can improve the observation network. The assessment is based on a database developed to include 1521 place/year records for Alaska and northern Canada. Of these records, 641 include estimates of harvest of all resources. Separate harvest reports are available for 131 species. Annual harvests are expressed as kilograms of edible harvest per capita for years ranging from 1965 to 2007. One or more measures per decade of comprehensive harvest in the 1990s and 2000s exist for 50 of the 411 arctic North American communities. Based on these results, in most, but not all regions, available data on subsistence harvests in Arctic North America cannot support analysis of changes in harvest over time. The Alaska Department of Fish and Game Community Subsistence Information System continues to provide harvest data for communities and has developed several regional sets of community harvest data in response to actual and potential environmental changes. The past harvest surveys conducted in the Nunavik, Inuvialuit, and Nunavut regions offer valuable experience as well as baseline data. The Arctic Borderlands Ecological Cooperative is a model of community-researcher collaboration. These past and current initiatives provide a foundation for the design of an expanded arctic subsistence observation network. The paper concludes with a discussion of challenges and recommendations.

**KEYWORDS:**

**NOTES:** "We see, then, that there are multiple contributors to uncertainty about the effects of arctic changes on subsistence. First, a diverse array of arctic changes has been observed, each change with its own potential effects on subsistence, as well as the potential to interact with other changes and cause yet different effects. The array of arctic changes is diverse even if we confine ourselves to climate-related changes. The array of arctic changes is substantially larger if we include long-distance transport of contaminants (which itself is affected by climate change), global scale resource development, government policies, and a myriad of other forces for change." (p. 17)

"A second major contributor to uncertainty about the effects of arctic changes on subsistence is that arctic residents are used to responding to varying conditions. They have developed strategies for coping with surprises. Included in these adaptive strategies are the abilities to share subsistence products between communities and to purchase alternative foods. Third, in many arctic regions there are institutions directly involving local residents in development and implementation of policies that increase the ability of residents to adaptively respond. Fourth, differences in history, culture, and environment between communities make it difficult to extrapolate from a few case studies to hundreds of arctic communities. There are over 400 communities in Arctic North America alone. There is a strong consensus that case studies in which communities collaborate with scientists to understand the local effects of arctic changes are critically important (Berman et al. 2004; Ford et al. 2007; Gunn et al. 2009; Tremblay et al. 2008). As Huntington (2004, p. iii) concludes, how can we scale up from these case studies to understand arctic changes at the regional and pan-arctic levels?" (p 17-18)

"The implications of these uncertainties for the design of a subsistence observation network include (1) multiple observations per decade so that year-to-year variations can be taken into account; (2) measurement of total harvest as well as individual species harvests to understand shifts between harvested resources; (3) multicommunity studies within regions to take into account differences in the interactions among forces for change (e.g. climate and development), local environments (e.g. coastal and inland); and (4) tracking of local responses (e.g. collaboration of residents and scientists in monitoring and explaining change)." (p. 18)

Kruse, JohnA., Michael Baring-Gould, William Schneider, Joseph Gross, Gunnar Knapp, and George Sherrod

**1983 A Description of the Socioeconomics of the North Slope Borough.** Anchorage: U.S. Department of the Interior, Minerals Management Service, Alaska OCS Region.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** This report describes current and projected economic and social conditions on the North Slope, establishes an analytical framework for assessing changes in these conditions due to OCS development, and describes research methods specifically developed to examine the issues of future North Slope Borough revenues and expenditures and Inupiat perceptions of the potential effects of petroleum development.

Kruse, JohnA., Michael Baring-Gould, William Schneider, Joseph Gross, Gunnar Knapp, and George Sherrod

**1983 A Description of the Socioeconomics of the North Slope Borough, Appendix: Transcripts of Selected Inupiat Interviews.** Anchorage: U.S. Department of the Interior, Minerals Management Service, Alaska OCS Region.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** Appendix G contains edited transcripts of twenty-one interviews conducted with residents of Kaktovik, Nuiqsut, and Barrow. The objectives of the interviews were (1) to verify our understanding of testimony given by these residents concerning petroleum development and (2) to extend our understanding of Inupiat perceptions about petroleum development. The reader is referred to pages 35 through 37 for a discussion of the methods used in the key informant interviews and to Chapter Seven for our application of the transcripts of our study findings.

Kruse, Jack, and K. Foster

**1986 Changes in rural Alaska settlement patterns.** Alaska Review of Social and Economic Conditions 23(1):1-16.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Kruse, Jack, Birger Poppel, Larissa Abryutina, Gerard Duhaime, Stephanie Martin, Mariekathrine Poppel, Margaret Kruse, Ed Ward, Patricia Cochran, and Virgene Hanna

**2008 Survey of Living Conditions in the Arctic (SLiCA).** In *Barometers of Quality of Life Around the Globe*. V. Moller, D. Hushka, and A.C. Michalos, eds. Pp. 107-134. Social Indicators Research Series, Vol. 33. Dordrecht: Springer Netherlands.

**ABSTRACT:** Major findings of the Survey of Living Conditions in the Arctic (SLiCA) are: (1) A combination of traditional activities and cash employment is the prevailing lifestyle of Arctic indigenous peoples; (2) family ties, social support of each other, and traditional activities have a lot to do with why indigenous people choose to remain in Arctic communities; (3) well-being is closely related to job opportunities, locally available fish and game, and a sense of local control. Well-being and depression (and related problems like suicide) are flip sides of the same coin. Improving well-being may reduce social problems; and, (4) health conditions vary widely in the Arctic: three-in-four Greenlandic Inuit self-rate their health as at least very good compared with one-in-two Canadian and Alaska Inuit and one-in-five Chukotka indigenous people. Findings are based on 7,200 interviews in a probability sample of Inupiat settlement regions of Alaska, the four Inuit settlement regions of Canada, all of Greenland, and the Anadyrskij, Anadyr, Shmidtovs, Beringovskij, Chukotskij, Iujl'tinskij, Bilibinskij, Chaunskij, Providenskij, Uel'Kal' districts of

Chukotka. Indigenous people and researchers from Greenland, Russia, Canada, the United States, Denmark, Norway, Sweden, and Finland collaborated on all phases of the study.

**KEYWORDS:** quality of life; social development; social indicators; social policy; social trends

**NOTES:** 10.1007/978-1-4020-8686-1\_5

Kruse, John A.

**1981 Subsistence and the North Slope Inupiat Eskimo.** An Analysis of the Effects of Energy Development. Fairbanks: Institute of Social and Economic Research.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Kruse, John A., J.S. Kleinfeld, R.M. Travis, and L. Leask

**1981 Energy development and the North Slope Inupiat: Quantitative analysis of social and economic change:** Institute of Social and Economic Research, University of Alaska.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Kruse, Jack A., Robert G. White, Howard E. Epstein, Billy Archie, Matt Berman, Stephen R. Braund, F. Stuart Chapin, Johnny Charlie, Sr., Colin J. Daniel, Joan Eamer, Nick Flanders, Brad Griffith, Sharman Haley, Lee Huskey, Bernice Joseph, David R. Klein, Gary P. Kofinas, Stephanie M. Martin, Stephen M. Murphy, William Nebesky, Craig Nicolson, Don E. Russell, Joe Tetlitchi, Arlon Tussing, Marilyn D. Walker, and Oran R. Young

**2004 Modeling sustainability of Arctic communities: An interdisciplinary collaboration of researchers and local knowledge holders.** *Ecosystems* 7(8):815-828.

**ABSTRACT:** How will climate change affect the sustainability of Arctic villages over the next 40 years? This question motivated a collaboration of 23 researchers and four Arctic communities (Old Crow, Yukon Territory, Canada; Aklavik, Northwest Territories, Canada; Fort McPherson, Northwest Territories, Canada; and Arctic Village, Alaska, USA) in or near the range of the Porcupine Caribou Herd. We drew on existing research and local knowledge to examine potential effects of climate change, petroleum development, tourism, and government spending cutbacks on the sustainability of four Arctic villages. **We used data across eight disciplines to develop an Arctic Community Synthesis Model and a Web-based, interactive Possible Futures Model.** Results suggested that climate warming will increase vegetation biomass within the herds summer range. However, despite forage increasing, the herd was projected as likely to decline with a warming climate because of increased insect harassment in the summer and potentially greater winter snow depths. There was a strong negative correlation between hypothetical, development-induced displacement of cows and calves from utilized calving grounds and calf survival during June. **The results suggested that climate warming coupled with petroleum development would cause a decline in caribou harvest by local communities.** Because the Synthesis Model inherits uncertainties associated with each component model, sensitivity analysis is required. Scientists and stakeholders agreed that (1) although simulation models are incomplete abstractions of the real world, they helped bring scientific and community knowledge together, and (2) relationships established across disciplines and between scientists and communities were a valuable outcome of the study. Additional project materials, including the Web-based Possible Futures Model, are available at <http://www.taiga.net/sustain>.

**KEYWORDS:** Alaska; Arctic tundra vegetation; Canada; caribou; climate change; indigenous communities; integrated assessment; local knowledge; petroleum development; sustainability; tourism;

**NOTES:**

Kucklick, John R., William D. J. Struntz, Paul R. Becker, Geoff W. York, Todd M. O'Hara, and Jessica E. Bohonowych

**2002 Persistent organochlorine pollutants in ringed seals and polar bears collected from northern Alaska.** *The Science of The Total Environment* 287(1-2):45-59.

**ABSTRACT:** Blubber samples from ringed seal (*Phoca hispida*; n=8) and polar bear subcutaneous fat (*Ursus maritimus*; n=5) were collected near Barrow, Alaska in 1996 as part of the Alaska Marine Mammal Tissue Archival Project (AMMTAP) and retained in the National Biomonitoring Specimen Bank at the National Institute of Standards and Technology in Gaithersburg, Maryland (USA). The samples were analyzed for a variety of persistent organochlorine pollutants (POPs) including polychlorinated biphenyls (PCBs), hexachlorocyclohexanes (HCHs), chlordane and metabolites, hexachlorobenzene (HCB) and DDTs and metabolites. The geometric mean, on a wet mass basis, of [Sigma]PCBs (sum of 29 congeners and congener groups) were  $732 \pm 282$  ng/g (1 S.D.) in seals and  $3395 \pm 1442$  ng/g in polar bears. The geometric mean of [Sigma]DDTs, [Sigma]HCHs ([alpha]-, [beta]- and [gamma]-HCH) and HCB concentrations (wet mass basis) in seals and bears were  $562 \pm 261$  ng/g vs.  $74.8 \pm 39$  ng/g,  $380 \pm 213$  ng/g vs.  $515$  ng/g, and  $17.4 \pm 10.1$  ng/g vs.  $183 \pm 153$  ng/g, respectively. The geometric mean sum of chlordane ([Sigma]chlordane, sum of cis- and trans-chlordane, cis- and trans-nonachlor, oxychlordane and heptachlor epoxide) and dieldrin concentrations in ringed seals and polar bears were  $753 \pm 617$  ng/g vs.  $720 \pm 315$  ng/g and  $38.6 \pm 22.8$  ng/g vs.  $130 \pm 65$  ng/g, respectively. Apparent bioaccumulation factors (polar bear/ringed seal POP concentrations) were lower in the animals sampled near Barrow, Alaska than in those from locations in the Canadian Arctic. This suggests that polar bears are also preying on marine mammals from lower trophic levels than the ringed seals with correspondingly lower organochlorine levels, such as bowhead whale carcasses. PCB congener patterns in the samples demonstrated the metabolism of certain PCB congeners in the polar bear relative to the ringed seal in agreement with previous studies. Regional comparisons of animals collected in Alaska and Arctic Canada are presented.

**KEYWORDS:** Ringed seal

Polar bear

Alaska

Arctic

Persistent organochlorine pollutants

Organochlorines

Bioaccumulation

**NOTES:**

Kuhnlein, H., B. Erasmus, H. Creed-Kanashiro, L. Englberger, C. Okeke, N. Turner, L. Allen, and L. Bhattacharjee

**2006 Indigenous peoples' food systems for health: finding interventions that work.** *Public Health Nutrition* 9(8):1013-1019.

**ABSTRACT:** This is a short report of a 'safari' held in conjunction with the International Congress of Nutrition in September 2005, in Futululu, St. Lucia, South Africa. Participants were several members of the International Union of Nutritional Sciences Task Force on Indigenous Peoples' Food Systems and Nutrition, other interested scientists and members of the Kwa Zulu indigenous community. The paper describes the rationale for and contributions towards understanding what might be successful interventions that would resonate among indigenous

communities in many areas of the world. A summary of possible evaluation strategies of such interventions is also given.

**KEYWORDS:**

**NOTES:** Times Cited: 4

Kuhnlein, H. V.

**1989 Culture and ecology in dietetics and nutrition.** Journal of the American Dietetic Association 89(8):1059-60.

**ABSTRACT:**

**KEYWORDS:** Culture

Diet

Ecology

Food/standards

Food Preferences

Food Supply

Humans

Nutritional Sciences/education

United States

**NOTES:** Kuhnlein, H V

United states

Journal of the American Dietetic Association

J Am Diet Assoc. 1989 Aug;89(8):1059-60.

Kuhnlein, H. V.

**1991 Nutrition of the Inuit: a brief overview.** Arctic Medical Research Suppl:728-30.

**ABSTRACT:** Changing food preferences and health beliefs are resulting in a decline in use of traditional Inuit foods and an increase in use marketed foods. These changes are associated by many researchers with a variety of health concerns that currently are increasing among Inuit populations. Recent food composition studies have facilitated evaluation of dietary intakes of nutrients and organochlorine contaminants. In one Baffin Inuit community, traditional Inuit food species were found to still be a major component of women's diets, and to make a significantly greater contribution than marketed foods for certain nutrients; however on the annual average marketed foods contributed greater amounts of total dietary energy, fat and calcium. Vitamin A and calcium were found to be routinely below recommended amounts in women's diets. PCBs and toxaphene's were contained in the diet in fatty sea mammal tissues; however the average woman's diet, on the annual basis, contained less than one-third of the provisional tolerable levels of these organochlorine contaminants. The diets of the Inuit, as of all Indigenous People, are not comprised solely of the historically traditional foods; however these foods are still vitally important as a source of nutrients and cultural definition. The presence of industry-derived organochlorine contaminants in Inuit food species is yet another demonstration that action is needed on environmental protection by local, national and international agencies.

**KEYWORDS:** Adult

Canada

Diet

Female

Food Preferences

Humans

Inuits

Nutritional Physiological Phenomena

**NOTES:** Kuhnlein, H V

Finland

Arctic medical research

Arctic Med Res. 1991;Suppl:728-30.

Kuhnlein, H. V.

**1995 Benefits and risks of traditional food for Indigenous Peoples: focus on dietary intakes of Arctic men.** Can J Physiol Pharmacol 73(6):765-71.

**ABSTRACT:** A variety of community and external pressures on Indigenous Peoples are leading to increased use of food that is available through industrialization and market economics; food in traditional food systems derived from local, natural environments is declining in use. This report focusses on dietary intake of Arctic men. While nutrient density of Arctic traditional food systems is superior to that of the composite of market food consumed in the North, the percentage of men's daily energy derived from market food is more than double that from traditional food in some communities. Older members of communities consume more traditional food than younger members; men consume more traditional food than do women. In addition to providing excellent nutrition and opportunities for physical exercise. Indigenous Peoples identify many sociocultural benefits to the harvest and use of traditional food. Evaluation of environmental accumulation of organochlorines in wildlife animal food species shows that risk of organochlorine consumption is higher in food systems containing sea mammals, and that tolerance levels for some organochlorines may be exceeded.

**KEYWORDS:** Age Distribution

Age Factors

American Native Continental Ancestry Group

Arctic Regions

Canada

Diet

Eating

Female

Food Contamination

Humans

Male

Nutritional Status

Risk Factors

Sex Distribution

Sex Factors

**NOTES:** Kuhnlein, H V

Research Support, Non-U.S. Gov't

Canada

Canadian journal of physiology and pharmacology

Can J Physiol Pharmacol. 1995 Jun;73(6):765-71.

Kuhnlein, H.V.

**2003 Indigenous Peoples and Their Food Resources: Considering Benefits and Risks,** 2003, pp. 53.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** First Nations Nutrition and Health Conference

Kuhnlein, H. V.

**2003 Promoting the nutritional and cultural benefits of traditional food systems of Indigenous People.** Forum Nutr 56:222-3.

**ABSTRACT:**

**KEYWORDS:** Acculturation

Conservation of Natural Resources

Food Habits/ ethnology

Food Preferences/ ethnology

Health Promotion/ methods

Humans

Population Groups

**NOTES:** Kuhnlein, Harriet V

Review

Switzerland

Forum of nutrition

Forum Nutr. 2003;56:222-3.

Kuhnlein, H. V.

**2004 J. A. Hildes Award. Finding good things about health: a perspective for research with Arctic indigenous peoples.** International Journal of Circumpolar Health 63(1):5-8.

**ABSTRACT:**

**KEYWORDS:** Arctic Regions

Awards and Prizes

Biomedical Research

Diet

Health Education

Health Promotion

Humans

Population Groups

**NOTES:** Kuhnlein, Harriet V

Finland

International journal of circumpolar health

Int J Circumpolar Health. 2004 Mar;63(1):5-8.

Kuhnlein, H. V., and H. M. Chan

**1998 Ooligan grease: a traditional food fat of western Canada and Alaska.** International Journal of Circumpolar Health 57 Suppl 1:211-4.

**ABSTRACT:** First Nations Peoples prepare ooligan grease by ripening several tons of the small fish, *Thaleichthys pacificus*, and rendering the fish oil. Eighteen samples from different family preparations of five cultural areas were analyzed for a spectrum of nutrients, organochlorines, and heavy metals. Ooligan grease was found to be a rich source of retinol (2444 +/- 1198 RE 100 g) and n-3 fatty acids, but had less vitamin A compared to fat of raw fish. There was a 10-fold increase in n-3 fatty acids in grease compared to raw fish fat, which may be attributed to microbial conversion of other fatty acids to DHA. Whole fish were good sources of Ca, Fe, and Zn; heavy metals were below guideline levels in grease. Chlorinated pesticides and PCB increased from north to south locations in British Columbia, with mean levels being 110 ng/g lipid of total chlorinated pesticides and 30 ng/g lipid of PCB. These levels are below regulation limits established by Health Canada. It is concluded that ooligan grease is a superior food fat and safe for human consumption.

**KEYWORDS:** Alaska



Animals  
British Columbia  
Culture  
Dietary Fats/ analysis  
Ethnic Groups  
Fish Oils/ chemistry  
Humans  
Nutrition Surveys  
Nutritive Value

**NOTES:** Kuhnlein, H V

Chan, H M  
Research Support, Non-U.S. Gov't  
Finland  
International journal of circumpolar health  
Int J Circumpolar Health. 1998;57 Suppl 1:211-4.

Kuhnlein, H. V., and H. M. Chan

**2000 Environment and contaminants in traditional food systems of northern indigenous peoples.** Annu Rev Nutr 20:595-626.

**ABSTRACT:** Traditional food resources of indigenous peoples are now recognized as containing a variety of environmental contaminants which reach food species through local or long-range transport avenues. In this chapter we review the published reports of contaminants contained in traditional food in northern North America and Europe as organochlorines, heavy metals, and radionuclides. Usually, multiple contaminants are contained in the same food species. Measurement of dietary exposure to these environmental contaminants is reviewed, as are major issues of risk assessment, evaluation, and management. The dilemma faced by indigenous peoples in weighing the multiple nutritional and socioeconomic benefits of traditional food use against risk of contaminants in culturally important food resources is described.

**KEYWORDS:** Chlordan/analysis

Diet/ adverse effects  
Environment  
Ethnic Groups  
Europe/epidemiology  
Food Contamination  
Humans  
Metals  
Heavy/analysis  
North America/epidemiology  
Nutritional Physiological Phenomena  
Radioisotopes/analysis  
Risk Factors  
Socioeconomic Factors

**NOTES:** Kuhnlein, H V

Chan, H M  
Review  
United states  
Annual review of nutrition  
Annu Rev Nutr. 2000;20:595-626.

Kuhnlein, H. V., H. M. Chan, D. Leggee, and V. Barthelet

**2002    Macronutrient, mineral and fatty acid composition of Canadian Arctic traditional food.** Journal of Food Composition and Analysis 15(5):545-566.

**ABSTRACT:** Traditional food resources of indigenous peoples provide a wealth of information on use of unique food species, and their harvest and preparation. Studying the nutrient contents of these food items presents several challenges; for example, adequate sampling to define variability, and conducting multiple nutrient analyses in limited sample portions. In this report, 236 independent samples of Canadian Arctic food species tissues are analyzed for macronutrients (protein, fat, moisture, ash, calculated energy), minerals (Ca, Fe, Cu, Zn, P, Mg, Na, Mn, K, Se) and fatty acids (SFA, MUFA, n-3 PUFA and n-6 PUFA). Many new values are reported for the first time (particularly for Se, K, and PUFA), and other values are compared to earlier reports on similar tissues from our laboratory. Samples were selected as food items reported being frequently used in recent randomly collected food intake survey data over a broad geographical range of Yukon First Nations and Inuit communities. (C) 2002 Elsevier Science Ltd. All rights reserved.

**KEYWORDS:**

**NOTES:** Times Cited: 15

Kuhnlein, H. V., and D. Kinloch

**1988    PCB's and nutrients in Baffin Island Inuit foods and diets.** Arctic Medical Research 47 Suppl 1:155-8.

**ABSTRACT:**

**KEYWORDS:** Adolescent

Adult

Arctic Regions

Child

Child

Preschool

Female

Food Contamination/ analysis

Food Habits

Food Supply

Humans

Infant

Inuits

Male

Northwest Territories

Pilot Projects

Polychlorinated Biphenyls/ analysis

**NOTES:** Kuhnlein, H V

Kinloch, D

Finland

Arctic medical research

Arctic Med Res. 1988;47 Suppl 1:155-8.

Kuhnlein, H. V., and O. Receveur

**1996    Dietary change and traditional food systems of indigenous peoples.** Annu Rev Nutr 16:417-42.

**ABSTRACT:** Traditional food systems of indigenous peoples are defined as being composed of items from the local, natural environment that are culturally acceptable. Rapid dietary change of indigenous peoples worldwide is posing threats to use of this food and the traditional knowledge

required for traditional food system maintainance. This review describes the many influences on choice of food by indigenous peoples, the qualities of traditional food systems, the forces of non-directed dietary change causing decline in use of traditional food systems, and the consequences of change for indigenous peoples. Several examples are given of dietary change research with indigenous peoples.

**KEYWORDS:** Culture

Diet  
Ecology  
Food Habits  
Humans

**NOTES:** Kuhnlein, H V

Receveur, O  
Review  
United states  
Annual review of nutrition  
Annu Rev Nutr. 1996;16:417-42.

Kuhnlein, H. V., and O. Receveur

**2007 Local cultural animal food contributes high levels of nutrients for Arctic Canadian Indigenous adults and children.** Journal of Nutrition 137(4):1110-1114.

**ABSTRACT:** Food systems of Canadian Arctic Indigenous Peoples contain many species of traditional animal and plant food, but the extent of use today is limited because purchased food displaces much of the traditional species from the diet. Frequency and 24-h dietary interviews of Arctic adults and children were used to investigate these trends. The most frequently consumed Arctic foods were derived from animals and fish. In adults these foods contributed 6-40% of daily energy of adults. Children ate much less, 0.4-15% of energy, and >40% of their total energy was contributed by "sweet" and "fat" food sources. Nevertheless, for adults and children, even a single portion of local animal or fish food resulted in increased ( $P < 0.05$ ) levels of energy, protein, vitamin D, vitamin E, riboflavin, vitamin B-6, iron, zinc, copper, magnesium, manganese, phosphorus, and potassium; although children had similar results for these nutrients, they did not reach significance for energy, vitamin D, or manganese. Because market foods are the major source of energy in the Arctic, traditional animal-source foods are extremely important to ensure high dietary quality of both adults and children.

**KEYWORDS:** Adult

Animals  
Arctic Regions  
Canada  
Child  
Cultural Characteristics  
Diet  
Fishes  
Humans  
Indians  
North American  
Inuits  
Meat  
Nutritive Value

**NOTES:**

Kuhnlein, H. V., O. Receveur, and H. M. Chan

**2001 Traditional food systems research with Canadian Indigenous Peoples.** International Journal of Circumpolar Health 60(2):112-22.

**ABSTRACT:** Traditional food systems research with Canadian Indigenous Peoples has revealed many aspects of benefits and risks of the use of this food. Traditions based in hunting, fishing and gathering contain a great variety of species of wildlife plants and animals that provide rich cultural and nutritional benefits. Dietary change for Indigenous Peoples in Canada has resulted in the use of traditional food to provide usually less than 30% of total dietary energy; however this portion of the total diet contributes significantly more of essential nutrients. It also results in exposure to organochlorine and heavy metal contaminants that exceed the tolerable intake levels for some areas. A successful research and education intervention program with one British Columbia community demonstrated that increasing traditional food use can improve health status for vitamin A, iron and folic acid. It is concluded that traditional food systems are rich with potential for research and public health education intervention programs for Indigenous Peoples.

**KEYWORDS:** Canada/epidemiology

Environmental Exposure  
Food  
Health Status Indicators  
Humans  
Indians  
North American  
National Health Programs  
Nutritional Requirements  
Public Health

**NOTES:** Kuhnlein, H V

Receveur, O  
Chan, H M  
Research Support, Non-U.S. Gov't  
Finland  
International journal of circumpolar health  
Int J Circumpolar Health. 2001 Apr;60(2):112-22.

Kuhnlein, H. V., O. Receveur, D. C. G. Muir, H. M. Chan, and R. Soueida

**1995 Arctic Indigenous Women Consume Greater than Acceptable Levels of Organochlorines.** Journal of Nutrition 125(10):2501-2510.

**ABSTRACT:** Exposure to polychlorinated biphenyls and organochlorine pesticides through traditional food resources was examined for Arctic Indigenous women living in two cultural and environmental areas of the Canadian Arctic--one community representing Baffin Island Inuit in eastern Arctic and two communities representing Sahtu Dene/Metis in western Arctic. Polychlorinated biphenyls, toxaphene, chlorobenzenes, hexachlorocyclohexanes, dichlorodiphenyltrichloroethane, chlordane-related compounds and dieldrin were determined in local food resources as normally prepared and eaten. Quantified dietary recalls taken seasonally reflected normal consumption patterns of these food resources by women in three age groups: 20-40 y, 41-60 y and [≥] 61 y. There was wide variation of intake of all organochlorine contaminants in both areas and among age groups for the Sahtu. Fifty percent of the intake recalls collected from the Baffin Inuit exceeded the acceptable daily intake for chlordane-related compounds and toxaphene, and a substantial percentage of the intake records for dieldrin and polychlorinated biphenyls exceeded the acceptable or tolerable daily intake levels. Primary contributing foods to organochlorine contaminants intake for the Baffin Inuit were meat and blubber of ringed seal, blubber of walrus and mattak and blubber of narwhal. Important foods contributing organochlorine contaminant to the Sahtu Dene/Metis were caribou, whitefish, inconnu, trout and duck. The superior nutritional benefits and potential health risks of traditional

food items are reviewed, as are implications for monitoring organochlorine contaminant contents of food, clinical symptoms and food use.

**KEYWORDS:**

**NOTES:**

Kuhnlein, H. V., O. Receveur, D. C. G. Muir, H. M. Chan, and R. Soueida

**1995 Arctic Indigenous Women Consume Greater than Acceptable Levels of Organochlorines.** *Journal of Nutrition* 125(10):2501-2510.

**ABSTRACT:** Exposure to polychlorinated biphenyls and organochlorine pesticides through traditional food resources was examined for Arctic Indigenous women living in two cultural and environmental areas of the Canadian Arctic--one community representing Baffin Island Inuit in eastern Arctic and two communities representing Sahtu Dene/Metis in western Arctic. Polychlorinated biphenyls, toxaphene, chlorobenzenes, hexachlorocyclohexanes, dichlorodiphenyltrichloroethane, chlordane-related compounds and dieldrin were determined in local food resources as normally prepared and eaten. Quantified dietary recalls taken seasonally reflected normal consumption patterns of these food resources by women in three age groups: 20-40 y, 41-60 y and [≥] 61 y. There was wide variation of intake of all organochlorine contaminants in both areas and among age groups for the Sahtu. Fifty percent of the intake recalls collected from the Baffin Inuit exceeded the acceptable daily intake for chlordane-related compounds and toxaphene, and a substantial percentage of the intake records for dieldrin and polychlorinated biphenyls exceeded the acceptable or tolerable daily intake levels. Primary contributing foods to organochlorine contaminants intake for the Baffin Inuit were meat and blubber of ringed seal, blubber of walrus and mattak and blubber of narwhal. Important foods contributing organochlorine contaminant to the Sahtu Dene/Metis were caribou, whitefish, inconnu, trout and duck. The superior nutritional benefits and potential health risks of traditional food items are reviewed, as are implications for monitoring organochlorine contaminant contents of food, clinical symptoms and food use.

**KEYWORDS:**

**NOTES:**

Kuhnlein, H. V., O. Receveur, R. Soueida, and P. R. Berti

**2008 Unique patterns of dietary adequacy in three cultures of Canadian Arctic indigenous peoples.** *Public Health Nutr* 11(4):349-60.

**ABSTRACT:** **BACKGROUND:** Information is needed on dietary adequacy of Arctic indigenous populations in Canada. Extensive work has been completed on composition of Arctic food and food use, and dietary reference intakes are available. **OBJECTIVE:** To complete the first comprehensive dietary adequacy assessment of three populations of adult Arctic indigenous people. **SETTING AND SUBJECTS:** Dietary assessment interviews were conducted with randomly selected indigenous adults during two seasons in 44 representative communities of Yukon First Nations (n = 797), Dene/Metis, (n = 1007) and Inuit (n = 1525). **METHODS:** Twenty-four-hour recalls were used to derive adjusted distributions of usual nutrient intakes in four age/gender groups for assessment of dietary adequacy for carbohydrate, dietary fibre, protein, n-3 fatty acids, n-6 fatty acids, calcium, copper, iron, magnesium, manganese, phosphorus, selenium, zinc, vitamin A, riboflavin, folate, vitamin B6, vitamin C, vitamin D and vitamin E. **RESULTS:** Nutrients with high prevalence of adequacy for most age/gender groups in all three cultures were protein, carbohydrate, n-3 fatty acids, iron, copper, zinc, manganese, selenium, riboflavin and vitamin B6; some individuals exceeded the upper intake level for iron, zinc, selenium, vitamin A and vitamin D. Estimated average requirement nutrients of concern for adequacy were magnesium, folate, vitamin A, vitamin C and vitamin E; however, a few age gender groups were exceptions. Prevalence of inadequacy for AI nutrients which may be undesirably high were fibre, n-6 fatty acids and calcium. Vitamin D was more adequate in Inuit women and men than for Yukon First Nations or Dene/Metis. **CONCLUSIONS:** Unique patterns

of dietary adequacy exist among Arctic indigenous peoples. Local wildlife food sources and market food sources should be maximised for their nutrient contributions to Arctic diets.

**KEYWORDS:** Adult

Arctic Regions  
Canada  
Cross-Cultural Comparison  
Diet/ standards  
Diet Surveys  
Dietary Carbohydrates/administration & dosage  
Dietary Fats/administration & dosage  
Dietary Fiber/administration & dosage  
Dietary Proteins/administration & dosage  
Female  
Food Habits  
Humans  
Inuits/ statistics & numerical data  
Male  
Mental Recall  
Micronutrients/administration & dosage  
Nutrition Assessment  
Nutrition Policy  
Nutritional Requirements

**NOTES:** Kuhnlein, Harriet V

Receveur, Olivier  
Soueida, Rula  
Berti, Peter R  
Research Support, Non-U.S. Gov't  
England  
Public health nutrition  
Public Health Nutr. 2008 Apr;11(4):349-60. Epub 2007 Jul 5.

Kuhnlein, H. V., O. Receveur, R. Soueida, and G. M. Egeland

**2004 Arctic indigenous peoples experience the nutrition transition with changing dietary patterns and obesity.** Journal of Nutrition 134(6):1447-1453.

**ABSTRACT:** Indigenous Peoples globally are part of the nutrition transition. They may be among the most extreme for the extent of dietary change experienced in the last few decades. In this paper, we report survey data from 44 representative communities from 3 large cultural areas of the Canadian Arctic: the Yukon First Nations, Dene/Metis, and Inuit communities. Dietary change was represented in 2 ways: 1) considering the current proportion of traditional food (TF) in contrast to the precontact period (100% TF); and 2) the amount of TF consumed by older vs. younger generations. Total diet, TF, and BMI data from adults were investigated. On days when TF was consumed, there was significantly less ( $P < 0.01$ ) fat, carbohydrate, and sugar in the diet, and more protein, vitamin A, vitamin D, vitamin E, riboflavin, vitamin B-6, iron, zinc, copper, magnesium, manganese, phosphorus, potassium, and selenium. Vitamin C and folate, provided mainly by fortified food, and fiber were higher ( $P < 0.01$ ) on days without TF for Inuit. Only 10-36% of energy was derived from TF; adults  $> 40$  y old consistently consumed more ( $P < 0.05$ ) TF than those younger. Overall obesity (BMI  $\geq 30$  kg/m<sup>2</sup>) of Arctic adults exceeded all-Canadian rates. Measures to improve nutrient-dense market food (MF) availability and use are called for, as are ways to maintain or increase TF use.

**KEYWORDS:** adult, aging, Arctic regions, epidemiology, Canada, diet, female, food habits, nutrition, surveys, nutritional status, obesity, metabolism

**NOTES:**

Kuhnlein, H. V., R. Soueida, and O. Receveur

**1996 Dietary nutrient profiles of Canadian Baffin Island Inuit differ by food source, season, and age.** *Journal of the American Dietetic Association* 96(2):155-62.

**ABSTRACT:** **OBJECTIVE:** To compare the effect of food source (traditional or market), season (six seasons), and age (five age groups) on dietary nutrient patterns of Inuit living in Baffin Island, Canada. **DESIGN:** Twenty-four-hour recall interviews of all residents who had lived > or = 3 years in this one community in each of six seasons. Foods that were recalled were divided by source. **SETTING/SUBJECTS:** The study took place in the Inuit community of Qikiqtarjuaq, which harvests the highest quantity of wildlife per capita of all Baffin communities. Three hundred sixty-six residents contributed a total of 1,410 recalls: 401 from nonpregnant, nonlactating adult women, 74 from pregnant women, 301 from adult men, 451 from children aged 3 to 12 years, and 183 from teenagers aged 13 to 19 years. Participation was voluntary and averaged 65% to 75% of residents. **MAIN OUTCOME MEASURES:** Energy, total dry weight of food, and dietary nutrients (ie, carbohydrate, protein, total fat, saturated fat, polyunsaturated fat, vitamin A, iron, copper, zinc, calcium, phosphorus, magnesium, and sodium) were measured by food source, season, and age. Nutrient density (nutrient per 1,000 kcal) was calculated in traditional and market food sources. Selected nutrients were computed in total diets, and compared with Recommended Dietary Allowances (RDAs). **STATISTICAL ANALYSES PERFORMED:** Tests for normality of the distribution of nutrient intakes (ie, Shapiro-Wilk statistic) were performed followed by nonparametric analyses (ie, Wilcoxon paired-sample t test, Kruskal-Wallis analysis of variance, and adjustment for Bonferroni inequalities resulting from multiple comparisons). **RESULTS:** Most nutrient intakes were significantly different by food source ( $P < .05$ ). Traditional food contributed more protein, phosphorus, iron, zinc, copper, magnesium, and vitamin A for several age groups. Market food contributed greater amounts of dry weight, energy, fat, carbohydrate, calcium, and sodium for most age groups. Seasonal variation ( $P < .05$ ) existed for nutrients coming from traditional and market food. Of the 10 nutrients assessed for nutrient density, all except calcium and sodium were present in greater amounts in traditional food than in market food ( $P < .05$ ). Calcium and vitamin A intakes fell below 66.6% of the RDAs for more than 60% of the population. **CONCLUSIONS:** The comprehensive view of nutrient profiles, food source, and seasonality of Inuit diets will assist health professionals in developing nutrition promotion and education programs for all age groups of this population. Traditional food is an essential source of the total annual dietary nutrient intake of Inuit. Results indicated, however, that calcium and vitamin A intake must be improved.

**KEYWORDS:** Adolescent

Adult  
Age Factors  
Child  
Child  
Preschool  
Diet  
Eating  
Energy Intake  
Female  
Food Habits/ ethnology  
Food Supply  
Humans  
Interviews as Topic  
Inuits  
Male  
Mental Recall  
Middle Aged  
Northwest Territories  
Pregnancy

## Seasons

**NOTES:** Kuhnlein, H V

Soueida, R

Receveur, O

Research Support, Non-U.S. Gov't

United states

Journal of the American Dietetic Association

J Am Diet Assoc. 1996 Feb;96(2):155-62.

Kunz, Michael

**1977 Athapaskan/Eskimo interfaces in the Central Brooks Range, Alaska.** Prehistory of the North American Sub-Arctic: The Athapaskan Question.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Kurtz, Matthew

**2006 A Postcolonial Archive? On the Paradox of Practice in a Northwest Alaska Project.** Archivaria 61:63-90.

**ABSTRACT:** In this paper, I explore contradictions between postcolonialism and the institutional practices in the creation of an oral history archive in northwest Alaska. As a project, postcolonialism often harnesses an interpretive de-centring of the resources that power has colonized. The materiality of a local institutional archive, on the other hand, is created through the geographical centring of historical material. The production of such an archive thereby renders one effect most visibly: the constitution of historical subjects. To what extent do these two projects – postcolonialism and the making of an archive – then work toward different purposes? The paper examines the ambiguities of postcolonialism first as an index of historical-geographical space, then as a collective intellectual project. To illustrate contradictions between postcolonialism and the making of an archive, the paper substantiates these considerations through an example: the contemporary production of an oral history archive in northwest Alaska. The example serves on both registers: as a project sited in what may be said to be a “postcolonial” geography, and as a potentially postcolonial endeavour. I argue that the first description is off the mark, and that institutional endeavours to build an oral history archive in northwest Alaska, while ostensibly working against a history of colonialism, nonetheless re-inscribe various powers of colonialism.

**KEYWORDS:**

**NOTES:**

Kurtz, Matthew

**2006 Ruptures and Recuperations of a Language of Racism in Alaska's Rural/Urban Divide.** Annals of the Association of American Geographers 96:601-621.

**ABSTRACT:** A number of scholars note that racism transforms its shape and character at different times and places: both ideas of “race” and concepts of racism have been subject to change. I extend the work of one such scholar, Ann Stoler, who argues that the slipperiness of racial discourse—its “polyvalent mobility”—accounts for its longstanding power. This article is staged on four episodes since World War II, narratives that trace ruptures and recuperations of racial discourse in Alaska through its geographies of state formation. The stories follow the entanglement of two binary structures used to categorize and govern Alaska's population: formations of “race” (Native/white particularly) and frameworks of space (rural/urban) that are often understood to be a code for “race.” The first and third episodes sketch transformations of a language of equality for Alaska Natives in the 1940s into a conservative discourse in the 1980s that contested a rural subsistence priority. The second situates a reinscription of racial discourse



in a progressive project of state formation and the social divisions deployed to represent Alaska in 1956. The episode challenges an equation of progressive Alaskan politics with nonracism. Public comments following the fourth, a discriminatory paintball attack in 2001, neatly illustrate the slipperiness of racial discourse. This polyvalent mobility has made racism a shifty target for critique and, at the same time, accounts for some of the paradoxical power of racial discourse in contemporary Alaska.

**KEYWORDS:** Alaska; indigenous; racial discourse; rural; state formation

**NOTES:**

Laaksonen, S., J. Pusenius, J. Kumpula, A. Venalainen, R. Kortet, A. Oksanen, and E. Hoberg  
**2010 Climate Change Promotes the Emergence of Serious Disease Outbreaks of Filarioid Nematodes.** *EcoHealth* 7(1):7-13.

**ABSTRACT:** Filarioid parasites represent major health hazards with important medical, veterinary, and economic implications, and considerable potential to affect the everyday lives of tens of millions of people globally (World Health Organization, 2007). Scenarios for climate change vary latitudinally and regionally and involve direct and indirect linkages for increasing temperature and the dissemination, amplification, and invasiveness of vector-borne parasites. High latitude regions are especially influenced by global climate change and thus may be prone to altered associations and dynamics for complex host-pathogen assemblages and emergence of disease with cascading effects on ecosystem structure. Although the potential for substantial ecological perturbation has been identified, few empirical observations have emanated from systems across the Holarctic. Coincidental with decades of warming, and anomalies of high temperature and humidity in the sub-Arctic region of Fennoscandia, the mosquito-borne filarioid nematode *Setaria tundra* is now associated with emerging epidemic disease resulting in substantial morbidity and mortality for reindeer and moose. We describe a host-parasite system that involves reindeer, arthropods, and nematodes, which may contribute as a factor to ongoing declines documented for this ungulate species across northern ecosystems. We demonstrate that mean summer temperatures exceeding 14A degrees C drive the emergence of disease due to *S. tundra*. An association between climate and emergence of filarioid parasites is a challenge to ecosystem services with direct effects on public health, sustainability of free-ranging and domestic ungulates, and ultimately food security for subsistence cultures at high latitudes.

**KEYWORDS:**

**NOTES:** Times Cited: 0

Laidler, GJ, and T Ikummaq

**2008 Human geographies of sea ice: freeze/thaw processes around Igloolik, Nunavut, Canada.** *Polar Record* 44(02):127-153.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Laidler, Gita J., James D. Ford, William A. Gough, Theo Ikummaq, Alexandre S. Gagnon, Slawomir Kowal, Kevin Qrunnut, and Celina Inngaut

**2009 Travelling and hunting in a changing Arctic: assessing Inuit vulnerability to sea ice change in Igloolik, Nunavut.** *Climatic Change* 94(3):363-397.

**ABSTRACT:** The observations of community members and instrumental records indicate changes in sea ice around the Inuit community of Igloolik, in the Canadian territory of Nunavut. This paper characterizes local vulnerability to these changes, identifying who is vulnerable, to what stresses, and why, focusing on local and regional use of sea ice for the harvesting of renewable resources and travel. This analysis is coupled with instrumental and sea ice data to evaluate changing temperature/wind/sea ice trends over time, to complement local observations.

We demonstrate the relationships between changing sea ice conditions/dynamics and harvesting activities (i.e. dangers and accessibility), with specific emphasis on ringed seal and walrus seasonal hunting, to illustrate current sea ice exposures that hunters are facing. Community members are adapting to such changes, as they have done for generations. However, current adaptive capacity is both enabled, and constrained, by social, cultural, and economic factors that manifest within the modern northern Hamlet. Enabling factors include the ability of hunters to manage or share the risks associated with sea ice travel, as well as through their flexibility in resource use, as facilitated by sophisticated local knowledge and land navigational skills. Constraining factors include the erosion of land-based knowledge and skills, altered sharing networks, as well as financial and temporal limitations on travel/harvesting. The differential ability of community members to balance enabling and constraining factors, in relation to current exposures, comprises their level of vulnerability to sea ice change.

**KEYWORDS:** network

**NOTES:**

Laidler, Gita J., James D. Ford, William A. Gough, Theo Ikummaq, Alexandre S. Gagnon, Slawomir Kowal, Kevin Qrunnut, and Celina Inngaut

**2009 Travelling and hunting in a changing Arctic: assessing Inuit vulnerability to sea ice change in Igloodik, Nunavut.** *Climatic Change* 94(3):363-397.

**ABSTRACT:** The observations of community members and instrumental records indicate changes in sea ice around the Inuit community of Igloodik, in the Canadian territory of Nunavut. This paper characterizes local vulnerability to these changes, identifying who is vulnerable, to what stresses, and why, focusing on local and regional use of sea ice for the harvesting of renewable resources and travel. This analysis is coupled with instrumental and sea ice data to evaluate changing temperature/wind/sea ice trends over time, to complement local observations. We demonstrate the relationships between changing sea ice conditions/dynamics and harvesting activities (i.e. dangers and accessibility), with specific emphasis on ringed seal and walrus seasonal hunting, to illustrate current sea ice exposures that hunters are facing. Community members are adapting to such changes, as they have done for generations. However, current adaptive capacity is both enabled, and constrained, by social, cultural, and economic factors that manifest within the modern northern Hamlet. Enabling factors include the ability of hunters to manage or share the risks associated with sea ice travel, as well as through their flexibility in resource use, as facilitated by sophisticated local knowledge and land navigational skills. Constraining factors include the erosion of land-based knowledge and skills, altered sharing networks, as well as financial and temporal limitations on travel/harvesting. The differential ability of community members to balance enabling and constraining factors, in relation to current exposures, comprises their level of vulnerability to sea ice change.

**KEYWORDS:** network

**NOTES:**

Lambden, J., O. Receveur, and H. V. Kuhnlein

**2007 Traditional food attributes must be included in studies of food security in the Canadian Arctic.** *International Journal of Circumpolar Health* 66(4):308-19.

**ABSTRACT:** **OBJECTIVES:** The objective was to explore some typically understudied characteristics of food security in Arctic Canada: observed changes to traditional food systems, perceived advantages and health benefits of traditional food and traditional food preferences. **STUDY DESIGN:** Data analysis used a cross-sectional survey of Yukon First Nations, Dene Metis and Inuit women in 44 Arctic communities. **METHODS:** Open-ended responses to 4 questions were used to qualitatively investigate roles traditional foods play in Arctic food security. Chi-square tests were applied to responses to ascertain differences by age and region. A fifth question explored agreement with cultural responses to harvesting and using traditional food.

**RESULTS:** Traditional food was regarded as natural and fresh, tasty, healthy and nutritious, inexpensive, and socially and culturally beneficial. Between 10% and 38% of participants noticed recent changes in the quality or health of traditional food species, with physical changes and decreasing availability being reported most often. Caribou, moose and seal were among the foods considered particularly healthy and held special values in these populations. The opinion that all traditional food was healthy was also popular. More than 85%, of participants agreed with most cultural attributes of traditional food. **CONCLUSIONS:** This study confirms that traditional food remains important to Arctic indigenous women and that food security in the Arctic is contingent upon access to these foods.

**KEYWORDS:** Adult

Arctic Regions  
Cross-Sectional Studies  
Ethnic Groups  
Female  
Food Supply  
Humans  
Inuits  
Male  
Middle Aged

**NOTES:** Lambden, Jill

Receveur, Olivier  
Kuhnlein, Harriet V  
Finland  
International journal of circumpolar health  
Int J Circumpolar Health. 2007 Sep;66(4):308-19.

Lambden, J., O. Receveur, J. Marshall, and H. V. Kuhnlein

**2006 Traditional and market food access in Arctic Canada is affected by economic factors.** International Journal of Circumpolar Health 65(4):331-40.

**ABSTRACT:** **OBJECTIVES:** This study aimed to evaluate the access that Indigenous women have to traditional and market foods in 44 communities across Arctic Canada. **STUDY DESIGN:** This secondary data analysis used a cross-sectional survey of 1771 Yukon First Nations, Dene Metis and Inuit women stratified by age. **METHODS:** Socio-cultural questionnaires were used to investigate food access and chi-square testing was used to ascertain the distribution of subject responses by age and region. **RESULTS:** There was considerable regional variation in the ability to afford adequate food, with between 40% and 70% saying they could afford enough food. Similarly, regional variation was reflected in the percentage of the population who could afford, or had access to, hunting or fishing equipment. Up to 50% of the responses indicated inadequate access to fishing and hunting equipment, and up to 46% of participants said they could not afford to go hunting or fishing. **CONCLUSIONS:** Affordability of market food and accessibility to hunting and fishing in Arctic Canada were major barriers to Indigenous women's food security.

**KEYWORDS:** Adult

Age Factors  
Arctic Regions  
Canada  
Cross-Sectional Studies  
Culture  
Diet/ economics/ethnology  
Female  
Food Supply/ economics  
Humans

Indians  
 North American  
 Inuits  
 Middle Aged  
 Nutritional Requirements

**NOTES:** Lambden, Jill  
 Receveur, Olivier  
 Marshall, Joan  
 Kuhnlein, Harriet V  
 Finland  
 International journal of circumpolar health  
 Int J Circumpolar Health. 2006 Sep;65(4):331-40.

Langdon, Steve J.  
**1984 Alaskan Native subsistence: Current regulatory regimes and issues.** Alaskan Native Review Commission Hearings on Subsistence.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Langdon, Steve J.  
**1985 Alaska National Interest Lands Conservation Act.** Alaska Native News 3:24-29.

**ABSTRACT:**

**KEYWORDS:** Descriptor: Eskimoan -- Alaska -- Economic anthropology -- Subsistence.  
 Eskimoan -- Alaska -- Political anthropology -- Government policy.

**NOTES:** Using Smart Source Parsing  
 no. 6, p. Additional Info: Anchorage  
 Source of data: Anthropological Literature, Harvard University.  
 by Steve J. Langdon.

Langdon, Steven J., and Rosita Worl  
**1981 Distribution and exchange of subsistence resources in Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This two-part report discusses the patterns of distribution, allocation, sharing, and consumption of subsistence resources. The data were collected through a survey of the ethnographic literature. Part I discusses anthropological economics and Part II is concerned with information on subsistence distribution and exchange in Alaska.

**KEYWORDS:**

**NOTES:**

Lantis, Margaret  
**1938 The Alaskan whale cult and its affinities.** American Anthropologist 40(3):438-464.

**ABSTRACT:** This paper is devoted to the ritual aspects of the whale hunt in the North Pacific and Bering Sea areas and in the American Arctic. The area covered extends from Bering Strait down through northeast Siberia to the Ainu; in America it extends through the Alaskan Eskimo and Aleut, and the Nootka, Makah, Quilleute, and Quinault Indians, which were the most southerly whale hunting tribes on the North Pacific Coast; and finally from Alaska across the Arctic coast and islands to Greenland. Although some elements of the material aspect of whaling will inevitably enter the discussion, the primary problem here is to establish the boundaries of the

whale hunting cult, its elements and their regional diversity, and a few general conclusions suggested by these data.

**KEYWORDS:**

**NOTES:**

Lantis, Margaret

**1952 Present status of the Alaskan Eskimos.** *In* Alaskan Science Conference of the National Academy of Sciences National Research Council. H.B. Collins, ed. Pp. 38-51. Washington: The Arctic Institute of North America.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Lantis, Margaret

**1959 Alaskan Eskimo cultural values.** *Polar Notes* 1:35-48.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Lantis, Margaret

**1998 On "history" and James W. VanStone.** *Arctic anthropology* 35(2):6.

**ABSTRACT:** Discusses the life and times anthropologist James W. VanStone. Interest in the use of history in anthropology; VanStone's contributions to anthropological studies; VanStone's overcoming of great obstacles to leave his mark in anthropology; Accomplishments during his 16-year stint in academia; Development of the methodology and database of Alaska ethnohistory.

**KEYWORDS:** ANTHROPOLOGISTS

ANTHROPOLOGY

VANSTONE

James

**NOTES:** Lantis, Margaret; Source Info: 1998, Vol. 35 Issue 2, p6; Subject Term: ANTHROPOLOGISTS; Subject Term: ANTHROPOLOGY; People: VANSTONE, James; Number of Pages: 2p; Illustrations: 1 Black and White Photograph; Document Type: Article; Full Text Word Count: 1049

Larsen, H, and F Rainey

**1948 Ipiutak and the Arctic whale hunting culture:** American Museum of Natural History, New York.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Larsen, Peter H., Scott Goldsmith, Orson Smith, Meghan L. Wilson, Ken Strzepek, Paul Chinowsky, and Ben Saylor

**2008 Estimating future costs for Alaska public infrastructure at risk from climate change.** *Global Environmental Change* 18(3):442-457.

**ABSTRACT:** This analysis reports on the projected cost of Alaska's public infrastructure at risk from rapid climate change. Specifically, we coupled projections of future climate with engineering rules of thumb to estimate how thawing permafrost, increased flooding, and increased coastal erosion affect annualized replacement costs for nearly 16,000 structures. We conclude that climate change could add \$3.6-\$6.1 billion (+10% to +20% above normal wear and tear) to

future costs for public infrastructure from now to 2030 and \$5.6-\$7.6 billion (+10% to +12%) from now to 2080. These estimates take into account different possible levels of climate change and assume agencies strategically adapt infrastructure to changing conditions. In addition to implementing a risk-based economic analysis of climate change impacts, this research effort demonstrates that implementing plausible adaptation strategies could offset impacts by up to 45% over the long-run.

**KEYWORDS:** Climate change; Economics; Infrastructure; Alaska; Costs; Adaptation; Vulnerability; Erosion; Permafrost; Arctic; GCM; Engineering; Risk

**NOTES:** doi: DOI: 10.1016/j.gloenvcha.2008.03.005

Larson, Anne M.

**2011 Forest tenure reform in the age of climate change: Lessons for REDD+.** Global Environmental Change 21(2):540-549.

**ABSTRACT:** Numerous authors have stressed the importance of guaranteeing and protecting the tenure and human rights of indigenous and other forest-based communities under schemes for reducing emissions from deforestation and forest degradation (REDD, or REDD+); and important international indigenous organizations have spoken out strongly against REDD+. This article examines two specific issues that present risks for local communities: rights to forests and rules for resource use. It draws on the findings of a study conducted by the Center for International Forestry Research (CIFOR) on forest tenure reforms in selected countries in Asia, Africa and Latin America from 2006 to 2008. The study underlines the numerous obstacles faced by communities after rights are won, in moving from statutory rights to their implementation and to access to benefits on the ground. It argues that there is currently little reason to expect better results from national policies under REDD+ without binding agreements to protect local rights.

**KEYWORDS:** Tenure reform

Community forestry  
REDD  
Climate change  
Indigenous people  
Tenure rights

**NOTES:**

Larter, N. C., and J. A. Nagy

**2000 A comparison of heavy metal levels in the kidneys of High Arctic and mainland caribou populations in the Northwest Territories of Canada.** Science of The Total Environment 246(2-3):109-119.

**ABSTRACT:** Aluminum, nickel cadmium, mercury and lead levels were measured in the kidney tissue of Banks Island Peary caribou and barren-ground caribou, from the Bluenose herd, of the western Northwest Territories of Canada. Cadmium concentrations of Bluenose caribou were similar to those reported elsewhere for barren-ground caribou and showed a positive correlation with age. Cadmium concentrations of Peary caribou were significantly lower than those of Bluenose caribou regardless of age, were the lowest reported for caribou during winter, and did not show a positive correlation with age. Mercury levels, expressed on a wet weight basis, were similar to those reported for other barren-ground caribou. Mercury levels were significantly higher in Bluenose [mean 10.45  $\mu\text{g g}^{-1}$  (dry wt.); S.E. = 0.85; n = 20] than Peary [mean 5.43  $\mu\text{g g}^{-1}$  (dry wt.); S.E. = 0.31; n = 20] caribou. Aluminum concentrations for Bluenose and Peary caribou were similar [mean 1.48  $\mu\text{g g}^{-1}$  (dry wt.); S.E. = 0.17; n = 20 and mean 1.56  $\mu\text{g g}^{-1}$  (dry wt.); S.E. = 0.15; n = 20, respectively), but were considerably lower than those reported for barren-ground caribou elsewhere. Lead and nickel concentrations were low and similar between Bluenose, Peary and other reported barren-ground caribou populations. Higher

cadmium and mercury concentrations in Bluenose caribou are consistent with the hypothesis that caribou with a high dietary lichen component have higher contaminant levels. **It is unlikely that subsistence harvesters would consume enough kidney during a year to exceed the tolerable intake of cadmium recommended by the WHO.**

**KEYWORDS:**

**NOTES:**

Lautaret, Ronald L.

**1986 Alaska's greatest disaster: The 1918 Spanish Influenza epidemic.** The Alaska Journal 16:238-243.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Lazarus, A., and W.R. West

**1976 The Alaska Native Claims Settlement Act: A Flawed Victory.** Law and Contemporary Problems 40(1):132-165.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Lazer, David, Alex Pentland, Lada Adamic, Sinan Aral, Albert-László Barabási, Devon Brewer, Nicholas Christakis, Noshir Contractor, James Fowler, Myron Gutmann, Tony Jebara, Gary King, Michael Macy, Deb Roy, and Marshal Van Alstyne

**2009 Computational Social Science.** Science 323:721-723.

**ABSTRACT:** A field is emerging that leverages the capacity to collect and analyze data at a scale that may reveal patterns of individual and group behaviors.

**KEYWORDS:**

**NOTES:**

Lazrus, Heather, and Jennifer Sepez

**2005 The NOAA fisheries Alaska native traditional environmental knowledge database.** Practicing Anthropology 27:33-7.

**ABSTRACT:**

**KEYWORDS:** Descriptor: Alaska

Fisheries

North American Indians

Traditional knowledge

Environmental resource management

CULTURAL ETHNOGRAPHY

AMERICAS

NORTH AMERICA

**NOTES:** Using Smart Source Parsing

no. 1 (), p. Journal Code: Pract Anthrop

in thematic issue 'Traditional environmental knowledge in federal natural resource management agencies' Document Type: article

Lee, C.M., H. Melling, H. Eicken, P. Schlosser, J.C. Gascard, A. Proshutinsky, E. Fahrbach, C. Mauritzen, J. Morison, and I. Polykov

**2009 Autonomous Platforms in the Arctic Observing Network.** OceanObs, 2009, pp. 21-25.

**ABSTRACT:****KEYWORDS:****NOTES:**

Lee, Linda Piquik, Ruthie Tatqaviñ Sampson, and Edward Tennant

**1992 Lore of the Iñupiat , the elders speak.** III vols. Volume III. Kotzebue, Alaska: Northwest Arctic Borough School District.

**ABSTRACT:****KEYWORDS:****NOTES:**

Lee, Molly

**2002 The cooler ring: Urban Alaska native women and the subsistence debate.** Arctic anthropology 39(1-2):3-9.

**ABSTRACT:** This article examines the putative effects on urban Alaska Native women of the proposed rural-residence option to the long simmering legal and political debate over Alaska Native subsistence rights, interweaving high points of the debate with vignettes from the life of Flora Mark (a pseudonym), a Yup'ik Eskimo artisan living in Anchorage. Beginning with the Alaska Native Land Claims Settlement Act of 1971 and continuing up to the present, the stalemate has pitted state against federal law, Natives against non-Natives, and commercial against family-based interests. One major-and often overlooked-stumbling block is the contradictory definitions of subsistence held by Natives, for whom subsistence is a collective right based on sharing, and non-Natives, who consider subsistence to be the satisfaction of minimal dietary needs.

**KEYWORDS:** Alaska; urban; rural; exchange networks; Yup'ik; Anchorage

**NOTES:**

Lee, Nella

**1995 Culture conflict and crime in Alaskan Native villages.** Journal of Criminal Justice 23(2):177-189.

**ABSTRACT:** Indigenous peoples throughout the world are increasingly pressing their claims to land and sovereignty. Their concerns regarding political autonomy and the right to be culturally different from the dominant majority are reflected in the 1993 United Nations Declaration on the Rights of Indigenous Peoples, as well as the International Labor Organization Convention No. 169 "Concerning Indigenous and Tribal Peoples in Independent Countries." Many of the arguments presented by Native peoples in support of their claims revolve around issues which are contained in culture conflict theory, such as the unjust taking of lands, the imposition of alien legal, educational, and religious systems, and the effect of colonialism on Native cultures. This article explores culture conflict theory as a partial explanation for the differences found in socially disruptive behaviors reported by sixteen Alaskan Native villages, half of whom belong to the Yupiit Nation, a sovereignty movement dedicated to political autonomy for Alaskan Natives.

**KEYWORDS:****NOTES:**

Leghorn, Ken, and Matthew A. Kookesh

**1986 Timber management and fish and wildlife utilization in selected Southeast Alaska communities: Tenakee Springs, Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes the patterns of wild resource use in Tenakee Springs on Chichagof Island, and the effects of historical clear-cut logging on contemporary patterns. The report presents information on species utilized, harvest levels, seasonality, harvest methods, harvest areas, and distribution and exchange. Case examples of clear-cut areas are analyzed for impact effects.



**KEYWORDS:****NOTES:**

Lele, Sharachchandra, Peter Wilshusen, Dan Brockington, Reinmar Seidler, and Kamaljit Bawa

**2010 Beyond exclusion: alternative approaches to biodiversity conservation in the developing tropics.** *Current Opinion in Environmental Sustainability* 2(1-2):94-100.

**ABSTRACT:** The exclusionary protected area-based approach to biodiversity conservation has succeeded at several places, but at a significant social cost and conflict, especially in the developing country tropics. More inclusive approaches, including community-based conservation (CBC), its subset enterprise-based conservation (EBC), and payments-based conservation (PES) programs, have been tried in the past 15 years. A brief summary of the literature on socio-economic impacts of the exclusionary approach suggests that, although detailed studies and documentation is missing, impacts are significant, and the ethical argument against forced displacement quite strong. We then examine the potential of non-exclusionary approaches from a broader perspective that values biodiversity gains as well as socio-economic ones. Our review suggests that (a) comprehensive socio-ecological and comparative studies of such initiatives are surprisingly scarce, (b) enterprise-based conservation offers some potential if design flaws, poor implementation, assumptions about homogeneous communities, and inattention to tenurial change and security are addressed, (c) payments-based programs require caution because of their focus on economic efficiency, and simplified assumptions regarding the nature of rights, biological information, monitoring costs, and state interventions, and (d) the alternatives to exclusion have often not been given adequate state support and space to function, nor is the ongoing neoliberalization of the political-economic system conducive to giving them that space, except when they fit the direction of this larger process.

**KEYWORDS:**

**NOTES:** Times Cited: 1

Lent, P.C.

**1966 The caribou of Northwestern Alaska.** *Environment of the Cape Thompson region, Alaska*:481-516.

**ABSTRACT:****KEYWORDS:****NOTES:**

Levin, SA, S Barrett, S Aniyar, W Baumol, C Bliss, B Bolin, P Dasgupta, P Ehrlich, C Folke, and INGM GREN

**2001 Resilience in natural and socioeconomic systems.** *Environment and Development Economics* 3(02):221-262.

**ABSTRACT:****KEYWORDS:****NOTES:**

Lewis, AE, MO Hammill, M Power, DW Doidge, and V Lesage

**2009 Movement and Aggregation of Eastern Hudson Bay Beluga Whales (*Delphinapterus leucas*): A Comparison of Patterns Found through Satellite Telemetry and Nunavik Traditional Ecological Knowledge.** *Arctic* 62(1).

**ABSTRACT:** Traditional Ecological Knowledge (TEK) consists of the collective knowledge, experience, and values of subsistence communities, while Western science relies on hypothesis testing to obtain information on natural processes. Both approaches provide important ecological information, but few studies have directly compared the two. We compared information on movements and aggregation of beluga whales obtained from TEK interview records (n=3253) and satellite telemetry records of 30 whales tagged in eastern Hudson Bay, Canada, using

geographic information system (GIS) approaches that allowed common formatting of the data sets. Estuarine centres of aggregation in the summer were evident in both data sets. The intensive use of offshore areas seen in the telemetry data, where 76% of the locations were more than 15 km from mainland Quebec, was not evident in the TEK data, where only 17% of the records indicated offshore locations. Morisita's index of similarity indicated that TEK and telemetry data distributions varied with season, with the highest similarity in winter (0.74). Location and movement data from the telemetry study were limited by small sample size and short tag deployment times, while TEK data were biased by spatial coverage and coastal travel habits. Although the two data sets can provide complementary information, both suffer from weaknesses that need to be acknowledged when these data are adapted for use in resource management.

**KEYWORDS:** Traditional Ecological Knowledge, telemetry, beluga whales, home range, kernel, Hudson Bay, Hudson Strait, Ungava Bay, Labrador Sea, resource management

**NOTES:**

Lewis, AE, MO Hammill, M Power, DW Doidge, and V Lesage

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**KEYWORDS:** Traditional Ecological Knowledge, telemetry, beluga whales, home range, kernel, Hudson Bay, Hudson Strait, Ungava Bay, Labrador Sea, resource management

**NOTES:**

Lin, Nan

**2002 Social capital: A theory of social structure and action:** Cambridge University Press.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Liu, Jianguo, Thomas Dietz, Stephen R. Carpenter, Carl Folke, Marina Alberti, Charles L. Redman, Stephen H. Schneider, Elinor Ostrom, Alice N. Pell, Jane Lubchenco, William W. Taylor, Zhiyun Ouyang, Peter Deadman, Timothy Kratz, and William Provencher

**2007 Coupled Human and Natural Systems.** AMBIO: A Journal of the Human Environment 36(8):639-649.

**ABSTRACT:** Humans have continuously interacted with natural systems, resulting in the formation and development of coupled human and natural systems (CHANS). Recent studies reveal the complexity of organizational, spatial, and temporal couplings of CHANS. These couplings have evolved from direct to more indirect interactions, from adjacent to more distant linkages, from local to global scales, and from simple to complex patterns and processes. Untangling complexities, such as reciprocal effects and emergent properties, can lead to novel scientific discoveries and is essential to developing effective policies for ecological and socioeconomic sustainability. Opportunities for truly integrating various disciplines are emerging to address fundamental questions about CHANS and meet society's unprecedented challenges.

**KEYWORDS:**

**NOTES:** "The need for research and management that treat all human-environment and social-ecological systems as CHANS or parts of CHANS is increasingly recognized. This recognition comes with a number of challenges and opportunities. Although humans are integral components of ecosystems, they are still not fully represented in ecological science. Although theoretical frameworks that integrate humans into ecological studies exist, they are not sufficiently quantified and applied. Thus, it is crucial to re-examine (and revise if necessary) current ecological theory to address ecosystems coupled with humans that shape ecological patterns and processes. Likewise, it is also essential to reconsider (and alter if necessary) existing socioeconomic theory to recognize the increasing roles of natural systems in socioeconomic patterns and processes. Making such revisions and meeting the challenges below are critical for better understanding CHANS and for implementing government policies and management programs that ensure socioeconomic and ecological well being in the future." (p. 645)

**"Long-term data are of particular importance for CHANS work because understanding reciprocal causation between human and natural systems cannot be done with cross-sectional data alone.** Support for collection of data to develop time series was not available until recently, and most data still are collected and analyzed for either human or natural systems at local scales, not for the articulation of both simultaneously at multiple scales." p. 645)

"To date, much CHANS research has been site specific or at best compares a handful of sites. Such work is necessary but insufficient for understanding how CHANS work. **A single site or even a small set of sites cannot adequately capture regional and global variations in types of ecosystems, climatic regimes, political and economic contexts, or culture. Coupled human and natural systems programs must include not only site specific studies but also planned comparisons across sites and macrolevel analysis with existing and emergent data.** It is also essential to go beyond existing CHANS programs, such as the Dynamics of Coupled Natural and Human Systems at the US National Science Foundation (Table 1), develop bigger and more comprehensive portfolios with larger funding and coordinated comparative projects, and establish a global collaboratory for CHANS research across local, regional, national, and international levels. (p. 646)

Lloyd, Andrea H., and Christopher L. Fastie

**2002 Spatial and Temporal Variability in the Growth and Climate Response of Treeline Trees in Alaska.** Climatic Change 52(4):481-509.

**ABSTRACT:** In this study, we investigated the response of trees growing at the cold margins of the boreal forest to climate variation in the 20th century. Working at eight sites at and near alpine and arctic treeline in three regions in Alaska, we compared tree growth (from measured tree ring-widths) to historical climate data to document how growth has responded to climate variation in the 20th century. We found that there was substantial regional variability in response to climate variation. **Contrary to our expectations, we found that after 1950 warmer temperatures were associated with decreased tree growth in all but the wettest region, the Alaska Range.** Although tree growth increased from 1900–1950 at almost all sites,

significant declines in tree growth were common after 1950 in all but the Alaska Range sites. We also found that there was substantial variability in response to climate variation according to distance to treeline. Inverse growth responses to temperature were more common at sites below the forest margin than at sites at the forest margin. Together, these results suggest that inverse responses to temperature are widespread, affecting even the coldest parts of the boreal forest. Even in such close proximity to treeline, warm temperatures after 1950 have been associated with reduced tree growth. **Growth declines were most common in the warmer and drier sites, and thus support the hypothesis that drought-stress may accompany increased warming in the boreal forest.**

**KEYWORDS:**

**NOTES:** 10.1023/A:1014278819094

Lokken, J. A., G. L. Finstad, K. L. Dunlap, and L. K. Duffy

**2009 Mercury in lichens and reindeer hair from Alaska: 2005-2007 pilot survey.** Polar Record 45(235):368-374.

**ABSTRACT:** Reindeer and caribou are terrestrial herbivores, that feed on lichens and are used for commercial and subsistence food products. Caribou are a key component of the arctic food web and the bioaccumulation of toxic contaminants, such as mercury (Hg), needs to be monitored to establish a baseline as the arctic environment is impacted by both climate change and future industrial development. A changing climate in Alaska is influencing plant species composition, fire regime, melting and flooding events, and thus, impacting Hg bioavailability in the food chain. Industrial development in Asia is also projected to increase the atmospheric global pool of Hg from increased coal combustion. Reindeer, a domesticated representative of caribou, can be used as a terrestrial biomonitor for metal exposure. In this study total mercury concentrations were measured in lichens and in hair of grazing reindeer on defined, regarding Hg deposition. ranges across Alaska to establish a baseline for future hypothesis development and testing The Hg mean level for Seward Peninsula lichens on the Davis Range was 37.4 ng g(-1), on the Gray Range 47.1 ng g(-1), on the Kakaruk Range 42.2 ng g(-1), and 41.7 ng g(-1) on the Noyakuk Range. Lichen Hg levels on St. Lawrence Island was 46.6 ng g(-1). Methyl mercury levels in lichens were found to be below detection levels. Reindeer grazing on these ranges had mean Hg hair levels of 14.6 ng g(-1) (Davis herd), 83.4 ng g(-1) (Gray herd), and 40.3 ng g(-1) (Noyakuk herd). Two reindeer on St. Lawrence Island had an average of Hg of 43.0 ng g(-1). Sample sizes ranged from n = 2 to n = 11. Hg mean levels in lichen on Seward Peninsula were higher than Hg means of two ranges in northern Mongolia. The Hg levels observed in this study indicate that Hg levels in Alaska are low at this time and pose no risk to the health of reindeer or human subsistence harvesters. A significant relationship between Hg in lichens on the ranges and the Hg in reindeer on those ranges has not been established. There are insufficient data on Hg levels in many areas of the north and more information is needed on location specific and time trends in Hg concentrations. Lichens and reindeer hair provide a good, non-invasive method of monitoring metal exposure changes in Alaskan ecosystems.

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London, J.T.

**1989 1991 Amendments to the Alaska Native Claims Settlement Act: Protection for Native Lands, The.** Stan. Envtl. LJ 8:200.

**ABSTRACT:****KEYWORDS:****NOTES:**

Lonner, Thomas D.

**1980 Subsistence as an economic system in Alaska: theoretical and policy implications.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** A theoretical discussion is presented of contemporary subsistence in Alaska as an operating and effective economic system of production and exchange. The relationship between subsistence and cash economies is discussed, as is the role and viability of village economics in today's world. The effect of changing social and environmental factors on subsistence patterns is described.

**KEYWORDS:****NOTES:**

Lonner, Thomas D.

**1980 Subsistence as an economic system in Alaska: Theoretical and policy implications.** Technical Paper 67.

**ABSTRACT:****KEYWORDS:****NOTES:**

Lonner, Thomas D.

**1980 Subsistence: A position paper.**

**ABSTRACT:****KEYWORDS:**

**NOTES:**

Lonner, Thomas D.

**1981 Perceptions of subsistence and public policy formation in Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes the interrelationships between public and government perceptions of subsistence and development of public policy governing subsistence patterns of rural Alaska communities. The social, cultural, and economic aspects of subsistence are discussed within the context of the politics of resource allocation.

**KEYWORDS:****NOTES:**

Lonner, Thomas D.

**1981 Perceptions of subsistence and public policy formation in Alaska.** *In* Society for Applied Anthropology. Edinburgh, Scotland.

**ABSTRACT:****KEYWORDS:****NOTES:**

Lonner, Thomas D.

**1982 An informed view of the agonized debate.** Alaska Native News 1(1):3-69.

**ABSTRACT:****KEYWORDS:****NOTES:**

Lonner, Thomas D.

**1982 What did subsistence ever do to make government so mad?!**

**ABSTRACT:****KEYWORDS:****NOTES:**

Lonner, Thomas D.

**1984 The spider and the fly: American dominion and the survival of Alaska Native subsistence.** 1-29.

**ABSTRACT:****KEYWORDS:****NOTES:**

Loon, Hannah, and Susan E. Georgette

**1989 Contemporary brown bear use in Northwest Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** The report describes the harvest and uses of brown bears by the Inupiaq people of Northwest Alaska in contemporary times. The report documents hunting methods and practices, medicinal uses, traditional beliefs, values, harvest levels, and the preparation and preservation of the harvest. Concerns about the existing brown bear regulations are also discussed.

**KEYWORDS:** Arctic Region, brown bears, *Ursus arctos*, Inupiaq, Northwest Alaska, subsistence hunting, hunting regulations

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Lopez, Barry

**1982 A faint light on the northern edge.** The North American Review 267(1):12-21.

**ABSTRACT:**

**KEYWORDS:****NOTES:**

Lopez, Barry

**1984 Story at Anaktuvuk Pass.****ABSTRACT:****KEYWORDS:****NOTES:**

Lorenzana, Paulina A., and Diva Sanjur

**1999 Abbreviated Measures of Food Sufficiency Validly Estimate the Food Security Level of Poor Households: Measuring Household Food Security.** Journal of Nutrition 129(3):687-692.

**ABSTRACT:** This study was designed to develop an abbreviated method that captures both the qualitative and quantitative dimensions of household food security (HFS). Women in poor and very poor households (n = 238) in a peri-urban barrio in Caracas, Venezuela, provided data on food availability and their perception of food resource constraints and hunger experiences within the home. Socioeconomic data and food-related behavior that may predict HFS levels were gathered. On average, the top 12 food contributors of energy provided 81% and predicted more than 90% of the variation in households' total energy availability using stepwise regression analysis. On the other hand, a 4-point 12-item scale was shown to have face, content and construct validity with reiterative testing, factor analysis and a Chronbach's alpha coefficient of 0.92. Assessing predictors of energy availability together with a self-perceived HFS scale may provide a valid and reliable method for identifying and monitoring food security levels among poor urban households.

**KEYWORDS:****NOTES:**

Loring, Philip A., Lawrence K. Duffy, and Maribeth S. Murray

**2010 A risk-benefit analysis of wild fish consumption for various species in Alaska reveals shortcomings in data and monitoring needs.** Science of The Total Environment 408(20):4532-4541.

**ABSTRACT:** Northern peoples face a difficult decision of whether or not to consume wild fish, which may contain dangerous levels of contaminants such as methylmercury (MeHg), but which also offer a number of positive health benefits, and play an important role in rural household economies. Here, new methods for developing consumption advice are applied to an existing data-set for methylmercury (MeHg) levels in Alaskan fish. We apply a quantitative risk-benefit analysis for eight freshwater, saltwater and anadromous fish species, using dose-response relationships to weigh the risks of MeHg bioaccumulation against the benefits of omega-3 fatty acids (EPA and DHA) toward cardiovascular and neurodevelopmental health endpoints. Findings suggests that consumption of many of the fish species reviewed here, including northern pike, Pacific Halibut, and arctic grayling, may lead to increased risk of coronary heart disease and declines in infant visual recognition memory. However, we also identify significant variation among regions, among studies within the same region, and also within studies, which make it difficult to craft consistent consumption advice. Whereas salmon consistently shows a net-benefit, for instance, data for arctic grayling, pike, sablefish, and some halibut are all too imprecise to provide consistent recommendations. We argue for more detailed local-scale monitoring, and identification of possible thresholds for increased risk in the future. We caution that MeHg and omega-3 FA are just two variables in a complicated calculus for weighing the risks and benefits of locally-available and culturally-significant foods, and argue for future work that takes both a place-based and plate-based approach to diet and contamination.

**KEYWORDS:** Methylmercury

Alaska

Fish  
 Subsistence  
 Salmon  
 Pike  
 Cardiovascular disease  
 Neurodevelopmental disorders

**NOTES:**

Loring, Philip A, and Craig Gerlach

**2010 Food Security and Conservation of Yukon River Salmon: Are We Asking Too Much of the Yukon River?** Sustainability 2(9):2965-2987.

**ABSTRACT:** By the terms set by international agreements for the conservation of Yukon River salmon, 2009 was a management success. It was a devastating year for many of the Alaska Native communities along the Yukon River, however, especially in up-river communities, where subsistence fishing was closed in order to meet international conservation goals for Chinook salmon. By the end of summer, the smokehouses and freezers of many Alaska Native families remained empty, and Alaska's Governor Sean Parnell petitioned the US Federal Government to declare a fisheries disaster. This paper reviews the social and ecological dimensions of salmon management in 2009 in an effort to reconcile these differing views regarding success, and the apparently-competing goals of salmon conservation and food security. We report local observations of changes in the Chinook salmon fishery, as well as local descriptions of the impacts of fishing closures on the food system. Three categories of concern emerge from our interviews with rural Alaskan participants in the fishery and with federal and state agency managers: social and ecological impacts of closures; concerns regarding changes to spawning grounds; and a lack of confidence in current management methods and technologies. We show how a breakdown in observation of the Yukon River system undermines effective adaptive management and discuss how sector-based, species-by-species management undermines a goal of food security and contributes to the differential distribution of impacts for communities down and up river. We conclude with a discussion of the merits of a food system and ecosystem-based approach to management, and note existing jurisdictional and paradigmatic challenges to the implementation of such an approach in Alaska.

**KEYWORDS:** salmon; Yukon River; food security; pacific salmon treaty; escapement; ecosystem-based management

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**NOTES:**

Loring, Philip A., and S. C. Gerlach

**2009 Food, culture, and human health in Alaska: an integrative health approach to food security.** *Environmental Science & Policy* 12(4):466-478.

**ABSTRACT:** Multiple climatic and socioeconomic drivers have come in recent years to interfere with the ability of Alaska's ['bush' communities to achieve food security with locally available food resources. Livelihoods traditionally centered on the harvest of wild, country foods, are transitioning to a cash economy, with increasing reliance on industrially produced, store-bought foods. While commercially available foods provide one measure of food security, availability and quality of these foods is subject to the vagaries and vulnerabilities of a global food system: access is dependent on one's ability to pay; most importantly, perhaps these foods often do not fulfill many of the roles that country foods have played in these communities and cultures. This transition is having severe consequences for the health of people and viability of rural communities, yet in ways not always tracked by conventional food security methodologies and frameworks. This paper expands the discussion of food security, premised on an integrative model of health that links sociocultural, ecological, psychological, and biomedical aspects of individual and community health. We use the Alaska case to illustrate that if food security is to be understood as a matter of human health, then our definitions of and designs for food security must recognize food's multifaceted and often regionally nuanced role in creating positive health outcomes.

**KEYWORDS:** Food security

Climate change

Alaska Natives

Integrative health model

Foodshed

Resilience and vulnerability

**NOTES:**

Loring, P. A., and S. C. Gerlach

**2010 Outpost Gardening in Interior Alaska: Food System Innovation and the Alaska Native Gardens of the 1930s through the 1970s.** *Ethnohistory* 57(2):183-199.

**ABSTRACT:** For over a century, various forms of crop cultivation, including family, community, and school gardens were a component of the foodways of many Alaska Native communities. This paper describes the history of these cropping practices in Athabascan communities of the Tanana and Yukon Flats regions of Alaska, and reveals a distinct agricultural tradition with roots that reach back as far as the late 1800s. Though American colonists, bureaucrats, and missionaries to the state saw agriculture as a mechanism for the economic development of the territory, gardening instead fulfilled a niche within local foodways that was perhaps best characterized by Karl E. Francis (1967) as "outpost agriculture," valued not for its role as an exclusive means of subsistence, but as one of many equally important components in a flexible and diversified subsistence strategy. Nevertheless, these cropping activities are not widely considered to be either customary or traditional to Alaska Native communities, nor have they

been incorporated into the historical and ethnographic literature about Alaska and about high-latitude agriculture at large. Because the use of and access to land and natural resources as practiced by Alaska Natives is heavily regulated by a state and federal legal framework based upon definitions of what is and is not "customary and traditional," failure to recognize the long history of farming and gardening in rural Alaska has consequences for communities that are experimenting with new community gardens and other innovative responses to rapid ecological, climatic, and socioeconomic change.

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**1982 The Eskimo Walrus Commission 1981-82 walrus data collection program.** Pp. 214. Nome, Alaska: Eskimo Walrus Commission.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Lovvorn, J. R., J. J. Wilson, D. McKay, J. K. Bump, L. W. Cooper, and J. M. Grebmeier

**2010 Walruses Attack Spectacled Eiders Wintering in Pack Ice of the Bering Sea.** Arctic 63(1):53-56.

**ABSTRACT:** We observed walruses (*Odobenus rosmarus*) pursuing spectacled eiders (*Somateria fischeri*) within pack ice of the Bering Sea, 70-90 km from the nearest land. We used both direct observations from a helicopter and, a heligimbal camera system that can film animals from a helicopter at high altitudes. The eiders were in monospecific flocks of thousands of birds within large leads. The walruses apparently tried to catch the eiders from below; the eiders responded with a "flash expansion" (explosive radial movement), wing-flapping and running along the water surface to escape. Disturbance by individual walruses could restrict flocks of thousands of birds to small portions of the open water. In eight such events that we witnessed over 75 min of observations, we were unable to confirm that walruses captured any of these full-grown, flight-capable eiders. However, the high rate of attacks and the eiders' dramatic escape response suggest that walruses can at times be effective predators on them, and may affect the eiders' dispersion and energy balance.

**KEYWORDS:**

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Lowenstein, T., and Barbara A. Bodenhorn

**1993 Ancient land: sacred whale: the Iñuit hunt and its rituals:** Bloomsbury.**ABSTRACT:****KEYWORDS:****NOTES:**

Lucier, Charles V.

**1953 Buckland Eskimo myths.** Anthropological Papers of the University of Alaska.**ABSTRACT:****KEYWORDS:****NOTES:**

Lucier, Charles V.

**1958 Noatagmiut Eskimo myths.** Anthropological Papers of the University of Alaska 6(2):89-117.**ABSTRACT:****KEYWORDS:****NOTES:**

Lucier, Charles V., and James W. VanStone

**1991 Winter and spring fast ice seal hunting by Kangigmiut and other Iñupiat of Kotzebue Sound, Alaska.** Etudes/Inuit/Studies 15(1):29-49.**ABSTRACT:****KEYWORDS:** Descriptor: Subsistence economy -- Alaska -- Kotzebue Sound.

Alaska -- Environmental conditions.

Inuit -- Alaska -- Kotzebue Sound -- Hunting.

Ringed seal -- Alaska -- Kotzebue Sound -- Economic aspects.

Caribou -- Alaska -- Kotzebue Sound -- Economic aspects.

**NOTES:** Additional Info: Quebec

ill.

French summary.; Source of data: Anthropological Literature, Harvard University.

Charles V. Lucier, James W. VanStone.

Lucier, Charles V., and James W. VanStone

**1992 Historic pottery of the Kotzebue Sound Inupiat.** Fieldiana: Anthropology 18.**ABSTRACT:****KEYWORDS:****NOTES:**

Lucier, Charles V., and James W. VanStone

**1995 Traditional beluga drives of the Iñupiat of Kotzebue Sound, Alaska.** Chicago: Field Museum of Natural History.**ABSTRACT:** Kotzebue Sound beluga drives, which ended in the early 20th century, are described on the basis of information provided by Inupiat informants in 1951 and 1952. Also examined is the changeover to the pursuit of belugas by individual hunters, which was rooted in significant technological and social changes. To better understand these drives, this study also includes descriptions of beluga hunting camps and the societal participation, religious beliefs and practices, and philosophy that underlay and reinforced the hunters' involvement in this cooperative activity.

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**KEYWORDS:** beluga, white whale, Kotzebue Sound, hunting, cooperation

**NOTES:**

Lund, Henriette

**1974 Of Eskimos and missionaries: Lutheran Eskimo missions in Alaska 1894-1973:** Division for Service and Mission in America, The American Lutheran Church.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Lurman, Julie, and Sanford P. Rabinowitch

**2007 Preemption of state wildlife law in Alaska: Where, when, and why.** Alaska Law Review 24:145-287.

**ABSTRACT:** Preemption is the constitutional doctrine which holds that when federal law and state law conflict, federal law must be followed, and state law must yield. In Alaska, the wildlife law known as the Intensive Management statute is in conflict with federal laws governing national park lands and the management of wildlife on those lands. Preemption requires the State of Alaska to refrain from implementing the Intensive Management statute on national park lands because of the conflict with federal laws. This Article describes the relevant state and federal laws, the preemption doctrine, and the doctrine's application to wildlife management in Alaska. It concludes by stating that Alaska has every right to manage wildlife as it sees fit but must always yield in cases where its laws are preempted by the laws of the United States.

**KEYWORDS:** Alaska, subsistence, law, preemption

**NOTES:**

Luton, Harry H.

**1985 Effects of Renewable Resource Harvest Disruptions on Socioeconomic and Sociocultural Systems: Wainwright, Alaska.** Anchorage: U.S. Department of the Interior, Minerals Management Service, Alaska OCS Region.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** This report is part of a larger study of three villages conducted under contract AA851-CT1-59 from the Bureau of Land Management. The specific objectives as described by this contract are to: 1. Collect and analyze ethnographic information on socio-economic and socio-cultural systems in rural Alaska communities which are primarily dependent on the harvest of renewable resources for their livelihood, and 2. Identify and assess, in an integrated manner,

the economic, social and cultural ramifications of possible renewable resource disruptions (stemming from the effects of offshore structures, tanker movements, noise, human disturbances, potential oilspills, etc.) on residents of Wainwright and the region as a whole.

Macdonald, R. W., T. Harner, and J. Fyfe

**2005 Recent climate change in the Arctic and its impact on contaminant pathways and interpretation of temporal trend data.** Science of The Total Environment 342(1-3):5-86.

**ABSTRACT:** The Arctic has undergone dramatic change during the past decade. The observed changes include atmospheric sea-level pressure, wind fields, sea-ice drift, ice cover, length of melt season, change in precipitation patterns, change in hydrology and change in ocean currents and watermass distribution. It is likely that these primary changes have altered the carbon cycle and biological systems, but the difficulty of observing these together with sporadic, incomplete time series makes it difficult to evaluate what the changes have been. Because contaminants enter global systems and transport through air and water, the changes listed above will clearly alter contaminant pathways. Here, we review what is known about recent changes using the Arctic Oscillation as a proxy to help us understand the forms under which global change will be manifest in the Arctic. For Pb, Cd and Zn, the Arctic is likely to become a more effective trap because precipitation is likely to increase. In the case of Cd, the natural cycle in the ocean appears to have a much greater potential to alter exposure than do human releases of this metal. Mercury has an especially complex cycle in the Arctic including a unique scavenging process (mercury depletion events), biomagnifying foodwebs, and chemical transformations such as methylation. The observation that mercury seems to be increasing in a number of aquatic species whereas atmospheric gaseous mercury shows little sign of change suggests that factors related to change in the physical system (ice cover, permafrost degradation, organic carbon cycling) may be more important than human activities. Organochlorine contaminants offer a surprising array of possibilities for changed pathways. To change in precipitation patterns can be added change in ice cover (air-water exchange), change in food webs either from the top down or from the bottom up (biomagnification), change in the organic carbon cycle and change in diets. Perhaps the most interesting possibility, presently difficult to predict, is combination of immune suppression together with expanding ranges of disease vectors. Finally, biotransport through migratory species is exceptionally vulnerable to changes in migration strength or in migration pathway--in the Arctic, change in the distribution of ice and temperature may already have caused such changes. Hydrocarbons, which tend to impact surfaces, will be mostly affected by change in the ice climate (distribution and drift tracks). Perhaps the most dramatic changes will occur because our view of the Arctic Ocean will change as it becomes more amenable to transport, tourism and mineral exploration on the shelves. Radionuclides have tended not to produce a radiological problem in the Arctic; nevertheless one pathway, the ice, remains a risk because it can accrue, concentrate and transport radio-contaminated sediments. This pathway is sensitive to where ice is produced, what the transport pathways of ice are, and where ice is finally melted--all strong candidates for change during the coming century. The changes that have already occurred in the Arctic and those that are projected to occur have an effect on contaminant time series including direct measurements (air, water, biota) or proxies (sediment cores, ice cores, archive material). Although these ['system' changes can alter the flux and concentrations at given sites in a number of obvious ways, they have been all but ignored in the interpretation of such time series. To understand properly what trends mean, especially in complex ['recorders' such as seals, walrus and polar bears, demands a more thorough approach to time series by collecting data in a number of media coherently. Presently, a major reservoir for contaminants and the one most directly connected to biological uptake in species at greatest risk--the ocean--practically lacks such time series.

**KEYWORDS:** Arctic

Climate change

Contaminants

Mercury

Metals

Organochlorines  
PAH  
radionuclides

**NOTES:**

Macinko, S., and S. Schumann

**2007 Searching for subsistence: In the field in pursuit of an elusive concept in small-scale fisheries.** Fisheries 32(12):592-600.

**ABSTRACT:** In small-scale fisheries, there can be no more vulnerable participants than those comprising the subsistence fishing sector. Yet "subsistence" is an ambiguous term in fisheries management and there is little applied research directed at this sector. The first step towards incorporating subsistence fishing into formal strategies for managing small-scale fisheries will be the attainment of a fuller understanding of subsistence fishermen and their activities. This article builds off earlier work by the authors (surveying conceptual variation in the literature and worldwide attempts at formal management regimes for subsistence fishing) by reporting on field efforts to locate and define subsistence fishing activities in a specific location-Rhode Island, USA. Substantial methodological and institutional challenges were encountered and these challenges are reviewed in terms of the implications for informed consideration of the place of subsistence fishing in small-scale fisheries.

**KEYWORDS:**

**NOTES:** Times Cited: 2

Mack, Michelle C., M. Sydonia Bret-Harte, Teresa N. Hollingsworth, Randi R. Jandt, Edward A. G. Schuur, Gaius R. Shaver, and David L. Verbyla

**2011 Carbon loss from an unprecedented Arctic tundra wildfire.** Nature 475(7357):489-492.

**ABSTRACT:** Arctic tundra soils store large amounts of carbon (C) in organic soil layers hundreds to thousands of years old that insulate, and in some cases maintain, permafrost soils. Fire has been largely absent from most of this biome since the early Holocene epoch, but its frequency and extent are increasing, probably in response to climate warming. The effect of fires on the C balance of tundra landscapes, however, remains largely unknown. The Anaktuvuk River fire in 2007 burned 1,039 square kilometres of Alaska's Arctic slope, making it the largest fire on record for the tundra biome and doubling the cumulative area burned since 1950. Here we report that tundra ecosystems lost  $2,016 \pm 435 \text{ g C m}^{-2}$  in the fire, an amount two orders of magnitude larger than annual net C exchange in undisturbed tundra. Sixty per cent of this C loss was from soil organic matter, and radiocarbon dating of residual soil layers revealed that the maximum age of soil C lost was 50 years. **Scaled to the entire burned area, the fire released approximately 2.1 teragrams of C to the atmosphere, an amount similar in magnitude to the annual net C sink for the entire Arctic tundra biome averaged over the last quarter of the twentieth century.** The magnitude of ecosystem C lost by fire, relative to both ecosystem and biome-scale fluxes, demonstrates that a climate-driven increase in tundra fire disturbance may represent a positive feedback, potentially offsetting Arctic greening and influencing the net C balance of the tundra biome.

**KEYWORDS:**

**NOTES:**

Maclean, Edna Ahgeak

**1990 Culture and change for Inupiaq and Yup'iks of Alaska,** Vol. Arctic Languages and Awakening.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Madimenos, F

**2005 Dental evidence for division of labor among the prehistoric Ipiutak and Tigara of Point Hope, Alaska.**

**ABSTRACT:****KEYWORDS:****NOTES:**

Magdanz, James

**1988 Northwest Alaska game regulation review: an ADF&G discussion paper . Pp. 1-9.**

**ABSTRACT:****KEYWORDS:****NOTES:**

Magdanz, James

**1990 Cooperation in the production of wild food.1-5.**

**ABSTRACT:****KEYWORDS:****NOTES:**

Magdanz, James

**1990 The use of wild foods in mid-sized communities.1-10.**

**ABSTRACT:****KEYWORDS:****NOTES:**

Magdanz, James S.

**1982 Norton Sound-Bering Strait subsistence king crab fishery update.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** Concerns about the effects of a commercial king crab fishery on the subsistence king crab harvest in the Norton Sound-Bering Strait region led to research in this area by the Division of Subsistence. This report reviews historical and present subsistence and commercial harvests of king crabs in the region, including permit and survey information about subsistence fishery participants in 1981 in Nome, Golovin, Elim, and Savoonga.

**KEYWORDS:** Arctic Region, king crabs, *Lithodes aequispinus*, *Paralithodes camtschaticus*, *Lithodes couesi*, *Paralithodes platypus*, Norton Sound-Bering Strait, Nome, Golovin, Elim, Savoonga.

**NOTES:**

Magdanz, James S.

**1983 Norton Sound-Bering Strait subsistence king crab fishery update.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report is an update of the Division of Subsistence's continuing research to document the Norton Sound-Bering Strait king crab fishery. The report discusses potential effects of a commercial king crab fishery in the Norton Sound-Bering Strait region on traditional subsistence uses of king crabs.

**KEYWORDS:** Arctic Region, Norton Sound, Bering Strait, king crab fishery, king crabs, *Paralithodes platypus*, *Lithodes aequispinus*, *Paralithodes camtschaticus*.

**NOTES:**

Magdanz, James S.

**1992 Subsistence salmon fishing by permit in the Nome Subdistrict and portions of the Port Clarence District, 1975-91.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes subsistence fishing for Pacific salmon in the vicinity of Nome, a community of 3,500 people in Northwest Alaska. It describes the area, reviews the history of fisheries management, includes an analysis of 17 years of subsistence permit data, describes characteristics of fishing families, and discusses the influences of fish camp settlements on fishing patterns. Approximately 100 Nome families have obtained subsistence salmon fishing permits each summer since permits were first required in 1974, and have harvested, on the average, a total of about 14,300 salmon each year. On average, 51% were pink salmon, 40% were chum salmon, 7% were coho salmon, and the remaining 2% were a combination of sockeye salmon and Chinook salmon. Since 1984, however, the average harvest per permit has declined 47% compared to the previous decade. Concerns for the stocks and their conservation again focused restrictions to in-river rather than marine fishing. Some of the effects of this management strategy are examined in the report.

**KEYWORDS:**

**NOTES:**

Magdanz, James S., Nicole S. Braem, Brad C. Robbins, and David S. Koster

**2010 Subsistence harvests in Northwest Alaska, Kivalina and Noatak, 2007.** Anchorage, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** In Northwest Alaska, a cooperative group of state and federal agencies, tribes, communities, nongovernmental organizations, and industries work together to monitor subsistence harvests using comprehensive household surveys. This report summarizes recent results from comprehensive surveys conducted in February 2008. With a regional population of about 7,000 people in Northwest Alaska, the data suggested that subsistence harvests contributed about 3.5 million lb of wild foods to the Northwest Alaska diet each year.

**KEYWORDS:** subsistence hunting, subsistence fishing, subsistence mapping, food security, Kivalina, Noatak

**NOTES:**

Magdanz, James S., Susan E. Georgette, Caleb Pungowiyi, Hazel Smith, and Enoch Shiedt

**2010 Exploring approaches to sustainable fisheries harvest assessment in Northwest Alaska.** Kotzebue, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report presents a plan for a continuing harvest assessment program for subsistence hunting, fishing, and gathering for 11 rural communities in Northwest Alaska. The program involves a cooperative group of state and federal agencies, tribes, communities, non-governmental organizations, and industries. The program provides a framework for subsistence harvest assessment through periodic household surveys, and seeks to integrate other subsistence-related studies whenever possible. The program was intended to be an evolution of, not a break from, previous harvest assessment efforts in Northwest Alaska.

**KEYWORDS:** harvest assessment, subsistence fishing, chum salmon, sheefish, whitefish, Dolly Varden, caribou, moose, bearded seal, beluga whale, Kotzebue District, Ambler, Buckland, Deering, Kiana, Kivalina, Kobuk, Kotzebue, Noatak, Noorvik, Selawik, Shungnak

**NOTES:**

Magdanz, James S., and Annie Olanna

**1984 Controls on fishing behavior on the Nome River.** Juneau, Alaska: ADF&G Division of Subsistence.



**ABSTRACT:** This report documents historical and contemporary fishing patterns on the Nome River, where chum salmon populations have been declining in recent years. The report also identifies cultural factors that controlled fishing behavior among Nome River fishers in 1983. In the Nome subdistrict, commercial salmon fishing increased tenfold after 1974. At the same time, subsistence fishing effort on the Nome River increased, because a severe storm destroyed camps at Safety Sound and new regulations prohibited fishing at Salmon Lake. In the four years prior to this report, sport effort and harvest had also been increasing. Interviews, observations, mapping, kinship analysis, and fishing participation revealed the existence of a complex and traditional Inupiat social system operating on the Nome River. Currently, fishing behavior is influenced by both state regulation and unwritten traditional social rules.

**KEYWORDS:** Arctic Region, Nome, Nome River, chum salmon, *Oncorhynchus keta*, subsistence salmon fishing, commercial salmon fishing, Safety Sound, Salmon Lake, sport salmon fishing, Inupiaq, traditional social rules.

**NOTES:**

Magdanz, James S., and Annie Olanna

**1984 Norton Sound-Bering Strait subsistence king crab fishery update.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report presents the continuation of the division's efforts to document the Norton Sound and Bering Strait subsistence king crab fishery. After the area was opened to commercial fishing in 1977, subsistence harvests declined sharply. The division conducted house-to-house surveys in Nome and area villages for four consecutive years, collecting information about harvests, crabbing conditions, and gear. Data are presented in two parts: the first for villages in the Norton Sound Section, and the second for villages in the General Section of the Northern District of Statistical Area Q (Bering Sea).

**KEYWORDS:** Arctic Region, Norton Sound, Bering Strait, subsistence king crab fishery, commercial king crab fishery, king crabs, *Paralithodes platypus*, *Lithodes aequispinus*, *Paralithodes camtschaticus*, *Lithodes couesi*.

**NOTES:**

Magdanz, James S., and Annie Olanna

**1985 Bering Strait subsistence king crab fishery update.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report documents subsistence crab fishing in the Bering Strait area, a continuing project by the division that began in 1980. In 1983, commercial vessels reportedly disrupted subsistence seal hunting activities near St. Lawrence Island. The Board of Fisheries attempted to minimize the conflict and provide for continuing subsistence opportunities by adjusting seasons and creating closed waters. In 1984, the Board created a new St. Lawrence Island section, distinct from the St. Matthew section. Division of Subsistence surveys of a sample of households in Gambell and Savoonga revealed average to slightly above average effort and harvest in 1984. In 1984, only one or two commercial crab vessels sailed to the new section to fish commercially. No commercial harvest was reported. Consequently, the conflict between subsistence seal hunters and commercial vessels was not repeated.

**KEYWORDS:** Arctic Region, king crab fishing, Bering Strait, commercial king crab fishery, subsistence king crab fishery, marine mammal hunting, St. Lawrence Island, St. Matthew, Gambell, Savoonga, seal hunters, Norton Sound, *Lithodes aequispinus*, *Paralithodes camt*

**NOTES:**

Magdanz, James S., and Annie Olanna

**1986 Subsistence land use in Nome, a Northwest Alaska regional center.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report documents hunting, fishing, and gathering areas for a sample of households in Nome, Alaska, in 1985. The report had two goals: 1) to document the extent of harvesting areas used by the residents of Nome; 2) to examine factors that influenced hunting, fishing and gathering in moderately-sized, multicultural communities in Alaska. Mapping of harvest areas showed that resources were harvested throughout the southern Seward Peninsula, from Wales to Cape Darby; throughout Norton Sound; and in the Bering Strait.

**KEYWORDS:** Arctic Region, Nome, subsistence fishing, subsistence hunting, subsistence gathering, multicultural communities, subsistence harvest mapping, southern Seward Peninsula, Wales, Cape Darby, Norton Sound, Bering Strait, St. Lawrence Island, King Island, Sh

**NOTES:**

Magdanz, James S., and Dora E. Punguk

**1981 Nome River fishery II.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report documents the Nome River subsistence salmon fishery. A permit holder survey and random sample interviews with users provided data on patterns of use; dependency on the fishery; the methods of food preparation and storage; and the trade, barter, sharing, and uses of subsistence-caught salmon. Characteristics of user subgroups were also identified.

**KEYWORDS:** Arctic Region, Nome River, subsistence salmon fishery, patterns of use, subsistence food preparation, subsistence trade, subsistence barter, subsistence food sharing.

**NOTES:**

Magdanz, James S., Sandra Tahbone, Austin Ahmasuk, David S. Koster, and Brian L. Davis

**2007 Customary trade and barter in fish in the Seward Peninsula Area, Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report documents subsistence barter and cash trade of subsistence foods in 6 Seward Peninsula Area communities: Brevig Mission, Elim, Nome, Saint Michael, Shaktoolik, and Stebbins. Federal and state laws define customary trade as the limited, non-commercial exchange of fish and wildlife resources for cash. Although recognized in law, customary trade had not been allowed by regulations until recently. At the time of this study, cash trade was allowed in federally managed fisheries in the Seward Peninsula Area, but prohibited in state-managed fisheries. However, in March 2007, the Alaska Board of Fisheries adopted a new regulation providing for customary trade in the Norton Sound-Port Clarence Area.

**KEYWORDS:** Norton Sound, Port Clarence, Chinook salmon, *Oncorhynchus tshawytscha*, sockeye salmon, *Oncorhynchus nerka*, coho salmon, *Oncorhynchus kisutch*, pink salmon, *Oncorhynchus gorbuscha*, chum salmon, *Oncorhynchus keta*, king crab, *Paralithodes camtschaticus*, Pa

**NOTES:**

Magdanz, James S., Sandra Tahbone, Kurt Kamletz, and Austin Ahmasuk

**2002 Subsistence salmon fishing by residents of Nome, Alaska, 2001.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** In response to declining Pacific salmon stocks and increasing fishing restrictions in the 1990s, some Nome families began subsistence fishing in adjacent, less-regulated areas. This study explored Nome residents' impact on the fish stocks and on the fishing opportunities for residents of these adjacent areas. Nome households were surveyed to estimate the number

of salmon harvested in 2001, the locations of harvests, and other data. In addition, key respondents in Teller and White Mountain were interviewed to discuss the impacts of Nome residents' fishing on adjacent communities. Nome residents harvested 47% of their salmon outside the Nome permit area. Respondents in White Mountain and Teller reported increased competition for fishing sites related to increased effort by Nome residents. Respondents in both Teller and White Mountain were concerned that increased effort and harvest in their areas by Nome residents eventually would lead to increased regulation of subsistence fishing.

**KEYWORDS:** Pacific salmon, Nome, subsistence fishing, Teller, White Mountain

**NOTES:**

Magdanz, James S., Eric Trigg, Austin Ahmasuk, Peter Nanouk, David Koster, and Kurt Kamletz  
**2005 Patterns and trends in subsistence salmon harvests, Norton Sound and Port Clarence, 1994-2003.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** Using harvest data from the Northwest Alaska salmon survey project, this report presents patterns and trends in subsistence Pacific salmon harvests in 10 communities in the Norton Sound–Port Clarence areas from 1994-2003. During this period, estimated subsistence salmon harvests trended lower by 5.8% annually. Despite large variations in household harvest levels, there were harvest patterns that might be used to refine estimation and prediction procedures. Each year, about 21.8%-24.6% of the households harvested 70% of the salmon, by weight. Harvests increased with the age of the household heads, and decreased when household heads were single, especially single males. Households that consistently harvested salmon also were among the higher harvesting households in their communities. Neither commercial fishing retention nor family events seemed to affect harvest levels.

**KEYWORDS:** Norton Sound, Port Clarence, Pacific salmon, White Mountain, Golovin, Elim, Koyuk, Shaktoolik, Unalakleet, Saint Michael, Stebbins, Brevig Mission, Teller, chum salmon, *Oncorhynchus keta*, pink salmon, *Oncorhynchus gorbuscha*, coho salmon, *Oncorhynchus ki*

**NOTES:**

Magdanz, James S., and Charles J. Utermohle  
**1994 The subsistence salmon fishery in the Norton Sound, Port Clarence, and Kotzebue districts, 1994.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report provides an estimate of the total number of Pacific salmon harvested for subsistence uses in selected communities in Northwest Alaska. Additional information is also provided on the use of salmon for dog food, the sharing of salmon, and the adequacy of subsistence harvests to meet subsistence needs.

**KEYWORDS:** Arctic Region, Pacific salmon, subsistence fishing, Norton Sound, Port Clarence, Kotzebue, salmon for dog food

**NOTES:**

Magdanz, James S., Charles J. Utermohle, and Robert J. Wolfe  
**2002 The production and distribution of wild food in Wales and Deering, Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report traces the flow of wild foods through 2 Iñupiaq Eskimo villages in Northwest Alaska. It explores the roles of men and women, of single-person households and elder households, and especially of local family networks in the production and distribution of wild foods. As has been found elsewhere in Alaska, households' harvests varied widely, from no wild foods at all to literally tons of wild foods per person. Households' subsistence production tended to increase with the age of household heads and with household size, as predicted by a household development model. Viewing production and distribution from the perspective of

extended family networks helped explain variation in wild food production, and demonstrated the roles of different individuals and different social types of households in the production and distribution system. The research was supported by a cooperative agreement with the National Park Service through the University of Washington Cooperative Park Studies Unit.

**KEYWORDS:**

**NOTES:**

Magdanz, James S., Robert J. Walker, and Ronald R. Paciorek

**2004 The subsistence harvests of wild foods by residents of Shungnak, Alaska, 2002.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report provides an estimate of subsistence harvests by Shungnak residents during the calendar year 2002. Data were gathered with a comprehensive subsistence harvest survey administered to 51 of 54 Shungnak households (94%). Residents of Shungnak harvested an estimated 151,911 pounds of edible wild foods in 2002. The average harvests were 2,813 pounds per household and 610 pounds per person. Shungnak's harvest included 49 different species or species categories. Comparison with previous harvest estimates for selected species showed harvests in 2002 were generally lower than in 1993 for birds, and in 1998 for land mammals. Social network data showed extensive cooperation among households. In response to a series of social network questions exploring 16 different household support activities, the 51 sampled households reported 4,350 instances of household support.

**KEYWORDS:**

**NOTES:**

Mahoney, Shane P., and James A. Schaefer

**2009 Long-term changes in demography and migration of Newfoundland caribou.** Journal of Mammalogy 83(4):957-963.

**ABSTRACT:** Abstract Long-term studies of demography and movements are rare but critical to understanding long-lived mobile mammals like caribou (*Rangifer tarandus*). We studied changes in the abundance, vital rates, body size, and timing of migration of the Buchans Plateau caribou herd in Newfoundland, Canada. From the early 1960s to 2000, the population grew at 6.5% year, although survival and recruitment indicated a declining growth rate (1.4%) by the late 1990s. The numerical increase was negatively associated with other population attributes. Rates of parturition, survival to 6 months of age, and recruitment diminished significantly. Adults exhibited substantial decreases in body size. Spring migration was significantly later and autumn migration significantly earlier. We surmise that these responses may reflect heightened density-dependent competition for summer forage.

**KEYWORDS:** body size; density dependence; migration; population growth; *Rangifer tarandus*; recruitment; regulation

**NOTES:** doi: 10.1644/1545-1542(2002)083<0957:LTCIDA>2.0.CO;2

Makhoul, Z., A. R. Kristal, R. Gulati, B. Luick, A. Bersamin, D. O'Brien, S. E. Hopkins, C. B. Stephensen, K. L. Stanhope, P. J. Havel, and B. Boyer

**2011 Associations of obesity with triglycerides and C-reactive protein are attenuated in adults with high red blood cell eicosapentaenoic and docosahexaenoic acids.** Eur J Clin Nutr.

**ABSTRACT: Background:** N-3 fatty acids are associated with favorable, and obesity with unfavorable, concentrations of chronic disease risk biomarkers. **Objective:** We examined whether high eicosapentaenoic (EPA) and docosahexaenoic (DHA) acid intakes, measured as percentages of total red blood cell (RBC) fatty acids, modify associations of obesity with chronic disease risk biomarkers. **Methods:** In a cross-sectional study of 330 Yup'ik Eskimos,

generalized additive models (GAM) and linear and quadratic regression models were used to examine associations of BMI with biomarkers across RBC EPA and DHA categories. **Results:** Median (5th–95th percentile) RBC EPA and DHA were 2.6% (0.5–5.9%) and 7.3% (3.3–8.9%), respectively. In regression models, associations of BMI with triglycerides, glucose, insulin, C-reactive protein (CRP) and leptin differed significantly by RBC EPA and DHA. The GAM confirmed regression results for triglycerides and CRP: at low RBC EPA and RBC DHA, the predicted increases in triglycerides and CRP concentrations associated with a BMI increase from 25 to 35 were  $99.5 \pm 45.3 \mu\text{g/dl}$  (106%) and  $137.8 \pm 71.0 \mu\text{g/dl}$  (156%), respectively, for triglycerides and  $1.2 \pm 0.7 \mu\text{g/l}$  (61%) and  $0.8 \pm 1.0 \mu\text{g/l}$  (35%), respectively, for CRP. At high RBC EPA and RBC DHA, these predicted increases were  $13.9 \pm 8.1 \mu\text{g/dl}$  (23%) and  $12.0 \pm 12.3 \mu\text{g/dl}$  (18%), respectively, for triglycerides and  $0.5 \pm 0.5 \mu\text{g/l}$  (50%) and  $-0.5 \pm 0.6 \mu\text{g/l}$  (–34%), respectively, for CRP. **Conclusions:** In this population, high RBC EPA and DHA were associated with attenuated dyslipidemia and low-grade systemic inflammation among overweight and obese persons. This may help inform recommendations for n-3 fatty acid intakes in the reduction of obesity-related disease risk.

**KEYWORDS:** EPA, DHA, generalized additive models, Yup'ik eskimos, triglycerides, C-reactive protein, diet, disease, nutrition

**NOTES:** "A diet of Alaska salmon rich in Omega-3 fatty acids appears to protect Yup'ik people from diabetes and heart disease -- even when the individuals in question have become obese, according to a recent study that examined eating habits and health in the Yukon Kuskokwim Delta region. Scientists found that Yup'ik people in general consume about 20 times more of the complex fish oils every year than do people in the Lower 48 states, a subsistence-driven cuisine that may actually shield them from many health problems blamed on obesity, junk food and inactivity. Y-K residents show similar levels of obesity as the overall U.S. population, yet experience far lower prevalence of the adult-onset diabetes linked to poor diet and weight issues -- about 3.3 percent versus about 7.7 percent." Alaska Dispatch (03/29/2011) <http://www.alaskadispatch.com/article/study-alaska-natives-confirms-salmon-rich-diet-prevents-diabetes-heart-disease>

Mann, D. H., P. A. Heiser, and B. P. Finney

**2002 Holocene history of the Great Kobuk Sand Dunes, Northwestern Alaska.**  
Quaternary Science Reviews 21(4-6):709-731.

**ABSTRACT:** Located just north of the Arctic Circle, the Great Kobuk Sand Dunes (GKSD) are an inland dune field that is closely surrounded by boreal forest. The history of the GKSD tells us about changes in aridity, a climatic parameter whose history is poorly understood at high latitudes. Vegetated dunes in several states of geomorphic preservation surround the active dune field today, evidencing a complex history of Holocene activity. Small lakes in the forest bordering the dunes accumulate wind-blown sand. We use  $^{14}\text{C}$ -dated, lake-sediment cores to reconstruct a continuous history of sand influx over the last 8000 yr. The validity of this record is supported by limiting ages obtained from stratigraphic sections within the dune field. The extent of the GKSD underwent a fluctuating shrinkage coincident with Neoglaciation. This downsizing trend was interrupted by periods of increased sand deposition into lakes occurring 4800–4200, 3300–2600, 1300–700, and 300–100 calendar years ago. Aridity in the Kobuk valley during the Holocene probably was controlled by the frequency of North Pacific storms entering the region in late summer. Our results describe the first continuous history of changing moisture balance for central Beringia during the Holocene and comprise a baseline against which future records of climatic and ecological change in this region can be compared.

**KEYWORDS:**

**NOTES:**

Mann, George V., Edward M. Scott, Laurence M. Hursh, Christine A. Heller, John B. Youmans, C. Frank Consolazio, Edwin B. Bridgforth, Albert L. Russell, M. Silverman, and E. J. Sheehan

**1962 The health and nutritional status of Alaskan Eskimos - A survey of the Interdepartmental Committee on Nutrition for National Defense - 1958.** American Journal of Clinical Nutrition 11(1):31-76.

**ABSTRACT:** The Alaskan aboriginal people have had, and continue to have, a remarkably successful adaptation to their rigorous and unique food supply. This adaptation is imperiled in the cultural transition they are now undergoing. Specific nutritional deficiencies are not a health problem at this time. Infectious disease is the main health problem, and no obvious way appears whereby nutritional improvement will affect this situation. Housing and medical care seem more important than dietary improvement. Two dietary "riddles" appear among these people. The intake of vitamin C is often low but scurvy is not seen. This may be accounted for by a sporadic intake of a few exceptionally rich sources of vitamin C in the diet, e.g., willow leaves and cloudberry, aided by effective if unpremeditated ways of preserving these during winter. The other riddle involves vitamin A. The food sources of vitamin A are rich and plentiful, and yet the plasma levels are often low, and clinical signs suggesting past or present deficiency are seen. It is suspected but not established that vitamin A deprivation may contribute to the problem of phlyctenular keratoconjunctivitis. Studies of the absorption and utilization of vitamin A in these people are needed. Dental disease is rampant and increasing. It appears related to the cultural transition, being a more serious problem in the more acculturated groups. Two opportunities are presented: (1) to study the pathogenesis of dental disease and (2) to minimize the ravages of a diet perhaps damaged by same dietary change. The Eskimo people deserve and need medical and technical help. It appears inevitable that they will be acculturated and in time will leave their barren ground. Unless the medical and social assistance now given by the state and federal governments and private charities is augmented, this noble and resourceful people will continue to suffer from the health hazards and physical limitations which were characteristic of the rest of the United States over fifty years ago. There is an opportunity in Alaska to prevent all this waste of human beings with modern methods of public health and medical science. The present efforts in Alaska are insufficient for the tasks.

**KEYWORDS:**

**NOTES:**

Mansperger, Mark C.

**1995 Tourism and cultural change in small-scale societies.** Human Organization 54(1):87-94.

**ABSTRACT:** As tourism increases in small, unindustrialized societies, it is increasingly important to understand its impacts and the primary process by which it produces cultural change. Gaining insight into how tourism leads to major cultural changes (which are often deleterious) will assist applied anthropologists, indigenous governmental departments, and perhaps even tourism agencies themselves in minimizing the damage that touristic activities create. Fieldwork on Yap Island and case study reviews indicate that tourism can increase indigenous jobs, foreign exchange reserves, cultural preservation, and education. Deleterious touristic impacts involve human displacement, subsistence disruptions, social conflict, loss of autonomy, dependency, crime, and other disturbances of the host culture. Analysis suggests that the impacts of tourism are magnified when tourists alter their hosts' economic base, particularly the indigenous land utilization and tenure relationships. Therefore, negative touristic impacts can be moderated in small-scale societies by keeping the activities and influences of tourists out of the domain of indigenous land relationships.

**KEYWORDS:**

**NOTES:**

Marcotte, James R.

**1982 The king salmon drift net fishery on the Middle Yukon: an overview and study of the 1982 season.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report examines participation in the recently reestablished king salmon drift net fishery near the Yukon River communities of Kaltag and Nulato during 1981. The history of the subsistence drift net fishery is reviewed and events leading to the reopening of the fishery are recounted.

**KEYWORDS:**

**NOTES:**

Marcotte, James R.

**1986 Contemporary resource use patterns in Huslia, Alaska, 1983.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report documents wild resource harvest and use patterns for 1983 in the Koyukuk River community of Huslia. The presentation is based primarily from a 1984 survey of 56 of the 57 community households. Harvest data and land use maps are presented. Attention is given to socioeconomic and cultural factors which influence resource harvest activities. Research was conducted in cooperation with the Koyukuk National Wildlife Refuge.

**KEYWORDS:**

**NOTES:**

Marcotte, James R.

**1988 Subsistence harvest of fish and wildlife by residents of Galena, Alaska, 1985-86.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes contemporary subsistence harvest and uses of wild resources by Galena residents. Findings are based on a 1986 survey of 35% (74 of 211) of community households. The relationship between Galena and the surrounding communities is discussed in terms of land use, resource sharing, and demography. Galena displays characteristics typical of its role as a subregional center, yet harvest participation and subsistence production rates are high. Harvest and land use maps are presented.

**KEYWORDS:**

**NOTES:**

Marcotte, James R.

**1992 Wild fish and game harvest and use by residents of five Upper Tanana communities, Alaska, 1987-88.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report summarizes the results of a household survey conducted in 5 Upper Tanana communities: Dot Lake, Tanacross, Tok, Tetlin, and Northway. The study was undertaken to update resource harvest and use data for this area and to provide a baseline of resource uses, as well as demographic and economic data in order to provide an understanding of the impacts of the construction and operation of a proposed over-the-horizon backscatter radar facility. A total of 195 households were interviewed about their levels of resource harvest and uses in 1987-1988. The report summarizes the study findings in a series of tables and figures, and compares the results for 1987-1988 with those from earlier subsistence studies.

**KEYWORDS:**

**NOTES:**

Marcotte, James R., and Terry L. Haynes

**1985 Contemporary resource use patterns in the Upper Koyukuk Region, Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report presents the findings of a study conducted cooperatively with the National Park Service and the U.S. Fish and Wildlife Service. Hunting, fishing, trapping, and plant gathering activities during a 2-year period, 1981-1983, are described for the communities of Allakaket, Alatna, Bettles, Evansville, and Hughes. Maps depicting areas used for resource harvesting are presented, as are 1982 harvest levels and general socioeconomic data for each community. Some comparisons are made between employment and resource harvest information collected in this report and in the late 1960s and early 1970s.

**KEYWORDS:**

**NOTES:**

Margolis, H. S., J. P. Middaugh, and R. D. Burgess

**1979 Arctic trichinosis: two Alaskan outbreaks from walrus meat.** J Infect Dis 139(1):102-5.

**ABSTRACT:** The arctic form of *Trichinella spiralis* that infects terrestrial and marine mammals is of importance in public health because persons living in arctic regions still depend on wild animals for economic subsistence. In 1975, an extended common-source epidemic of trichinosis attributed to consumption of walrus meat involved 29 persons in Barrow, Alaska. Of those persons eating this meat, 64% became ill, and the rate of infection of persons eating meat prepared with little or no cooking was four times as great as that of persons eating cooked meat. One year later a second outbreak occurred when a family ate partially cooked meat from an infected walrus. Clinical illness differed little from the disease acquired in temperate climates; however, only 70% had a positive bentonite flocculation titer, whereas 96% had eosinophilia. These epidemics of trichinosis are the first reported in Alaska to be associated with the consumption of walrus meat.

**KEYWORDS:** Alaska

Animals  
Disease Outbreaks  
Disease Reservoirs  
Eosinophilia/complications  
Epidemiologic Methods  
Female  
Flocculation Tests  
Humans  
Male  
Pinnipedia/\*parasitology  
Prednisone/therapeutic use  
Thiabendazole/therapeutic use  
Trichinellosis/diagnosis/drug therapy/\*transmission  
Walruses/\*parasitology

**NOTES:** Margolis, H S

Middaugh, J P  
Burgess, R D  
United states  
The Journal of infectious diseases  
J Infect Dis. 1979 Jan;139(1):102-5.

Margolis, H. S., J. P. Middaugh, and R. D. Burgess

**1979 Arctic trichinosis: two Alaskan outbreaks from walrus meat.** J Infect Dis 139(1):102-5.

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animals for economic subsistence. In 1975, an extended common-source epidemic of trichinosis attributed to consumption of walrus meat involved 29 persons in Barrow, Alaska. Of those persons eating this meat, 64% became ill, and the rate of infection of persons eating meat prepared with little or no cooking was four times as great as that of persons eating cooked meat. One year later a second outbreak occurred when a family ate partially cooked meat from an infected walrus. Clinical illness differed little from the disease acquired in temperate climates; however, only 70% had a positive bentonite flocculation titer, whereas 96% had eosinophilia. These epidemics of trichinosis are the first reported in Alaska to be associated with the consumption of walrus meat.

**KEYWORDS:** Alaska

Animals  
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Trichinellosis/diagnosis/drug therapy/\*transmission  
Walruses/\*parasitology

**NOTES:** Margolis, H S

Middaugh, J P  
Burgess, R D  
United states  
The Journal of infectious diseases  
J Infect Dis. 1979 Jan;139(1):102-5.

Marquardt, Ole, and Richard A. Caulfield

**1996 Development of West Greenlandic markets for country foods since the 18th century.** Arctic 49(2):107-119.

**ABSTRACT:** Local markets for country foods have a history in West Greenland dating back to the early 18th century. After Danish colonization in 1721, Greenlanders gradually began selling these foods (West Greenlandic: kalaalimerngit), which included seal, whale, caribou, fish, and birds—first to the Danes and later to other Greenlandic Inuit. This trade was a significant transformation of pre-contact Inuit exchange practices. In the 18th and early 19th centuries, the trade was largely between Greenlandic hunters and Danes employed by the colonial trade or by the church. Later in the 19th century, these institutions employed increasing numbers of indigenous Greenlanders. Economic specialization gradually became more pronounced within Greenlandic society, and cash became more prominent in local economies. Greenlandic hunters increasingly sold country foods to other Greenlanders earning wages. These practices continue today, with hunters regularly selling country foods in many towns at the local kalaalimeerniarfik (literally, “place where Greenlandic foods are sold”), to institutions such as schools or senior citizens’ homes, and in larger stores. Today, Greenland’s Home Rule government is promoting local country food markets as one strategy for sustainable development. The goals are to promote the use of nutritious and culturally valued foods on a sustainable basis and to provide economic opportunities for local hunters, particularly in outlying settlements. The history of Greenland’s system for marketing country foods highlights some issues that may influence the contribution of country foods to sustainable community development in the Arctic.

**KEYWORDS:** West Greenland; Inuit; country foods; sustainable development; mixed economy; subsistence; commoditization; kalaalimerngit

**NOTES:**

Marsden, Peter V., and K.E. Campbell

**1984 Measuring Tie Strength.** Social Forces 63:482-501.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Marshall, David

**1993 Migration and Oil Industry Employment of North Slope Alaska Natives.** Anchorage: U.S. Department of the Interior, Minerals Management Service, Alaska OCS Region.

**ABSTRACT:** This report discusses why people migrate within and to Alaska's North Slope, addressing in particular whether North Slope Natives are likely to leave their villages when they get jobs with the oil industry at Prudhoe Bay. Job offers or opportunities are the main reason for migration, for both Natives and non-Natives. One-third of the North Slope Natives who obtained oil industry jobs at Prudhoe Bay left their villages soon afterwards. However, many Natives (but few non-Natives) migrate for other reasons: to be with relatives or friends; to enjoy the variety of a bigger community; to return home; to get married. The prevalence of these other reasons causes North Slope migration to differ from the pattern of migration described in the literature for the continental U.S. These findings are based on interviews conducted in March 1992 of 52 individuals (from 52 households) who migrated over the last decade--39 North Slope Natives and 13 non-Natives--and 34 Natives who were working with the oil industry at Prudhoe Bay. The 52 interviewed households represent about 10 percent of all migrant households and 3 percent of the 1,700 total North Slope households. The 34 employees interviewed comprise half all North Slope Natives who work at Prudhoe Bay, and less than one percent of the 6,000 North Slope oil industry workers.

**KEYWORDS:**

**NOTES:**

Marshall, David L.

**1985 Development in a subsistence economy: a rural task force.** Alaska Native News 3:34-37.

**ABSTRACT:**

**KEYWORDS:** Descriptor: Eskimoan -- Alaska -- Economic anthropology -- Subsistence.

Eskimoan -- Alaska -- Economic anthropology -- Labor.

Alaska -- Economic anthropology -- Development.

Alaska -- Economic anthropology -- Labor.

**NOTES:** Using Smart Source Parsing

no. 7, p. Additional Info: Anchorage

Source of data: Anthropological Literature, Harvard University.

by David L. Marshall.

Marston, Muktuk

**1969 Men of the Tundra: Eskimos at war.** New York: October House Inc.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Martin, Gayle

**1983 Use of natural resources by the residents of Dot Lake, Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes subsistence uses of natural resources by residents of Dot Lake. Information on seasonality, methods of harvest, methods of preparation and storage, cultural significance of resources, and patterns of sharing and exchange are presented. Information on demography, wage employment opportunities, and attitudes toward local development are also provided.

**KEYWORDS:**

**NOTES:**

Martin, Gayle

**1983 Use of natural resources by the residents of Dot Lake, Alaska executive summary.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This document is a companion summary to Martin 1983 (Use of Natural Resources by the Residents of Dot Lake, Alaska, ADF&G Division of Subsistence Technical Paper No. 19). The summary highlights research findings as they relate to a proposed land disposal (Sam Creek Subdivision) near Dot Lake.

**KEYWORDS:**

**NOTES:**

Martin, Stephanie

**2009 The effects of female out-migration on Alaska villages.** Polar Geography 32:61-67.

**ABSTRACT:** This research explores the consequences of out-migration for sending communities in rural Alaska. In particular, it describes the relationship between female out-migration and community viability, by comparing the age-sex structures of Alaska Native villages that are growing with villages in decline. The paper discusses out-migration and its connection to school closure. It provides a detailed description of out-migration from villages in northern Alaska, using data from several household surveys to better understand migrants. Villages that are decreasing in size show a loss of adult women over time. Many leave and few return or replaced by in-migrants. Also notable is the loss of children from villages in decline. In some very small places the departure of women and children leads to school closure and eventually the village disappears.

**KEYWORDS:** migration; Alaska

**NOTES:** "The SLiCA survey also asked people why they remain in their communities. Overwhelmingly, people said that they stay to be near their family. Many men also said that they stay for hunting and fishing. Subsistence hunting and fishing require place-specific knowledge and property rights. Subsistence activities provide households with food and help maintain traditional culture. **According to the survey, men in villages perform subsistence activities more than women do (five activities compared to three) ( $t=6.157$ ), making the costs of migration higher for them, and explaining at least in part, why fewer men than women leave.**

**Basic demographic data say a lot about community viability. This is important for Alaska because survey research is increasingly expensive, many villages are tired of being studied, and because the US Census Bureau has replaced its detailed survey section with the American Community Survey which does not have a large enough village level sample to be representative.** This research also adds to the social indicator work of the Arctic Council and NSF funded Arctic Observing Network by showing that net migration and age structure are useful indicators of community viability. However, just as small places are at risk of disappearing and need careful monitoring, their size also makes data collection and analysis problematic." (p. 65)

Martin, Stephanie L.

**2005 Determinants of well-being in Iñupiat and Yupiit Eskimos: Do communities matter?**, University of Texas.

**ABSTRACT:** This research explores the importance of family ties, social support, and communities for individual well-being among Iñupiat and Yupiit Eskimos in Alaska. It uses the theoretical work of Sen (1985, 1993, and 2000) and Ringen (1995), defining well-being as a function of personal resources and opportunities to use those resources, to develop a model of well being. The analysis combines data on 663 randomly selected individuals from the Alaska portion of the Survey of Living Conditions in the Arctic with US census and community level data. This is the first research to use survey data to analyze subjective well-being among Iñupiat and Yupiit Eskimos. The empirical analysis addresses problems of identification and endogeneity common in social science research. It uses an ordered-probit equation to estimate individual satisfaction. The equation includes explanatory variables estimated from two reduced-form equations: a probit equation estimating individual employment and a censored regression estimating subsistence participation. The results of the model show the relative effects of individual and household characteristics, family ties, and social support on satisfaction in different types of communities. Among the general findings are that family ties, social support, and living in a long-inhabited, whaling community all increase satisfaction with life as a whole. The analysis found no significant relationship between individual subsistence participation and satisfaction. The explanation may be in the narrow definition of subsistence as individual participation. The analysis also shows that having a job makes people less satisfied with opportunities to hunt and fish, and with life as a whole. This finding is at odds with goals of Native communities to increase wage employment. It may be explained by jobs being necessary for material satisfaction but taking time away from activities that are important for satisfaction with life as a whole. The key to the quality of life is maintaining family ties and social support. The empirical analysis demonstrates the importance of participating in groups at the level of household, extended family, informal networks, and community for jobs, subsistence participation, and satisfaction.

**KEYWORDS:** network

**NOTES:**

Martin, Stephanie L., and Alexandra Hill

**2009 The changing economic status of Alaska Natives, 1970-2007.** *In* Web Notes. L. Leask, ed. Pp. 5, Vol. 5. Anchorage: Institute of Social and Economic Research.

**ABSTRACT:** Forty years ago-when the discovery of North Slope oil was about to transform Alaska's economy-Alaska Natives had among the lowest income, employment, and education levels in the U.S. Today their economic conditions are better, but they still fall considerably below averages among other Alaskans and other Americans. This note first reports how current economic conditions among Alaska Natives compare with U.S. averages, and then looks at changes since 1970 in poverty, employment, income, and education levels among Alaska Natives. We relied mainly on data from federal censuses in 1970, 1980, 1990, and 2000 and from the annual American Community Survey for 2005 to 2007. We also used the most recent population estimates from the Alaska Department of Labor and Workforce Development.

**KEYWORDS:** Alaska Native; income; employment; education

**NOTES:**

Martin, Stephanie M., Mary Killorin, and Steve Colt

**2008 Fuel Costs, Migration, and Community Viability:** Institute of Social and Economic Research

**ABSTRACT:** ISER researchers compiled and reviewed existing studies and data sources relating to the economic and social viability of remote rural Alaska communities. We particularly looked for possible linkages between high fuel costs and migration. Our review indicates the following: (1) migration from smaller places toward larger places is an ongoing phenomenon that is more noticeable when birth rates drop; (2) there is no systematic empirical evidence that fuel prices, by themselves, have been a definitive cause of migration; (3) the pursuit of economic and educational opportunities appears to be a predominant cause of migration; (4) however, currently available survey data are not sufficient to definitively determine other reasons for migration, which could include concerns about public safety and/or alcohol abuse; 5) most of the survey data pre-date the latest rapid increase (2006-2008) in fuel prices. We suggest several ways that better data could be collected on community viability and the reasons for migration.

**KEYWORDS:** migration; Alaska; cost of living; education

**NOTES:**

Martinez, P., and B. D. Weiss

**2006 Unchanged asthma prevalence during 1990-1999 in rural Alaska natives.** International Journal of Circumpolar Health 65(4):341-346.

**ABSTRACT:** Objectives. The prevalence of asthma has been increasing throughout the world, but the reasons for the increase are unclear. Some have hypothesized that the increase is due to industrial and agricultural pollutants in urban and rural areas, respectively. The objective of this research was to determine if the prevalence of asthma has increased in a remote area of Alaska where the population lives a Subsistence lifestyle and is not exposed to such pollution. Study Design. Retrospective review of medical records to determine the prevalence of asthma. Methods. We reviewed medical records of 1200 children, aged 0-10 years, who lived in the Yukon-Kuskokwum Delta (YKD) region of western Alaska between 1990 and 1999. The entire YKD population receives health care from a single medical system, so records provide a complete picture of each patient's health care. Data collected from the medical records included demographics, and the presence or absence of a diagnosis of asthma or reactive airway disease (RAD). Results. Over the 10-year period from 1990-1999, there was no significant change in the percentage of children who had a diagnosis of asthma (2.0% in 1990 and 3% in 1999), or RAD (9.6% in 1990 and 9.6% in 1999). Conclusions. In a population of children not exposed to urban industrial, or rural agricultural Pollutants, there was no change in the prevalence of wheezing or asthma between 1990 and 1999.

**KEYWORDS:**

**NOTES:** Times Cited: 1

Maschner, H. D. G., M. W. Betts, K. L. Reedy-Maschner, and A. W. Trites

**2008 A 4500-year time series of Pacific cod (*Gadus macrocephalus*) size and abundance: archaeology, oceanic regime shifts, and sustainable fisheries.** Fishery Bulletin 106(4):386-394.

**ABSTRACT:** A 4500-year archaeological record of Pacific cod (*Gadus macrocephalus*) bones from Sanak Island, Alaska, was used to assess the sustainability of the modern fishery and the effects of this fishery on the size of fish caught. Allometric reconstructions of Pacific cod length for eight prehistoric time periods indicated that the current size of the nearshore, commercially fished Pacific cod stocks is statistically unchanged from that of fish caught during 4500 years of subsistence harvesting. This finding indicates that the current Pacific cod fishery that uses selective harvesting technologies is a sustainable commercial fishery. Variation in relative Pacific cod abundances provides further insights into the response of this species to punctuated changes in ocean climate (regime shifts) and indicates that Pacific cod stocks can recover from major environmental perturbations. Such palaeofisheries data can extend the short time-series

of fisheries data (<50 yr) that form the basis for fisheries management in the Gulf of Alaska and place current trends within the context of centennial- or millennia]-scale patterns.

**KEYWORDS:**

**NOTES:** Times Cited: 3

Mason, Arthur

**2002 The rise of an Alaskan Native bourgeoisie.** *Etudes/Inuit/Studies* 26(2):5-22.

**ABSTRACT:** Cet article concerne la transition vers le capitalisme par un groupe de leaders autochtones de l'Alaska. Lors de l'adoption par le Congrès américain de l'(ANCSA) en 1971, une nouvelle situation économique fut accessible à la société autochtone de l'Alaska, créant ainsi des opportunités pour les leaders autochtones de devenir des entrepreneurs. Basée sur l'observation et l'analyse, cette recherche retrace le développement des leaders autochtones de l'île Kodiak et raconte leur continuelle appréhension en tant qu'agents du capitalisme devenant conscients de leur rôle d'endosseurs d'une nouvelle formation identitaire. Je suggère que la société de Kodiak pré-ANCSA est associée à un système social stratifié particulier dans lequel les sources de pouvoir et de privilèges sociaux et culturels sont dominantes. La transition vers la société post-ANCSA est un processus qui convertit des formes de pouvoir dévaluées en de nouvelles formes économiquement définies, marquant ainsi un changement à partir d'un ordre de rangs vers une stratification capitaliste basée sur des classes. This article tells the story of a group of Alaska indigenous leaders' transition to capitalism. With Congressional passage of the Alaska Native Claims Settlement Act (ANCSA) in 1971, a new economic position emerges in Alaska Native society which creates opportunities for indigenous leaders to develop an awareness of themselves as a particular type of entrepreneurial group. Based on observation and analysis, this story traces the development of Kodiak Island Native leaders and relates their enduring apprehension as emerging capitalist agents who become conscious of their role as bearers of a project of identity formation. I claim that pre-ANCSA Kodiak society is a particular system of stratification in which social and cultural sources of power and privilege are dominant. The transition to post-ANCSA society is a process of converting devalued forms of power into new, economically defined forms and marks a shift from rank order to capitalist class stratification.

**KEYWORDS:**

**NOTES:**

Mason, Owen K.

**1998 The contest between the Ipiutak, Old Bering Sea, and Birnirk Polities and the origin of whaling during the First Millennium A.D. along Bering Strait.** *Journal of Anthropological Archaeology* 17(3):240-325.

**ABSTRACT:** Warfare, whaling, and participation in long distance trade intensified in the Bering Strait region 600-1000 A.D. The development of complex social organization involved the control of resource hot spots from coastal promontories and access to iron from distant East Asian centers. Stylistic similarities, recognized as early as the 1920's, provide the basis to recognize peer polity interaction. Despite >800 excavated burials from Point Hope, St. Lawrence Island and East Cape (Siberia), only a variable data base is available for establishing contemporaneity, the extent of interaction, the functioning of societies and the intensity of warfare. Burials do show pronounced internal status differences at Point Hope and Ekven/Uelen at East Cape. Radiocarbon ages reveal a disjunct pattern in settlement histories; Cape Krusenstern settled most densely at 400-650 A.D., Point Hope at 400-900 A.D., while Ekven peaked between 800-1200 A.D. and at NW Cape, St. Lawrence Island, population was greatest between 1000 and 1200 A.D. The relationship of East Cape to Point Hope suggests a close alliance that dominated the Bering Strait region and controlled access to metal and technological innovations from East Asia. Physical evidence of warfare in burials is greater in the NW Cape area, but the extent and contemporaneity of conflict is uncertain. The Birnirk culture controlled only marginal

locations, often in very close proximity to Ipiutak sites. The development of whaling is sporadically documented but appears associated with technological innovations in Old Bering Sea and Birnirk polities while the influence of Ipiutak was achieved without a reliance on whaling.

**KEYWORDS:** War; trade; whaling; Bering Strait; First Millennium A.D

**NOTES:**

Matthews, Vince, Matthew A. Kookesh, and Robert G. Bosworth

**1990 Subsistence harvest and use of sea cucumber in Southeast Alaska with specific reference to sea cucumber harvest and use by residents of Craig, Klawock and Hydaburg.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report summarizes available information on the subsistence uses of sea cucumbers in Southeast Alaska. The report draws from ADF&G Division of Subsistence studies 1984-present, and provides sea cucumber harvest and use data, for at least one year, for all communities of the region. Marine invertebrate harvest area maps are also included. In addition, the report provides information about the subsistence uses of sea cucumbers by residents of Hydaburg, Klawock, and Craig, on Prince of Wales Island. These details include methods of harvest, preparation and storage of sea cucumbers, and historical and contemporary cultural traditions related to sea cucumber uses.

**KEYWORDS:**

**NOTES:**

Matthiasson, John S.

**1975 You Scratch My Back and I'll Scratch Yours: Continuities in Inuit Social Relationships.** Arctic anthropology 12(1):31-37.

**ABSTRACT:** Prescribed social reciprocity and anticipated reciprocity, rooted in the traditional culture, is maintained among contemporary Tununermiut Inuit of northern Baffin Island, despite recent changes in economic adaptation and settlement patterns. A new vehicle for this reciprocity, alcohol, has emerged in networks between males, but traditional avoidance behavior in response to stress situations serves to curtail potentially violent alcohol-induced incidents.

**KEYWORDS:**

**NOTES:**

Mattson, Chester R.

**1962 Chum salmon resources of Alaska from Bristol Bay to Point Hope.** US Fish and Wildlife Service, ed. Pp. 22. Special scientific report, fisheries. Washington, DC.

**ABSTRACT:**

**KEYWORDS:** salmon, chum salmon, Alaska

**NOTES:**

Mattson, Chester R.

**1962 Chum salmon resources of Alaska from Bristol Bay to Point Hope.** US Fish and Wildlife Service, ed. Pp. 22. Special scientific report, fisheries. Washington, DC.

**ABSTRACT:**

**KEYWORDS:** salmon, chum salmon, Alaska

**NOTES:**

Mattson, Chester R.

**1964 Chum salmon resources of Alaska from Bristol Bay to Point Hope.** Deep Sea Research and Oceanographic Abstracts 11(4):679-680.

**ABSTRACT:****KEYWORDS:****NOTES:**

Mattson, Chester R.

**1964 Chum salmon resources of Alaska from Bristol Bay to Point Hope.** Deep Sea Research and Oceanographic Abstracts 11(4):679-680.

**ABSTRACT:****KEYWORDS:****NOTES:**

Mauldin, W. Parker

**1980 Population trends and prospects.** Science 209(4452):148.

**ABSTRACT:****KEYWORDS:****NOTES:**

Mautner, Kathleen H.

**1982 Role of Koyukon Athabaskan women in subsistence [Tracks in the wilderness: a portrayal of Koyukon and Numamiut subsistence].** Occasional paper Anthropology and Historic Preservation, Cooperative Park Studies Unit, University of Alaska no 9:129-197.

**ABSTRACT:**

**KEYWORDS:** Descriptor: Koyukon -- Economic anthropology -- Woman.

Koyukon -- Economic anthropology -- Subsistence.

Athabaskan -- Economic anthropology -- Subsistence.

**NOTES:** Using Smart Source Parsing

p. ill. Additional Info: Fairbanks

Source of data: Anthropological Literature, Harvard University.

by Kathleen H. Mautner.

Mayer, Jean

**1990 Hunger and Undernutrition in the United States.** Journal of Nutrition 120(8):919-923.

**ABSTRACT:** In the United States, where food is plentiful nationwide, detection of populations at risk of hunger and malnutrition must rely more on social and economic indicators than on physiological indices, important as these are. Large federal programs expanded or created after the 1969 White House Conference on Food, Nutrition, and Health were shown to be successful during the 1970s in reducing hunger and malnutrition as a massive social phenomenon, even though poverty conditions remained the same. Studies that apply our knowledge of nutritional and dietary requirements to construct a "market basket" of inexpensive, commonly used foods that meet the Recommended Dietary Allowances (RDA) and that set estimated minimum incomes as a multiple of the cost of such an "RDA-based market basket" plus the costs of other necessities would identify populations and families at risk and permit better targeting of food programs.

**KEYWORDS:****NOTES:**

Mazess, Richard B., and Warren Mather

**1974 Bone mineral content of north Alaskan Eskimos.** American Journal of Clinical Nutrition 27(9):916-925.

**ABSTRACT:** Direct photon absorptiometry was used to measure the bone mineral content of forearm bones in Eskimo natives of the north coast of Alaska. The sample consisted of 217 children, 89 adults, and 107 elderly (over 50 years). Eskimo children had a lower bone mineral



content than United States whites by 5 to 10% but this was consistent with their smaller body and bone size. Young Eskimo adults (20 to 39 years) of both sexes were similar to whites, but after age 40 the Eskimos of both sexes had a deficit of from 10 to 15% relative to white standards. Aging bone loss, which occurs in many populations, has an earlier onset and greater intensity in the Eskimos. Nutritional factors of high protein, high nitrogen, high phosphorus, and low calcium intakes may be implicated.

**KEYWORDS:**

**NOTES:**

Mbile, P., M. Vabi, M. Meboka, D. Okon, J. Arrey-Mbo, F. Nkongho, and E. Ebong

**2005 Linking management and livelihood in environmental conservation: case of the Korup National Park Cameroon.** *Journal of Environmental Management* 76(1):1-13.

**ABSTRACT:** Biodiversity conservation has emerged within the past two decades as one of the most important global challenges confronting national planners, world bodies, professionals and academics. Governments faced with increasing biodiversity loss as a result of human activities have resorted to the creation of protected areas as a strategy to both slow down habitat loss and or degradation and eventually mitigate species extension and reduction rates. However, the creation of a protected area can have strong implications on the livelihoods of people inhabiting the forest and depending on it, especially those caught within its borders. The involvement of such inhabitants in the management process of the protected area can be profitable. This paper discusses the case of the Korup National Park, Cameroon, considered in the late 1980s by some to be a flagship of conservation and development efforts, and later on in the late 1990s by others as a catastrophic failure as an example of integrated conservation and development. As a means of updating the program's management information base, an in-depth participatory and socio-ecological survey was conducted by some of the program's technical staff. This study aimed at appraising the extent to which the Park's human community of 4200 inhabitants continued to relate to its resources and depend on them for their livelihood. The aim was to evaluate the potential links between the communities' livelihood and the long-term management and survival of the Park as the important biodiversity conservation zone it had been found to be. Results indicate that the successful management of a Park like Korup may well depend on the involvement of the local communities; and that successful management through approaches that minimize the potential contributions and aspirations of the local people is difficult to achieve.

**KEYWORDS:** Livelihoods

Protected area

Adaptive management

**NOTES:**

McBeath, Gerald A., and Thomas A. Morehouse

**1980 The dynamics of Alaska Native self-government** Lanham, MD: University Press of America, Inc.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

McCarthy, Mac

**1985 Yup'ik seal hunters.** *Oceans* 18(2):34-38.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

McCartney, Allen P.

**1983 History of native whaling in the Arctic and Subarctic.** *Arctic Whaling (Proceedings of the International symposium: Arctic Whaling February 1983):79-111.*

**ABSTRACT:****KEYWORDS:****NOTES:**

McCartney, Allen P.

**1988 Late prehistoric metal use in the New World Arctic.** The Late Prehistoric Development of Alaska's Native People:57-94.

**ABSTRACT:****KEYWORDS:****NOTES:**

McCartney, Arthur P., and James M. Savelle

**1983 Thule Eskimo whaling in the central Canadian Arctic.** *In* Megafauna of the seas: large sea mammal hunting and use among native societies - 6th International Congress of Anthropological and Ethnological Sciences Pp. 37-58. Vancouver, Canada.

**ABSTRACT:** Recent interpretations of prehistoric Thule Eskimo culture of the Canadian Arctic emphasize whaling as well as nonwhaling subsistence patterns, depending upon location and period. Mathiassen was the first archaeologist to contrast the whaling pattern with the nonwhaling pattern of caribou/seal hunting and fishing. The Somerset Island-Boothia Peninsula-King William Island area, at the center of the Canadian Archipelago, is an excellent locale for studying these two major adaptations because whaling sites facing open summer waters are found near nonwhaling sites facing ice-choked channels. Whale bones occur in abundance at Thule winter sites between Creswell Bay and Bellot Strait on Somerset Island; much of the beach there is postulated to have been used by Thule Eskimos as a whaling beach. Boothia Peninsula and King William Island sites, by comparison, have very few whale bones, but are situated near caribou crossings and/or sealing localities and rivers and lakes rich in fish. By contrasting these two dominant subsistence-settlement systems, the variability of the Thule archaeological record may be clarified in regard to local and regional ecological adjustments. Methodologically, we note that combined aerial and foot surveys have proved to be important in locating sites and associated subsistence activity areas such as whaling beaches.

**KEYWORDS:****NOTES:**

McCay, Bonnie J.

**1980 A fishermen's cooperative, limited: Indigenous resource management in a complex society.** *Anthropological Quarterly* 53(1):29-38.

**ABSTRACT:** This paper discusses certain aspects of a fishermen's cooperative of the New York Bight region of the Middle Atlantic coast. Emphasized are the ways in which the cooperative functions as a vehicle of indigenous fisheries management, as part of its larger function of helping its members cope with environmental uncertainty.

**KEYWORDS:****NOTES:**

McGee, Jack B.

**2010 Subsistence hunting and fishing in Alaska: Does ANILCA's rural subsistence priority really conflict with the Alaska constitution?** *Alaska Law Review* 27:221-297.

**ABSTRACT:** All parties to the subsistence controversy in Alaska (the state and the federal government, sportsmen's associations, outdoor organizations, and Native groups) have assumed that the Alaska National Interest Lands Conservation Act (ANILCA) grants residents of rural Alaska an exclusive right to engage in subsistence hunting and fishing on public lands. As a result, there appears to be an intractable contradiction between the "equal access" provisions of the Alaska Constitution and the subsistence provisions of ANILCA. This Article will question this

widespread assumption. It will argue that while it is true that ANILCA creates a subsistence priority preference for rural Alaskans in the sense that at those times when fish or wildlife populations are threatened, rural Alaskans will be the very last group to have their right to subsistence hunting or fishing limited (i.e., ANILCA's rural preference), **the text of ANILCA does not support the claim that it creates a right to subsistence hunting and fishing on public lands that belongs exclusively to residents of rural Alaska. Consequently, there is no intractable contradiction between the Alaska Constitution and ANILCA.**

**KEYWORDS:**

**NOTES:** The conclusion that section 3113 creates an exclusive rural preference rests on this inference: since subsistence uses of fish and wildlife are those customary and traditional uses that rural residents of Alaska make of fish and wildlife, it must follow that no non-rural residents of Alaska can engage in subsistence hunting and fishing on public lands in Alaska. (p. 242)

In light of the text of section 3113, as well as the section-by-section analysis of Senate Report No. 96-413, it seems to be something of a stretch to convert what is essentially a definitional statute—the purpose of which is to define “subsistence uses”—into a right-granting statute that confers an exclusive right to engage in the subsistence use of wild resources on a particular class of Alaskans.

A more plausible reading of section 3113 is that its purpose is twofold: (1) to identify a particular class of uses of wild resource (“subsistence uses”) and (2) to define the uses that belong to this class. It does this first by defining “subsistence uses” to mean those uses of “wild, renewable resources” that one finds to be “customary and traditional” among rural residents of Alaska. (pp. 243-244)

How this question will finally be resolved is a political matter. But this is no ordinary political issue. Rather, it is a matter that raises a difficult question in political theory. A philosophical divide exists between those who argue that the cornerstone of any democratic regime is the principle of individual rights and those who take the view that at least some political rights, though seemingly individual in nature, actually belong to a community or culture. The former understand the Alaska Constitution as protecting an “individual reliance on fish and game for sustenance.” The latter understand subsistence to be “a kind of community entitlement.”

The tension between these two philosophical views gives rise to two opposing concerns. One side fears that if the notion of group rights—in the sense of a group claim to certain resources held in common by the entire political community—becomes accepted in our democracy, then the very idea of individual rights is threatened. The other side fears that “where Native rights and culture are pitted against states['] rights and the culture of the individual, Native rights and cultures will lose.”

The question is not whether to amend Alaska's constitution; the real subsistence issue is whether and how these two opposing views might be reconciled through the democratic process. (pp. 254-255)

McGhee, R., Ernest S. Burch, Jr., Y. Csonka, D. E. Dumond, H. C. Gullov, S. Rowley, P. Schledermann, E. A. Smith, D. R. Stenton, and G. W. Wenzel

**1994 Disease and the development of Iñuit culture [and comments and reply].** Current Anthropology:565-594.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

McGinnis, Michael D.

**2011 An Introduction to IAD and the Language of the Ostrom Workshop: A Simple Guide to a Complex Framework.** Policy Studies Journal 39(1):169-183.

**ABSTRACT:** This guide provides definitions or brief explanations of all the major terms and concepts used in the Institutional Analysis and Development (IAD) framework. Also included are terms from the closely related frameworks on local public economies, public service industries, grammar of institutions, and social-ecological systems (SES).

**KEYWORDS:** institutional analysis, governance, policy theory, concepts, systems, Ostrom

**NOTES:**

McGoodwin, James R.

**2007 Effects of climatic variability on three fishing economies in high-latitude regions: Implications for fisheries policies.** *Marine Policy* 31(1):40-55.

**ABSTRACT:** Research exploring how climatic variability impacts fishing economies in high-latitude regions was conducted in south-central Iceland and southwest Alaska during 2001-2004. **Important differences were found regarding the economic impacts of climatic variations in the commercial economies in Iceland and Alaska, versus in the native subsistence economies in Alaska. In general, the commercially inclined economies in both regions seemed less resilient to ordinary climatic variability.** Moreover, both of the commercial economies were importantly influenced by fluctuations in global fish markets that are prompted by climatic variations occurring in regions that are geographically very distant from them. A better understanding of how climatic variability affects fishing economies in high-latitude regions will help in the development of more sustainable fisheries policies for these regions, which may already be experiencing radical climatic and ecological change.

**KEYWORDS:** climate, fisheries, Arctic, Sub-Arctic, Alaska, Iceland

**NOTES:**

McGrath-Hanna, Nancy K., Dana M. Greene, Ronald J. Tavernier, and Abel Bult-Ito

**2003 Diet and mental health in the Arctic: is diet an important risk factor for mental health in circumpolar peoples?-a review.** *International Journal of Circumpolar Health* 62(3):228-241.

**ABSTRACT: Background.** The people living in Arctic and Subarctic environments have adapted to cold temperatures, short growing seasons, and low precipitation, but their traditional ways are now changing due to increased contact with Western society. The rapid alteration of circumpolar cultures has led to generational changes in diet from traditional foods to the processed groceries common in modern stores. **Objectives.** Develop a link between changing traditional diets and mental health that may have substantial consequences for circumpolar peoples. **Methods.** Review of English language literature pertaining to the northern circumpolar environments of the world that consist of the Arctic and Subarctic areas. Electronic resources such as ISI Web of Science and PubMed were utilized, using keywords such as arctic, circumpolar, diet, omega-3 fatty acids, mental health, seasonal affective disorder, and suicide. In addition, we used the cited references of obtained articles and the extensive University of Alaska Fairbanks library collections to identify additional publications that were not available from the electronic resources. The years covered were not restricted to any particular period, although 83% of the sources were published in the last 16 years. **Conclusion.** The change in traditional diets has already led to increased health problems, such as obesity, cardiovascular disease, and diabetes, while the mental health of circumpolar peoples has also declined substantially during the same time period. The decline in mental health is characterized by increased rates of depression, seasonal affective disorder, anxiety, and suicide, that now often occur at higher rates than in lower-latitude populations. Studies in non-circumpolar peoples have shown that diet can have profound effects on neuronal and brain development, function, and health. **Therefore, we hypothesize that diet is an important risk factor for mental health in circumpolar peoples.**

**KEYWORDS:****NOTES:**

McLain, Carrie M.

**1969 An illistrated historical chronicle of gold-rush Nome.** Nome, Alaska: Graphic Arts Center.

**ABSTRACT:****KEYWORDS:****NOTES:**

McNabb, Steven

**1982 Conduct, code and perception in Inupiaq organization of space.** 1-18.

**ABSTRACT:****KEYWORDS:****NOTES:**

McNabb, S

**1991 Elders, Inupiat Ilitqusiatic, and culture goals in northwest Alaska.** Arctic anthropology 28(2):63-76.

**ABSTRACT:** *Iñupiat Ilitqusiatic*, which translates roughly as "wisdom and lessons of *Iñupiaq* people," is a social movement that became institutionalized in northwest Alaska during the 1980s. It advocates both social and individual change and is now constituted by, among other things, formal programs in official regional agencies and in the regional ANCSA corporation. Although institutionalization of the movement has promoted some degree of uniformity, the movement as a whole is not characterized by uniformity. On the contrary, when regional Iñupiat identify the motivating factors that gave rise to and sustain the movement, those factors are diverse and occasionally contradictory. This paper presents and analyzes the factors so identified by *Iñupiat* and concludes that the movement is best seen as a loose alliance of similar interests. The institutional features, including conscious administrative guidance, do not challenge the movement's grass-roots legitimacy, since those institutional features are common to most successful twentieth century social movements.

**KEYWORDS:** *Iñupiat Ilitqusiatic; social movement; culture; Alaska; northwest Alaska;*

**NOTES:**

McNabb, Steven L.

**1985 a final comment on measurement of the "skipper effect".** American Ethnologist 12(3):543-544.

**ABSTRACT:****KEYWORDS:**

**NOTES:** 10.1525/ae.1985.12.3.02a00110

McNabb, Steven L.

**1990 The Uses of "Inaccurate" Data: A Methodological Critique and Applications of Alaska Native Data.** American Anthropologist 92(1):116-129.

**ABSTRACT:** The ramifications of a current debate about informant accuracy are shown to extend well beyond informant accuracy per se, since they invite scrutiny of fundamental epistemological assumptions. Accuracy is analyzed as a complex concept that must be evaluated along several dimensions, suggesting that multiple standards of "accuracy" require multiple methods of data collection and interpretation known generally as triangulation. Alaska Native data collected by several disparate means are briefly analyzed in order to illustrate how triangulation works.

**KEYWORDS:****NOTES:** 10.1525/aa.1990.92.1.02a00080

McNamara, Katherine

**1984 "What you give away, it comes back to you. When you give away food to others, it comes back to you."** Pp. 1-17. Fairbanks, Alaska: Alaska Anthropology Association.**ABSTRACT:****KEYWORDS:****NOTES:**

McNeeley, Shannon M., and Martha D. Shulski

**2011 Anatomy of a closing window: Vulnerability to changing seasonality in Interior Alaska.** Global Environmental Change 21(2):464-473.

**ABSTRACT:** Alaska is among the fastest warming places on Earth, and the Interior region is warming the most statewide. Significant regional-scale ecosystem services disruptions are affecting Alaska Natives' subsistence hunting and harvest success. The well-being of rural native communities is still highly dependent on access and ability to harvest wild foods such as salmon and moose (*Alces alces gigas*) among many others. Over the last decade communities in the Koyukuk-Middle Yukon (KMY) region of Interior Alaska report an inability to satisfy their needs for harvesting moose before the hunting season closes, citing warmer falls, changing precipitation and water levels, and the regulatory framework as primary causes. Through the integration of ethnographic methods to record indigenous observations and understanding of climate (IC) with analysis of meteorological data, we provide a comprehensive picture of vulnerability to recent warming trends in the Koyukuk-Middle Yukon region of Interior Alaska, one that captures more than statistical analysis of "norms" can provide. We will demonstrate how low exposure resulting in a small shift in seasonality has truly socially significant effects to people "on the ground" when community sensitivity is high because of the convergence of multiple social-ecological stressors. In this case, a seemingly small climatic exposure when combined with high social-ecological system sensitivity results in vulnerability to this climate change-related seasonality shift because of: (a) the effects on moose and the social-ecological dynamics of the system, and (b) the importance of this time of the year to meeting annual subsistence needs.

**KEYWORDS:** Climate change

Vulnerability

Sensitivity

Adaptation

Multiple stressors

Indigenous observations and understanding of climate

**NOTES:**

Means, Russell

**1980 Fighting Words on the Future of the Earth.** Mother Jones 5(10):12-38.**ABSTRACT:****KEYWORDS:****NOTES:**

Meek, Chanda L., Amy Lauren Lovcraft, Martin D. Robards, and Gary P. Kofinas

**2008 Building resilience through interlocal relations: Case studies of polar bear and walrus management in the Bering Strait.** Marine Policy 32(6):1080-1089.

**ABSTRACT:** Arctic coastal communities in the Bering Strait region of Alaska (USA) and Chukotka (Russia) share a close relationship with their natural environments that can be characterized as a social-ecological system. This system is complex, featuring changing

ecosystem conditions, multiple jurisdictions, migratory animal populations, and several cultures. We argue that linkages between communities in both countries enhance the effectiveness of transborder polar bear and walrus conservation. We find that locally embedded bilateral institutions can provide effective management venues that persist despite slow or lacking processes of international law because they provide a better fit between rules for managing and the true system state.

**KEYWORDS:** Social-ecological systems

Transborder conservation  
Wildlife management  
Cross-scale interactions  
Co-management  
Marine mammals

**NOTES:**

Meek, Chanda L., Amy Lauren Lovcraft, Martin D. Robards, and Gary P. Kofinas

**2008 Building resilience through interlocal relations: Case studies of polar bear and walrus management in the Bering Strait.** *Marine Policy* 32(6):1080-1089.

**ABSTRACT:** Arctic coastal communities in the Bering Strait region of Alaska (USA) and Chukotka (Russia) share a close relationship with their natural environments that can be characterized as a social-ecological system. This system is complex, featuring changing ecosystem conditions, multiple jurisdictions, migratory animal populations, and several cultures. We argue that linkages between communities in both countries enhance the effectiveness of transborder polar bear and walrus conservation. We find that locally embedded bilateral institutions can provide effective management venues that persist despite slow or lacking processes of international law because they provide a better fit between rules for managing and the true system state.

**KEYWORDS:** Social-ecological systems

Transborder conservation  
Wildlife management  
Cross-scale interactions  
Co-management  
Marine mammals

**NOTES:**

Melchior, Herb, and Dick Bishop

**1977 Subsistence: A starting point.** 6-7.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Melgar-Quinonez, Hugo R., Ana C. Zubieta, Barbara McNelly, Anastase Nteziyaremye, Maria Filipinas D. Gerardo, and Christopher Dunford

**2006 Household Food Insecurity and Food Expenditure in Bolivia, Burkina Faso, and the Philippines.** *Journal of Nutrition* 136(5):1431S-1437.

**ABSTRACT:** This study examined the association between food insecurity, determined by a modified version of the U.S. Household Food Security Survey Module (US HFSSM), and total daily per capita (DPC) consumption (measured as household expenditures) in Bolivia, Burkina Faso, and the Philippines. Household food insecurity was determined by an adapted 9-item US HFSSM version. A short version of the World Bank's Living Standards Measurement Study (LSMS) consumption module measured household expenditures. Focus groups were used to adapt the survey instrument to each local context. The sample (n [~] 330 per country) includes

residents of urban and rural areas. A 12-month food expenditure aggregate was generated as part of the total household expenditures calculation. DPC food expenditure, which represented over 60% of the total household consumption, as well as expenditures on specific food groups correlated with food insecurity both as a continuous Food Insecurity Score (FinSS) and a tricategorical food insecurity status variable. ANOVA and regression analysis were executed adjusting for social and demographic covariates. Food-secure households have significantly higher ( $P < 0.05$ ) total DPC food expenditures as well as expenditures on animal source foods, vegetables, and fats and oils than moderately and severely food-insecure households. The results offer evidence that the US HFSSM is able to discriminate between households at different levels of food insecurity status in diverse developing world settings.

**KEYWORDS:****NOTES:**

Messick, James

**1981 Trespass and unauthorized use of Native lands in Alaska.** 1-42.

**ABSTRACT:****KEYWORDS:****NOTES:**

Michelutti, Neal, Jules M. Blais, Mark L. Mallory, Jaclyn Brash, Joshua Thienpont, Lynda E. Kimpe, Marianne S. V. Douglas, and John P. Smol

**2010 Trophic position influences the efficacy of seabirds as metal biovectors.**

Proceedings of the National Academy of Sciences:-.

**ABSTRACT:** Seabirds represent a well documented biological transport pathway of nutrients from the ocean to the land by nesting in colonies and providing organic subsidies (feces, carcasses, dropped food) to these sites. We investigated whether seabirds that feed at different trophic levels vary in their potency as biovectors of metals, which can bioaccumulate through the marine foodweb. Our study site, located on a small island in Arctic Canada, contains the unique scenario of two nearby ponds, one of which receives inputs almost exclusively from upper trophic level piscivores (Arctic terns, *Sterna borealis*) and the other mainly from lower trophic level molluscivores (common eiders, *Haliaeetus urinus*). We used dated sediment cores to compare differences in diatoms, metal concentrations and also stable isotopes of nitrogen ( $\delta^{15}\text{N}$ ), which reflect trophic position. We show that the seabirds carry species-specific mixtures of metals that are ultimately shunted to their nesting sites. For example, sediments from the tern-affected pond recorded the highest levels of  $\delta^{15}\text{N}$  and the greatest concentrations of metals that are known to bioaccumulate, including Hg and Cd. In contrast, the core from the eider-affected site registered lower  $\delta^{15}\text{N}$  values, but higher concentrations of Pb, Al, and Mn. These metals have been recorded at their greatest concentrations in eiders relative to other seabirds, including Arctic terns. These data indicate that metals may be used to track seabird population dynamics, and that some metal tracers may even be species-specific. The predominance of large seabird colonies on every continent suggests that similar processes are operating along coastlines worldwide.

**KEYWORDS:****NOTES:**

Milan, Frederick A.

**1978 Demographic and population parameters of the present inhabitants of Northwest Alaska.** Eskimos of Northwestern Alaska. Stroudsburg, PA: Dowden, Hutchinson and Ross:222-232.

**ABSTRACT:****KEYWORDS:****NOTES:**

Milan, Frederick A., and S. Pawson

**1975 The demography of the Native population of an Alaskan city.** Arctic 28(4):275-283.



**ABSTRACT:** The 1970 census data showed an increased urban-ward migration of Alaska natives into Alaska's cities. This paper utilized archival, literature and survey sources to follow the migration of Alaska natives into Fairbanks. This evidence showed that migration started fifty years ago, women out-numbered men, in the late 40's migration was circular in that families returned to their villages, and presently 47% of households of the native "community" are interracial.

**KEYWORDS:**

**NOTES:**

Milgram, Stanley

**1967 The small world problem.** Psychology Today 2:60-67.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Miller, J.T., S.J. Bissell, J.A. Hill, and J.R. Davis

**2010 Policy Changes to the Federal and State Management of Subsistence Hunting and Fishing in Alaska.**

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Mills, David D.

**1982 Historical and contemporary fishing for salmon and eulachon at Klukwan: an interim report.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report provides a description of past and present fishing activities by the residents of Klukwan, a community of 135 people on the Chilkat River in northern Southeast Alaska. Historical and contemporary methods of preparation and preserving salmon and eulachon are described.

**KEYWORDS:**

**NOTES:**

Mills, David D.

**1982 The procurement and use of abalone in Southeast Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes the uses of abalone in the five Southeast Alaska communities of Hydaburg, Klawock, Craig, Ketchikan, and Sitka. Demographic and socioeconomic data are provided, along with detailed information on harvest methods, uses of the resource, and distribution patterns.

**KEYWORDS:**

**NOTES:**

Mills, David D., and Anne S. Firman

**1986 Fish and wildlife use in Yakutat, Alaska: contemporary patterns and changes.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report presents findings from a comprehensive study of contemporary hunting and fishing patterns conducted in Yakutat during 1984-1985. Methodologies included key respondent interviews, a random survey of 50 households, subsistence land use mapping, and participant observation. The report describes and analyzes the relationship between timber harvesting and road building activities in the Yakutat area and changes in local hunting and fishing patterns, such as changes in areas utilized and harvest methods.

**KEYWORDS:****NOTES:**

Mills, David D., Valerie A. Sumida, Gabriel D. George, and Matthew A. Kookesh

**1984 Salmon use by the residents of the Chilkat and Chilkoot river drainages, 1983.**  
Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes the uses of salmon by residents of the Chilkat and Chilkoot river valleys during 1982-1983, based on random-sample surveys, key respondent interviews, and participant observation. The report also presents information on other nonfish resource harvest activities and socioeconomic characteristics of the area. The report compares household fish and wildlife harvests and socioeconomic factors between Haines, Klukwan, and residents living along the Haines Highway.

**KEYWORDS:****NOTES:**

Minc, L.D.

**1986 Scarcity and survival: the role of oral tradition in mediating subsistence crises.**  
Journal of Anthropological Archaeology 5(1):39-113.

**ABSTRACT:** Survival of periodic subsistence crises is largely dependent on a group memory of past crisis situations and of the strategies appropriate for dealing with the altered environmental conditions. One mechanism utilized by nonliterate societies for the preservation of survival knowledge is its incorporation in oral tradition. As a body of reference knowledge, oral traditions potentially operate over two time scales. Secular oral traditions (folktales, songs, and histories) depend on repetition for perpetuation with inherent potential for distortion. In contrast, sanctified oral traditions, such as ritual performances, rely on a correct reproduction of the ritual order to achieve supernatural efficacy. Rituals accordingly assume an invariant character appropriate for the transmission of survival information over extended periods of time. The role of oral tradition in mediating subsistence crises is examined for two hunter-gatherer groups: the Tareumiut and Nunamiut of northwest Alaska. Utilizing the ecological and ethnographic literature, the temporal variability in the primary faunal resources of these groups is modeled and the social means for buffering subsistence stress are presented. The survival strategies encoded in secular and sanctified forms of oral tradition are then evaluated and compared. The study concludes that secular forms provide a readily available medium for the enculturation of specific values or behaviors relating to group survival across seasonal or short-term interannual shortages, while ritual performances provide a model of resource variability and the appropriate responses relevant to crisis situations recurring on the pan-generational time scale.

**KEYWORDS:** resilience, scarcity, subsistence

**NOTES:**

Minn, Beverly P.

**1982 Report on subsistence harvest of migratory birds in Sisualik, Deering, and Kivalina, 1982.** Pp. 1-18. Kotzebue, Alaska: Wildlife Operations, U.S. Fish and Wildlife Service.

**ABSTRACT:**

**KEYWORDS:** waterfowl, subsistence use, Kotzebue Sound

**NOTES:**

Miraglia, Rita A.

**2002 The Cultural and Behavioral Impact of the Exxon Valdez Oil Spill on the Native Peoples of Prince William Sound, Alaska.** Spill Science & Technology Bulletin 7(1-2):75-87.

**ABSTRACT:**

**KEYWORDS:** Oil spill

Exxon Valdez  
Alaska native  
subsistence  
native cultures  
beliefs  
traditional values

**NOTES:**

Mohatt, Gerald V., Kelly L. Hazel, James Allen, Mary Stachelrodt, Chase Hensel, and Robert Fath

**2004 Unheard Alaska: Culturally Anchored Participatory Action Research on Sobriety with Alaska Natives.** American Journal of Community Psychology 33(3):263-273.

**ABSTRACT:** Alcohol research in Alaska Native communities has a contentious history. This project has attempted to address a critical need for research to guide alcohol abuse prevention and treatment with Alaska Natives using culturally anchored participatory action research. The process of grounding the research methodology in the culture and community is described, along with its contribution to community psychology's understanding of the importance of cultural factors. Tensions between indigenous values and ways of knowing, and Western research methodologies are delineated, along with how these tensions were resolved. Important issues that arose in doing culturally anchored participatory action research are described. These included the development of a community of inquiry, key methodological decisions, the empowerment of participants as coresearchers, and flexibility in research implementation.

**KEYWORDS:** Behavioral Science, research, method

**NOTES:**

Moller, Henrik, Fikret Berkes, Phillip O'Brian Lyver, and Mina Kislalioglu

**2004 Combining science and traditional ecological knowledge: monitoring populations for co-management.** Ecology and Society 9(3):2.

**ABSTRACT:** Using a combination of traditional ecological knowledge and science to monitor populations can greatly assist co-management for sustainable customary wildlife harvests by indigenous peoples. Case studies from Canada and New Zealand emphasize that, although traditional monitoring methods may often be imprecise and qualitative, they are nevertheless valuable because they are based on observations over long time periods, incorporate large sample sizes, are inexpensive, invite the participation of harvesters as researchers, and sometimes incorporate subtle multivariate cross checks for environmental change. A few simple rules suggested by traditional knowledge may produce good management outcomes consistent with fuzzy logic thinking. Science can sometimes offer better tests of potential causes of population change by research on larger spatial scales, precise quantification, and evaluation of population change where no harvest occurs. However, science is expensive and may not always be trusted or welcomed by customary users of wildlife. Short scientific studies in which traditional monitoring methods are calibrated against population abundance could make it possible to mesh traditional ecological knowledge with scientific inferences of prey population dynamics. This paper analyzes the traditional monitoring techniques of catch per unit effort and body condition. Combining scientific and traditional monitoring methods can not only build partnership and community consensus, but also, and more importantly, allow indigenous wildlife users to critically evaluate scientific predictions on their own terms and test sustainability using their own forms of adaptive management.

**KEYWORDS:**

**NOTES:**

Monaghan, Hugh J.

**1983 The caribou management board and its early growth.**

**ABSTRACT:****KEYWORDS:****NOTES:**

Moncrieff, Catherine F.

**2007 Traditional ecological knowledge of customary trade of subsistence harvested fish on the Yukon River.** In US Fish and Wildlife Service, Office of Subsistence Management, Fisheries Resource Monitoring Program. Pp. 04-265. Anchorage, Alaska: Fisheries Information Services, Study 04-265.

**ABSTRACT:** In January 2003, the Federal Subsistence Board adopted new regulations clarifying statewide customary trade practices of subsistence-caught fish and identified the need for additional information, to enable it to further refine regulations. This project addresses that need by documenting customary trade practices of salmon in three villages on the Yukon River. Interviews were conducted with 28 key informants, and included both interviews with individuals and groups. Results from the study indicate that customary trade supports subsistence economies by providing much-needed cash. Customary trade of salmon is part of a social system that distributes resources over time and space. In Alakanuk customary trade was described as opportunistic, only conducted in high-harvest years with the exception of a few households that supply those who are unable to fish. In Holy Cross, customary trade was not unusual with 7 out of 8 participants engaging in customary trade. In Tanana, 6 of the 13 participants were active in customary trade, whereas the remaining 7 either did not conduct customary trade or participated at a minimal level. Throughout the study communities, customary trade of fish was a way to earn cash when few other opportunities were available. Customary trade was not conducted for profit nor is it conducted in isolation from other subsistence activities. The money earned was used to support a lifestyle, buying equipment and supplies used in pursuing subsistence activities.

**KEYWORDS:****NOTES:**

Moncrieff, Catherine F.

**2007 Traditional ecological knowledge of customary trade of subsistence harvested fish on the Yukon River.** In US Fish and Wildlife Service, Office of Subsistence Management, Fisheries Resource Monitoring Program. Pp. 04-265. Anchorage, Alaska: Fisheries Information Services, Study 04-265.

**ABSTRACT:** In January 2003, the Federal Subsistence Board adopted new regulations clarifying statewide customary trade practices of subsistence-caught fish and identified the need for additional information, to enable it to further refine regulations. This project addresses that need by documenting customary trade practices of salmon in three villages on the Yukon River. Interviews were conducted with 28 key informants, and included both interviews with individuals and groups. Results from the study indicate that customary trade supports subsistence economies by providing much-needed cash. Customary trade of salmon is part of a social system that distributes resources over time and space. In Alakanuk customary trade was described as opportunistic, only conducted in high-harvest years with the exception of a few households that supply those who are unable to fish. In Holy Cross, customary trade was not unusual with 7 out of 8 participants engaging in customary trade. In Tanana, 6 of the 13 participants were active in customary trade, whereas the remaining 7 either did not conduct customary trade or participated at a minimal level. Throughout the study communities, customary trade of fish was a way to earn cash when few other opportunities were available. Customary trade was not conducted for profit nor is it conducted in isolation from other subsistence

activities. The money earned was used to support a lifestyle, buying equipment and supplies used in pursuing subsistence activities.

**KEYWORDS:**

**NOTES:**

Moody, J.

**2002 Importance of Relationship Timing for Diffusion, The.** Social Forces 81:25.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Moore, Greg

**1984-1985 Perspective on subsistence in Alaska.**

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Moore, Gregory D.

**1979 Issue background: Buckland food shortage.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** In 1979, a critical food shortage occurred in the village of Buckland. This report summarizes information on historical and current subsistence harvests, economy, society, and nutrition at Buckland. It documents the food shortage and outlines the need for a special caribou hunt in that area to alleviate the problem.

**KEYWORDS:** Arctic Region, Buckland, Buckland food shortage, caribou, Rangifer tarandus.

**NOTES:**

Moore, Gregory D.

**1980 Report on the special caribou season for Buckland, Alaska, December 5, 1979 - February 4, 1980.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** A special winter caribou hunt was allowed for the residents of Buckland in the 1979-1980 hunting season. This report discusses the results of a survey of participants in the hunt. Demographic, harvest, diet, food sharing, and perceptual data from responding households are analyzed.

**KEYWORDS:** Arctic Region, Buckland, Buckland food shortage, caribou, Rangifer tarandus.

**NOTES:**

Moore, Laura M., Melinda McNeal Rathkopf, Carol J. Sanner, Bonnie A. Whisman, and Jeffrey G. Demain

**2007 Seal and whale meat: two newly recognized food allergies.** Annals of Allergy, Asthma & Immunology 98(1):92-96.

**ABSTRACT:** Background Alaska's marine mammals compose a large portion of the diet of indigenous coastal Alaskan people. Bowhead whales (*Balaena mysticetus*) and bearded seals (*Erignathus barbatus*), inhabitants of the Bering and Beaufort seas along Alaska's western and northern coasts, are 2 of the most important subsistence species, serving as major food sources to the native population. Objective To describe an Inupiaq boy with symptoms consistent with an IgE-mediated food allergy after ingestion of bowhead whale and bearded seal meat. Methods Extracts of cooked bowhead whale and bearded seal were prepared, lyophilized, and evaluated for protein content. Sodium dodecyl sulfatepolyacrylamide gel electrophoresis was performed for each extract, followed by transfer to nitrocellulose and IgE immunoblots. Skin prick testing was

conducted using reconstituted extracts of 1:10 wt/vol dilution. Results Immunoblots revealed serum specific IgE binding with the extracts of bowhead whale and bearded seal meat. Protein bands of approximately 25, 40, 50, and 90 kDa were found in the seal meat. Protein bands of 55 and 90 kDa were found in the whale meat. Skin prick test results were positive to whale and seal extracts with appropriate positive and negative controls. Ten control subjects had negative reactions to both extracts. Conclusion A patient with moderate anaphylaxis to bowhead whale and bearded seal meat demonstrated serum specific IgE by means of immunoblot and positive skin prick test results. This is the first known reported case of specific IgE to these species.

**KEYWORDS:**

**NOTES:**

Moore, Riley D.

**1923 Social Life of the Eskimo of St. Lawrence Island.** American Anthropologist 25(3):339-375.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Moore, Sue E.

**2009 Marine mammals as ecosystem sentinels.** Journal of Mammalogy 89(3):534-540.

**ABSTRACT:** The earth's climate is changing, possibly at an unprecedented rate. Overall, the planet is warming, sea ice and glaciers are in retreat, sea level is rising, and pollutants are accumulating in the environment and within organisms. These clear physical changes undoubtedly affect marine ecosystems. Species dependent on sea ice, such as the polar bear (*Ursus maritimus*) and the ringed seal (*Phoca hispida*), provide the clearest examples of sensitivity to climate change. Responses of cetaceans to climate change are more difficult to discern, but in the eastern North Pacific evidence is emerging that gray whales (*Eschrichtius robustus*) are delaying their southbound migration, expanding their feeding range along the migration route and northward to Arctic waters, and even remaining in polar waters over winter -- all indications that North Pacific and Arctic ecosystems are in transition. To use marine mammals as sentinels of ecosystem change, we must expand our existing research strategies to encompass the decadal and ocean-basin temporal and spatial scales consistent with their natural histories.

**KEYWORDS:** climate change; marine ecosystems; marine mammals; seals; sentinels; whales

**NOTES:** doi: 10.1644/07-MAMM-S-312R1.1

Moore, Sue E., and Henry P. Huntington

**2008 Arctic marine mammals and climate change: impacts and resilience.** Ecological Applications 18(sp2):S157-S165.

**ABSTRACT:** Evolutionary selection has refined the life histories of seven species (three cetacean [narwhal, beluga, and bowhead whales], three pinniped [walrus, ringed, and bearded seals], and the polar bear) to spatial and temporal domains influenced by the seasonal extremes and variability of sea ice, temperature, and day length that define the Arctic. Recent changes in Arctic climate may challenge the adaptive capability of these species. Nine other species (five cetacean [fin, humpback, minke, gray, and killer whales] and four pinniped [harp, hooded, ribbon, and spotted seals]) seasonally occupy Arctic and subarctic habitats and may be poised to encroach into more northern latitudes and to remain there longer, thereby competing with extant Arctic species. A synthesis of the impacts of climate change on all these species hinges on sea ice, in its role as: (1) platform, (2) marine ecosystem foundation, and (3) barrier to non-ice-adapted marine mammals and human commercial activities. Therefore, impacts are categorized for: (1) ice-obligate species that rely on sea ice platforms, (2) ice-associated species

that are adapted to sea ice-dominated ecosystems, and (3) seasonally migrant species for which sea ice can act as a barrier. An assessment of resilience is far more speculative, as any number of scenarios can be envisioned, most of them involving potential trophic cascades and anticipated human perturbations. Here we provide resilience scenarios for the three ice-related species categories relative to four regions defined by projections of sea ice reductions by 2050 and extant shelf oceanography. These resilience scenarios suggest that: (1) some populations of ice-obligate marine mammals will survive in two regions with sea ice refugia, while other stocks may adapt to ice-free coastal habitats, (2) ice-associated species may find suitable feeding opportunities within the two regions with sea ice refugia and, if capable of shifting among available prey, may benefit from extended foraging periods in formerly ice-covered seas, but (3) they may face increasing competition from seasonally migrant species, which will likely infiltrate Arctic habitats. The means to track and assess Arctic ecosystem change using sentinel marine mammal species are suggested to offer a framework for scientific investigation and responsible resource management.

**KEYWORDS:** Arctic; climate change; impacts; marine mammals; resilience; sea ice

**NOTES:**

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**KEYWORDS:** Arctic; climate change; impacts; marine mammals; resilience; sea ice

**NOTES:**

Morehouse, Thomas A.

**1978 Governance in the Beaufort Sea region: Petroleum development and the North Slope Borough.** Springfield, VA: NTIS:1-10.

**ABSTRACT:****KEYWORDS:****NOTES:**

Morehouse, Thomas A.

**1984 Natives in Alaska's commercial fisheries.** Institute of Social and Economic Research ISER Research Summary(23).

**ABSTRACT:****KEYWORDS:****NOTES:**

Morehouse, Thomas A., and Gordon S. Harrison

**1975 State government and economic development in Alaska.** State Government.

**ABSTRACT:****KEYWORDS:**

**NOTES:** Alaska's size and remoteness create some unique problems for its state government. In this and a subsequent article, these problems will be explored, especially as they relate to the economic development efforts under way. The authors are Associate Professor Thomas A. Morehouse and Assistant Professor Gordon Scott Harrison of the Institute of Social, Economic and Government Research, University of Alaska.

Morehouse, Thomas A., and Linda E. Leask

**1978 Governance in the Beaufort Sea Region: Petroleum Development and the North Slope Borough.** Anchorage: U.S. Department of the Interior/Bureau of Land Management Alaska OCS Office.

**ABSTRACT:****KEYWORDS:**

**NOTES:** This study examines relationships between petroleum development and the evolution of local government institutions on Alaska's North Slope in the decade since the oil and gas discoveries at Prudhoe Bay in 1968. It focuses on the North Slope Borough, and it attempts to explain the formation and operations of the borough as responses to the problems and opportunities that arctic oil and gas development present to the Native people of the region. Our approach is to focus specifically on key issues of taxation, development, and environmental protection and on the interactions of the borough and external agencies concerning these issues. We also examine some institutional relationships within the region, paying particular attention to how the borough has affected governance in the villages and to how the borough and Arctic Slope Regional Corporation relate to each other. Finally, mindful that the borough has existed for only six rather crisis-ridden years, we attempt to reach some conclusions about the extent to which the North Slope Borough represents a successful case of Native self-determination or, in Mayor Hopson's words, a "natural democratic development."

Morehouse, Thomas A., and Linda E. Leask

**1978 Governance in the Beaufort Sea Region: Petroleum Development and the North Slope Borough: Executive Summary.** Anchorage: U.S. Department of the Interior/Bureau of Land Management/Alaska OCS Office.

**ABSTRACT:****KEYWORDS:**

**NOTES:** This report analyzes key issues of taxation, development, and environmental protection and the interactions of the borough and external organizations-- federal and state government agencies and oil companies --concerning these issues. It also examines institutional relationships within the region, particularly those between the borough and the villages and



between the borough and the Arctic Slope Regional Corporation. Finally, the report assesses some of the present meanings and effects of Native self-determination on the North Slope.

Moreno, J.L.

**1953 Who shall survive? .** New York: Beacon House.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Moreno, J. L., and H. H. Jennings

**1938 Statistics of social configurations.** Sociometry 1:342-34.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Morin, Alexandre, Roberson Edouard, and Gérard Duhaime

**2009 Beyond the harsh. Objective and subjective living conditions in Nunavut.** Polar Record 46(02):97-112.

**ABSTRACT:** This paper simultaneously analyses some objective and subjective living conditions in Nunavut (federal territory of Canada located in the Arctic) in 2001: population, housing, language, education, economic activities, health, social problems and geographic mobility. It examines original descriptive statistics from the Survey of living conditions in the Arctic and other sources. In some cases the results confirm the ordinary depressing picture of Inuit conditions, but in other cases statistics qualify or even contradict such a picture. The overall findings show that despite objective difficult conditions, Nunavummiut living in Nunavut (primarily the elites and the lower class) are generally satisfied with their communities so that the majority wishes to remain there. Certain modern social institutions and individual rationalities are contributing to this situation: wage earning, market economy, utilitarian and consumption oriented approach, democratic state based on law, formal knowledge, individualism and the capacity for self analysis. The concepts of aspiration and mastery of one's own destiny seem accurate to explain the importance of education and employment in people's satisfaction, and their dissatisfaction about the housing situation. The existence of family and neighbourhood networks appears to explain both a certain residential stability and out migration, through the social support functions of these networks, in which sharing and exchanging food play a major role. In general, if most of Nunavummiut continue to live in the Arctic despite unfavourable conditions, it is not only because they are able to ensure their material existence there, but also because they attach a meaning to and believe that that is where they have the best chance to exert the highest degree of control over their personal and domestic reality.

**KEYWORDS:** SLiCA network

**NOTES:** "Our findings indicate that despite harsh material living conditions, and which are often seen as such by them, almost all Nunavummiut are satisfied with their lives in their community (92.1 %) (STC 2005c) and want to stay there, and do not present a high level of psychological distress compared with several other populations." [\(p.105\)](#)

Morris, Judith M.

**1982 Naknek River subsistence and personal use fisheries—1982.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report provides general background information on the subsistence and personal use fisheries permitted on the Naknek River in 1982. Resource harvest and use information and distribution patterns are described.

**KEYWORDS:****NOTES:**

Morris, Judith M.

**1985 The use of fish and wildlife resources by residents of the Bristol Bay Borough, Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes contemporary uses of fish and wildlife in the 3 communities of the Bristol Bay Borough, Southwest Alaska: South Naknek, Naknek, and King Salmon. Research was conducted in 1982-1984. Data include seasonal rounds of resource harvests, harvest quantities for a 12-month study period, maps of resource harvest areas, and descriptions of harvesting groups and resource distribution networks. The report also contains historical and demographic information.

**KEYWORDS:****NOTES:**

Morris, Judith Marek

**1986 Subsistence production and exchange in the Iliamna Lake Region, Southwest Alaska, 1982-1983.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** The report describes harvest patterns in 7 communities in the Iliamna Lake area: Port Alsworth, Nondalton, Iliamna, Newhalen, Pedro Bay, Kokanok, and Igiugig. Data are based on interviews conducted in 1983. The research found high levels of subsistence production. Also, the report examines resource exchange patterns between communities.

**KEYWORDS:****NOTES:**

Morris, Judith Marek

**1987 Fish and wildlife uses in six Alaska Peninsula communities: Egegik, Chignik, Chignik Lagoon, Chignik Lake, Perryville, and Ivanof Bay.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes the results of 2 years of research on patterns of wild resource uses in 6 communities of the Alaska Peninsula: Egegik, Chignik, Chignik Lagoon, Chignik Lake, Perryville, and Ivanof Bay. Research methods included resource use area mapping, key respondent interviews, and a survey of about 80% of the households in each community using a standardized questionnaire. Included in the report are estimates of harvest quantities and levels of participation in the use and harvest of wild resources during 1984. Maps of resource harvest areas are presented. There is also a discussion of the relationship between involvement in commercial resource harvesting activities and involvement in subsistence activities.

**KEYWORDS:****NOTES:**

Morrow, Phillis, and Chase Hensel

**1992 Hidden dissension: Minority-majority relationships and the use of contested terminology.** Arctic anthropology:38-53.

**ABSTRACT:****KEYWORDS:****NOTES:**

Morseth, C. Michelle

**1997 Twentieth-century changes in beluga whale hunting and bucheing by the Kanjigmiut of Buckland, Alaska.** Arctic 50(3):241-255.

**ABSTRACT:** Since the late 1920s, the Kanigmiut of Kotzebue Sound have increasingly relied upon modern technology to hunt beluga whales (*Delphinapterus leucas*). This reliance has introduced changes in hunting practices and has coincided with changes in social structure, beliefs about man's relationship to marine mammals, and the symbolic value of the beluga. The beluga hunt continues to be characterized by the Kanigmiut as an annual event during which hunters participate in a structured set of practices requiring the cooperation of nonhunting community members. Yet, in recent years, the beluga hunt has also incorporated a newer set of practices favoring non-cooperative actions and individualized decision making. These changes in hunting practices have coincided with a drastic reduction in the number of beluga in Eschscholtz Bay. Exploration of the historical development of beluga hunting and butchering practices by the Kanigmiut suggests that while the adoption of new technology has contributed to changes in community structure, it has also led to a transformation of beliefs about the significance of hunting practices for animal behavior.

**KEYWORDS:** Alaska, beluga whales, *Delphinapterus leucas*, butchering, ethnology, Inuit, Iñupiat, Kotzebue Sound, marine; mammals

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Morseth, C. Michelle

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**KEYWORDS:** Alaska, beluga whales, *Delphinapterus leucas*, butchering, ethnology, Inuit, Iñupiat, Kotzebue Sound, marine; mammals

**NOTES:**

Morton, John F.

**2007 The impact of climate change on smallholder and subsistence agriculture.** Proceedings of the National Academy of Sciences 104(50):19680-19685.

**ABSTRACT:** Some of the most important impacts of global climate change will be felt among the populations, predominantly in developing countries, referred to as "subsistence" or "smallholder" farmers. Their vulnerability to climate change comes both from being predominantly located in the tropics, and from various socioeconomic, demographic, and policy trends limiting their capacity to adapt to change. However, these impacts will be difficult to model or predict because of (I) the lack of standardised definitions of these sorts of farming system, and therefore of standard data above the national level, (II) intrinsic characteristics of these systems, particularly their complexity, their location-specificity, and their integration of agricultural and nonagricultural livelihood strategies, and (III) their vulnerability to a range of climate-related and other stressors. Some recent work relevant to

these farming systems is reviewed, a conceptual framework for understanding the diverse forms of impacts in an integrated manner is proposed, and future research needs are identified.

**KEYWORDS:**

**NOTES:**

Moses, Sara K., Alex V. Whiting, Gerald R. Bratton, Robert J. Taylor, and Todd M. O'Hara

**2009 Inorganic nutrients and contaminants in subsistence species of Alaska: linking wildlife and human health.** International Journal of Circumpolar Health 68(1):53.

**ABSTRACT: Objectives.** To determine inorganic nutrient and contaminant concentrations in subsistence foods consumed by Alaska Natives, concentration changes related to common preparation methods and provide a basic risk-benefit analysis for these foods. **Study design.** Eleven essential and six non-essential elements were measured in foods derived from spotted seals and sheefish. **Methods.** Essential nutrients in foodstuffs were compared to Daily Recommended Intake (DRI) criteria. Non-essential elements were compared to Tolerable Daily Intake Limits (TOIL). These comparisons serve as a risk-benefit analysis, not as consumption advice. **Results.** Cooking altered nutrient and contaminant concentrations. Spotted seal muscle and kidney are rich in Fe and Se; liver in Cu, Fe, Mo and Se; and sheefish muscle in Se. TOIL was exceeded in a 100 g serving of seal for THg in raw and fried liver and boiled kidney; MeHg in dried muscle and raw and fried liver; Cd in raw and boiled kidney; and As in raw and rendered blubber. Arsenic exceeded TOIL in sheefish muscle. However, toxicity potential is likely reduced by the element form (i.e., organic As, inorganic Hg) and the presence of protective nutrients such as Se. **Conclusions.** Preparation methods alter wildlife tissues from their raw state, significantly affecting element concentrations. Direct evaluation of actual food items is warranted to determine risk-benefit ratios of traditional diets. Traditional foods provide many essential nutrients with a very limited risk from contaminants. We encourage continued consumption of traditional foods, and urge public health agencies to develop applicable models for providing consumption advice, incorporating food processing considerations.

**KEYWORDS:** spotted seal, sheefish, essential elements, heavy metals, subsistence

**NOTES:**

Moses, Sara K., Alex V. Whiting, Gerald R. Bratton, Robert J. Taylor, and Todd M. O'Hara

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**KEYWORDS:** spotted seal, sheefish, essential elements, heavy metals, subsistence

**NOTES:**

Moses, S. K., A. V. Whiting, G. R. Bratton, R. J. Taylor, and T. M. O'Hara

**2009 Inorganic nutrients and contaminants in subsistence species of Alaska: linking wildlife and human health.** International Journal of Circumpolar Health 68(1):53-74.

**ABSTRACT:** OBJECTIVES: To determine inorganic nutrient and contaminant concentrations in subsistence foods consumed by Alaska Natives, concentration changes related to common preparation methods and provide a basic risk-benefit analysis for these foods. STUDY DESIGN: Eleven essential and six non-essential elements were measured in foods derived from spotted seals and sheefish. METHODS: Essential nutrients in foodstuffs were compared to Daily Recommended Intake (DRI) criteria. Non-essential elements were compared to Tolerable Daily Intake Limits (TDIL). These comparisons serve as a risk-benefit analysis, not as consumption advice. RESULTS: Cooking altered nutrient and contaminant concentrations. Spotted seal muscle and kidney are rich in Fe and Se; liver in Cu, Fe, Mo and Se; and sheefish muscle in Se. TDIL was exceeded in a 100 g serving of seal for THg in raw and fried liver and boiled kidney; MeHg in dried muscle and raw and fried liver; Cd in raw and boiled kidney; and As in raw and rendered blubber. Arsenic exceeded TDIL in sheefish muscle. However, toxicity potential is likely reduced by the element form (i.e., organic As, inorganic Hg) and the presence of protective nutrients such as Se. CONCLUSIONS: Preparation methods alter wildlife tissues from their raw state, significantly affecting element concentrations. Direct evaluation of actual food items is warranted to determine risk-benefit ratios of traditional diets. Traditional foods provide many essential nutrients with a very limited risk from contaminants. We encourage continued consumption of traditional foods, and urge public health agencies to develop applicable models for providing consumption advice, incorporating food processing considerations.

**KEYWORDS:** Alaska

Animals

\*Diet

Fishes

\*Food

\*Food Analysis

Food Contamination/\*analysis

Food Supply/\*standards

Humans

Indians, North American

Inorganic Chemicals/\*analysis

Inuits

Meat/analysis

Nutritive Value/ethnology

Seals, Earless

Trace Elements/analysis

**NOTES:** Moses, Sara K

Whiting, Alex V

Bratton, Gerald R

Taylor, Robert J

O'Hara, Todd M

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Research Support, N.I.H., Extramural

Finland

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Int J Circumpolar Health. 2009 Feb;68(1):53-74.

Moses, S. K., A. V. Whiting, G. R. Bratton, R. J. Taylor, and T. M. O'Hara

**2009 Inorganic nutrients and contaminants in subsistence species of Alaska: linking wildlife and human health.** International Journal of Circumpolar Health 68(1):53-74.

**ABSTRACT:** OBJECTIVES: To determine inorganic nutrient and contaminant concentrations in subsistence foods consumed by Alaska Natives, concentration changes related to common preparation methods and provide a basic risk-benefit analysis for these foods. STUDY DESIGN: Eleven essential and six non-essential elements were measured in foods derived from spotted seals and sheefish. METHODS: Essential nutrients in foodstuffs were compared to Daily Recommended Intake (DRI) criteria. Non-essential elements were compared to Tolerable Daily Intake Limits (TDIL). These comparisons serve as a risk-benefit analysis, not as consumption advice. RESULTS: Cooking altered nutrient and contaminant concentrations. Spotted seal muscle and kidney are rich in Fe and Se; liver in Cu, Fe, Mo and Se; and sheefish muscle in Se. TDIL was exceeded in a 100 g serving of seal for THg in raw and fried liver and boiled kidney; MeHg in dried muscle and raw and fried liver; Cd in raw and boiled kidney; and As in raw and rendered blubber. Arsenic exceeded TDIL in sheefish muscle. However, toxicity potential is likely reduced by the element form (i.e., organic As, inorganic Hg) and the presence of protective nutrients such as Se. CONCLUSIONS: Preparation methods alter wildlife tissues from their raw state, significantly affecting element concentrations. Direct evaluation of actual food items is warranted to determine risk-benefit ratios of traditional diets. Traditional foods provide many essential nutrients with a very limited risk from contaminants. We encourage continued consumption of traditional foods, and urge public health agencies to develop applicable models for providing consumption advice, incorporating food processing considerations.

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Inorganic Chemicals/\*analysis

Inuits

Meat/analysis

Nutritive Value/ethnology

Seals, Earless

Trace Elements/analysis

**NOTES:** Moses, Sara K

Whiting, Alex V

Bratton, Gerald R

Taylor, Robert J

O'Hara, Todd M

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P20 RR016430-07/RR/NCRR NIH HHS/United States

Research Support, N.I.H., Extramural

Finland

International journal of circumpolar health

Int J Circumpolar Health. 2009 Feb;68(1):53-74.

Moses, Sara K., Alex V. Whiting, Derek C.G. Muir, Xiaowa Wang, and Todd M. O'Hara

**2009 Organic nutrients and contaminants In subsistence species of Alaska: Concentrations and relationship to food preparation method.** International Journal of Circumpolar Health 68(4):354-371.

**ABSTRACT: Objectives.** To determine nutrient and contaminant concentrations, document concentration changes related to common preparation methods and provide a basic risk-benefit analysis for select subsistence foods consumed by residents of Kotzebue, Alaska. **Study design.** Eleven organic nutrients and 156 persistent organic pollutants (POPs) were measured in foods derived from spotted seals and sheefish. **Methods.** Nutrients in foodstuffs were compared to Daily Recommended Intake criteria. POPs were compared to Tolerable Daily Intake Limits (TDIL). **Results.** Cooking, as well as absence/presence of skin during sheefish processing, altered nutrient and contaminant concentrations in seals and fish. Sheefish muscle and seal blubber were particularly rich in omega-3 fatty acids and seal liver in vitamin A. Seal liver exceeded the recommended upper limit for vitamin A. POP contribution to TDIL was <25% in all tissues except blubber, in which 4 POPs were present at >25% TDIL. No POPs exceeded TDIL in a serving of any tissue studied. The most prominent concerns identified were levels of vitamin A in spotted seal liver and certain POPs in blubber, warranting consideration when determining how much and how often these foods should be consumed. **Conclusions.** Preparation methods altering tissues from their raw state significantly affect nutrient and contaminant concentrations, thus direct evaluation of actual food items is highly recommended to determine risk-benefits ratios of traditional diets. Traditional foods provide essential nutrients with very limited risk from contaminants. We encourage the consumption of traditional foods and urge public health agencies to develop applicable models to assess overall food safety and quality.

**KEYWORDS:** Spotted seal, sheefish, organic nutrients, persistent organic pollutants, subsistence

**NOTES:**

Moses, Sara K., Alex V. Whiting, Derek C.G. Muir, Xiaowa Wang, and Todd M. O'Hara

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**KEYWORDS:** Spotted seal, sheefish, organic nutrients, persistent organic pollutants, subsistence

**NOTES:**

Moss, Madonna L.

**2010 Rethinking subsistence in Southeast Alaska: The potential of zooarchaeology.** Alaska Journal of Anthropology 8(1):121-135.

**ABSTRACT:** Subsistence use of fish and game in Alaska is tangled in a web of contradictory and complex state and federal legislation and regulation. The institutional structures that have metastasized with subsistence regulation illustrate how technologies of government have restructured people's lives and livelihoods. I argue that zooarchaeological research can help Alaska Natives assert their rights to continue to use resources as they have for thousands of years in an increasingly bureaucratic world. Use of fish and wildlife is central to Alaska Natives' ongoing struggles to retain their cultures and identities. Subsistence is very much about race and the struggle of Alaska Natives to maintain their cultures in the face of global homogenization. This article points to ways archaeologists, especially zooarchaeologists, can re-evaluate our social roles and contribute to the decolonization of subsistence.

**KEYWORDS:** Tlingit, historical ecology, resource management, subsistence

**NOTES:**

Moss, Madonna L., and P. M. Bowers

**2007 Migratory bird harvest in northwestern Alaska: a zooarchaeological analysis of Ipiutak and Thule occupations from the Deering archaeological district.** Arctic Anthropology 44(1):37.

**ABSTRACT:****KEYWORDS:****NOTES:**

Moulton, Lawrence L., and John C. George

**2000 Freshwater Fishes in the Arctic Oil-Field Region and Coastal Plain of Alaska.** In The Natural History of an Arctic Oil Field. C.T. Joe and R.J. Stephen, eds. Pp. 327-348. San Diego: Academic Press.

**ABSTRACT:** Summary The Alaskan arctic coastal plain contains an abundance of lakes and streams, giving the impression that habitat for freshwater fishes is abundant as well. This initial impression is misleading, however, because many of the water bodies are too shallow to support fish during the winter when ice depth can approach 2 m. Fish remaining in water <2 m deep after ice formation risk being killed. Winter is considered to be the limiting period for many freshwater fish in Alaska because of the extremely restricted habitat (Reynolds, 1997). But in spring, shallow waters warm rapidly and provide some of the more productive habitats, both for food production and for fish growth. Arctic fishes that utilize warmer water can have substantially higher growth rates than they would in cooler waters (Fechhelm et al., 1992). There is thus survival value for fish that develop a strategy of feeding in warm, shallow water during the summer and overwintering in deep water. This strategy of utilizing the warmest available water was initially described for anadromous species utilizing the Beaufort Sea coast (Craig and Haldorson, 1981), but also appears to be a successful strategy for freshwater species. Efficient utilization of the optimum overwintering, feeding, and spawning areas requires that fish move to the appropriate habitat at the right time; thus, complex migrations often are established. Despite these constraints, 21 fish species have been identified from freshwater habitats on the arctic coastal plain of Alaska (Table I).

**KEYWORDS:****NOTES:**

Moulton, Lawrence L., Brent Seavey, and Jerry Pausanna



**2010 History of an under-ice subsistence fishery for Arctic cisco and least cisco in the Colville River, Alaska.** Arctic 63(4):381-390.

**ABSTRACT:** Arctic cisco (*Coregonus autumnalis*) and least cisco (*C. sardinella*) are harvested in the Colville River Delta near Nuiqsut, Alaska, after ice forms in the fall. Arctic cisco targeted by the fall fishery derive from spawning stocks in the Mackenzie River of Canada. Young-of-the-year fish are recruited into the Colville region during August or September, aided by westerly coastal currents generated by predominantly easterly winds. In contrast, anadromous least cisco, harvested as the primary by-catch in the fishery, spawn and winter entirely in the Colville delta and lower river. This study reports on fishery monitoring for the 20-year period 1985 – 2004. During this period, effort in the subsistence fishery showed an increasing trend. Arctic cisco, the target species, averaged over 65% of the annual observed catch, and least cisco averaged 22%. From 1985 to 2002, total harvest of arctic cisco for the combined subsistence and commercial fisheries averaged 38 600 fish (15 958 kg) per year, ranging from a low of 5859 fish (2799 kg) in 2001 to 78 254 fish (31 340 kg) in 1993. During the same period, catches of least cisco averaged 18 600 fish (5819 kg), ranging from a low of 6606 fish (2014 kg) in 2001 to 33 410 fish (11 319 kg) in 1985. The subsistence fishery caught 56% of the total arctic cisco harvest and 42% of the least cisco harvest (in numbers of fish). In the six years for which estimates of both harvest and population level were available, total estimated annual harvest of arctic cisco within the Colville River Delta averaged 8.9% of the available fish, with yearly estimates ranging from 5.4% to 12.9%. For least cisco, the average annual removal rate was 6.8% (range: 2.9% to 13.8%).

**KEYWORDS:** arctic cisco, least cisco, subsistence, under-ice fishery, Colville River, Beaufort Sea, Alaska, harvest rates, age structure

**NOTES:**

Moulton, Lawrence L., Brent Seavey, and Jerry Pausanna

**2010 History of an under-ice subsistence fishery for Arctic cisco and least cisco in the Colville River, Alaska.** Arctic 63(4):381-390.

**ABSTRACT:** Arctic cisco (*Coregonus autumnalis*) and least cisco (*C. sardinella*) are harvested in the Colville River Delta near Nuiqsut, Alaska, after ice forms in the fall. Arctic cisco targeted by the fall fishery derive from spawning stocks in the Mackenzie River of Canada. Young-of-the-year fish are recruited into the Colville region during August or September, aided by westerly coastal currents generated by predominantly easterly winds. In contrast, anadromous least cisco, harvested as the primary by-catch in the fishery, spawn and winter entirely in the Colville delta and lower river. This study reports on fishery monitoring for the 20-year period 1985 – 2004. During this period, effort in the subsistence fishery showed an increasing trend. Arctic cisco, the target species, averaged over 65% of the annual observed catch, and least cisco averaged 22%. From 1985 to 2002, total harvest of arctic cisco for the combined subsistence and commercial fisheries averaged 38 600 fish (15 958 kg) per year, ranging from a low of 5859 fish (2799 kg) in 2001 to 78 254 fish (31 340 kg) in 1993. During the same period, catches of least cisco averaged 18 600 fish (5819 kg), ranging from a low of 6606 fish (2014 kg) in 2001 to 33 410 fish (11 319 kg) in 1985. The subsistence fishery caught 56% of the total arctic cisco harvest and 42% of the least cisco harvest (in numbers of fish). In the six years for which estimates of both harvest and population level were available, total estimated annual harvest of arctic cisco within the Colville River Delta averaged 8.9% of the available fish, with yearly estimates ranging from 5.4% to 12.9%. For least cisco, the average annual removal rate was 6.8% (range: 2.9% to 13.8%).

**KEYWORDS:** arctic cisco, least cisco, subsistence, under-ice fishery, Colville River, Beaufort Sea, Alaska, harvest rates, age structure

**NOTES:**

Mudar, Karen, and Stuart Speaker

**2003 Natural catastrophes in Arctic populations: The 1878-1880 famine on Saint Lawrence Island, Alaska.** *Journal of Anthropological Archaeology* 22(2):75-104.

**ABSTRACT:** This study draws on data from recent settlement surveys and new demographic data derived from repatriation-related assessments of human remains in museums to examine the circumstances of the 1878-1880 famine on Saint Lawrence Island, Alaska. The human data consist of a biased sample of individuals dying at these settlements. We compare this sample to an Arctic-specific model of population structure in order to identify and estimate segments of the population missing from the sample. The settlement-specific population estimates from the human remains are combined with population estimates derived from settlement data to give an island-wide population projection. The pre-famine population estimates indicate that the 1878-1880 famine mortality was over 90%. This tragic reduction in human population necessitated adoption of new hunting strategies that changed settlement patterns on the island. Migration of Yup'ik families from the Chukotka Peninsula after the famine is correlated with changes in house designs. This study suggests that cultural change was a significant feature of recovery from the famine and is an important factor in understanding cultural change in the archaeological record in the arctic.

**KEYWORDS:** Arctic

Saint Lawrence Island

Foragers

Famine

Settlement patterns

Demography

**NOTES:**

Mundy, Phillip R.

**2006 Harvest Management.** *In* Return to the River. N.W. Richard, ed. Pp. 465-505. Burlington: Academic Press.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Murdoch, John

**1892 Ethnological results of the Point Barrow expedition.** *In* Ninth Annual Report of the Bureau of Ethnology. J.W. Powell, ed. Washington D.C.: Government Printing Office.

**ABSTRACT:**

**KEYWORDS:** Alaska; Point Barrow; Eskimo; ethnography

**NOTES:**

Murphy, NJ, CD Schraer, MC Thiele, EJ BOYKO, LR Bulkow, BJ Doty, and AP LANIER

**1995 Dietary change and obesity associated with glucose intolerance in Alaska Natives.** *Journal of the American Dietetic Association* 95(6):676-682.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Murphy, Stephen M., and James A. Curatolo

**1987 Activity budgets and movement rates of caribou encountering pipelines, roads, and traffic in northern Alaska.** *Canadian Journal of Zoology* 65(10):2483-2490.

**ABSTRACT:** Insect harassment significantly affected caribou behavior by decreasing time spent feeding and lying and by increasing locomotion. Effects of oilfield disturbance on behavior were

most pronounced when insects were absent, suggesting that disturbance and insects did not have a substantial additive effect on behavior. When insects were absent, caribou within 600m of an elevated pipeline and road with traffic, and within 300m of a pipeline and road without traffic, had significantly different activity budgets than undisturbed caribou; disturbance effects were significantly greater in the site with traffic. Time spent lying and running and movement rates were the best indicators of oilfield disturbance, whereas time spent feeding was not affected. Cow-calf-dominated groups and groups larger than 10 animals reacted to lower levels of disturbance than other group types, but all group types reacted similarly to high levels of disturbance. Separation of elevated pipelines from heavily traveled roads is recommended as a means of minimizing disruption of caribou behavior and movements. Energetic stress resulting from disturbance-induced changes in behavior should be minimal in a properly designed oilfield.

**KEYWORDS:**

**NOTES:**

Murphy, Stephen M., and James A. Curatolo

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**ABSTRACT:** Insect harassment significantly affected caribou behavior by decreasing time spent feeding and lying and by increasing locomotion. Effects of oilfield disturbance on behavior were most pronounced when insects were absent, suggesting that disturbance and insects did not have a substantial additive effect on behavior. When insects were absent, caribou within 600m of an elevated pipeline and road with traffic, and within 300m of a pipeline and road without traffic, had significantly different activity budgets than undisturbed caribou; disturbance effects were significantly greater in the site with traffic. Time spent lying and running and movement rates were the best indicators of oilfield disturbance, whereas time spent feeding was not affected. Cow-calf-dominated groups and groups larger than 10 animals reacted to lower levels of disturbance than other group types, but all group types reacted similarly to high levels of disturbance. Separation of elevated pipelines from heavily traveled roads is recommended as a means of minimizing disruption of caribou behavior and movements. Energetic stress resulting from disturbance-induced changes in behavior should be minimal in a properly designed oilfield.

**KEYWORDS:**

**NOTES:**

Murray, Gordon, Peter C. Boxall, and Ross W. Wein

**2005 Distribution, Abundance, and Utilization of Wild Berries by the Gwich'in People in the Mackenzie River Delta Region.** Economic Botany 59(2):174-184.

**ABSTRACT:** This paper examines the abundance and Aboriginal use of botanical non-timber forest products in the Gwich'in Settlement Area in the Northwest Territories, Canada. Informants indicated that wild berries are important to Gwich'in diets and an important factor in culture and traditional land use. People collected mostly cloudberries (*Rubus chamaemorus*), blueberries (*Vaccinium uliginosum*), and lingonberries (*Vaccinium vitis-idaea*). The total quantities collected were estimated to be greater than other published accounts of berry gathering by northern Aboriginal peoples in North America. The total collected by the 450 households in the year 2000 was about 16,000 L. Inventories of wild berries on the landscape suggest that substantial quantities could be collected for commercial production, although the between-year supply can show considerable variation.

**KEYWORDS:** Boreal, Dene, Gwich' in, wild berries, plants

**NOTES:**

Muth, Robert M., David E. Ruppert, and Ronald J. Glass

**1987 Subsistence Use of Fisheries Resources in Alaska: Implications for Great Lakes Fisheries Management.** Transactions of the American Fisheries Society 116(3):510-518.

**ABSTRACT:** Abstract Use of fisheries resources for subsistence by rural populations is becoming an increasingly controversial issue in industrialized societies. Alaska is the only state which has enacted a law to provide for subsistence uses of renewable natural resources by both natives and nonnatives. The legal context of subsistence allocation and management is governed by both state and federal laws that currently ascribe subsistence rights only to rural Alaskan residents. These laws also provide priority allocation of fish and wildlife to subsistence users over other uses if harvest reductions are necessary to maintain viable fish and wildlife populations. Subsistence serves a variety of social, economic, and cultural functions in the lifestyles of Alaskan residents, including kinship cohesion, in-kind supplements to income, and maintenance of important ceremonial activities. Great Lakes fisheries managers are intimately familiar with the values and meanings associated with commercial and recreational uses of Great Lakes fisheries resources. They have relied on this knowledge successfully to design programs responsive to the needs of commercial and recreational users. Subsistence use of Great Lakes fisheries resources, however, constitutes a separate set of values that needs to be acknowledged and actively managed. Implications of the Alaskan experience for Great Lakes fisheries management include the need to identify the nature and extent of subsistence use of fisheries resources in the Great Lakes region and the importance of an impact assessment framework for evaluating the effects of specific policies and management actions on subsistence uses.

**KEYWORDS:**

**NOTES:**

Myrberg Jr, Arthur A.

**1990 The effects of man-made noise on the behavior of marine animals.** Environment International 16(4-6):575-586.

**ABSTRACT:** Reports of the effects of man-made noise on the behavior and related processes of marine animals are widely scattered among a variety of literature sources. This report brings much of this literature together and attempts a synthesis by a comparative analysis of the results obtained from taxonomically diverse species. Mammals and fishes are emphasized since little is known about the subject in other groups. Field studies have shown aversion by various baleen and toothed whales to the noise accompanying offshore petroleum exploration and production. Variation in response involves: level of source-noise to that of the ambient, degree of naivete of the animals to the source-noise, on-going activity at the time of exposure and, to an uncertain degree, the species involved. Although seals and their relatives have not been adequately examined regarding their response to underwater noise, individuals have been shown to be clearly susceptible (anatomically based) to high levels of such noise. Studies have also shown the deleterious effects of even moderate noise levels on hearing in fishes. Aversion to various types of man-made noise has been noted several times, with associated levels being similar to those noted when similar responses were recorded by whales. Finally, several studies have documented abnormal growth and reproductive processes in several species of fin- and shellfish due to high levels of man-made noise. Such findings should be of concern to the field of aquaculture, since it is dependent on such fundamental processes.

**KEYWORDS:**

**NOTES:**

Nadasdy, P.

**1999 The politics of TEK: Power and the "integration" of knowledge.** Arctic anthropology 36(1/2):1-18.

**ABSTRACT:** This paper takes a critical look at the project of "integrating" traditional knowledge and science. The project of integration has been and continues to be the cornerstone of efforts to involve northern aboriginal peoples in processes of resource management and environmental impact over the past 15 years. The idea of integration, however, contains the implicit assumption

that the cultural beliefs and practices referred to as "traditional knowledge" conform to western conceptions about "knowledge." It takes for granted existing power relations between aboriginal people and the state by assumign that traditional knowledge is simply a new form of "data" to be incorporated into existing management bureaucracies and acted upon by scientists and resource managers. As a result, aboriginal people have been forced to express themselves in ways that conform to the institutions and practices of state management rather than to their own beliefs, values, and practices. And, **since it is scientists and resource managers, rather than aboriginal hunters and trappers, who will be using this new "integrated" knowledge, the project of integration actually serves to concentrate power in administrative centers, rather than in the hands of aboriginal people.**

**KEYWORDS:**

**NOTES:**

Nadasdy, P.

**2003** **Reevaluating the co-management success story.** Arctic 56(4):367-380.

**ABSTRACT:** The integration of science and traditional knowledge (TEK), a cornerstone of contemporary cooperative management, entails translating First Nation people's life experiences into forms compatible with state wildlife management (e.g., numbers and lines on maps), with all the risks of distortion inherent in any translation process. Even after such a translation, however, knowledge-integration remains fraught with difficulties, many of Which seem on the surface to be technical or methodological. Surprisingly, despite these difficulties, the literature is full of accounts of successful co-management. I call for a more critical and nuanced analysis of co-management, one that takes different perspectives into account and calls into question what we mean by "success" in the first place. To this end, I examine the case of the Ruby Range Sheep Steering Committee (RRSSC), a co-management body in the southwest Yukon that some have held up as a model of success. Over the course of three years, RRSSC members gathered information about Dall sheep (*Ovis dalli dalli*) from many sources and managed to express it all in forms compatible with scientific wildlife management. Yet, even then-with a single exception-RRSSC members failed to integrate their knowledge about sheep. Although there were numerous-technical and methodological obstacles to knowledge-integration, the underlying reasons for this failure were ultimately political. Thus, a focus on the political dimensions of knowledge-integration is essential to an understanding and assessment of co-management.

**KEYWORDS:**

**NOTES:** Times Cited: 17

Nadasdy, P.

**2007** **The gift in the animal: The ontology of hunting and human-animal sociality.** American Ethnologist 34(1):25-43.

**ABSTRACT:** Many hunting peoples conceive of hunting as a process of reciprocal exchange between hunters and other-than-human persons, and anthropologists have tended to view such accounts as purely symbolic or metaphorical. To the extent that our theories deny the validity of northern hunters' conceptions of animals and the ontological assumptions on which they are based, however, we legitimize agents of the state when they dismiss the possibility that aboriginal knowledge and practices might serve as the factual basis for making wildlife management policy. In this article, I argue that our refusal to consider aboriginal accounts of hunting as perhaps Literally as well as metaphorically valid has both contributed to the marginalization of aboriginal peoples and foreclosed important avenues of inquiry into hunting societies and the nature of human-animal relations. I focus on human-animal relations as a form of reciprocal exchange and argue that the development of a theoretical framework that can accommodate northern hunters' ontological assumptions is warranted theoretically as well as politically.

**KEYWORDS:****NOTES:** Times Cited: 12

Nadasdy, P.

**2008 Native Americans and the Environment: Perspectives on the Ecological Indian.**

Journal of Anthropological Research 64(4):582-584.

**ABSTRACT:****KEYWORDS:****NOTES:** Times Cited: 0

Nakazawa, A., F. Mitchell, and George Goldman

**1992 The regulation of subsistence in Alaska: the State's current dilemma.** The Northern Review:115-27.**ABSTRACT:****KEYWORDS:** Descriptor: Subsistence economy

Environmental resource management

Alaska

CULTURAL ETHNOGRAPHY

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NORTH AMERICA

United States

Document Type: article

**NOTES:** Using Smart Source Parsing

8/9, (), p. Journal Code: Nth Rev

NANA

**1979 NANA survey summary March, 1979.** The Alaska Public Forum:1-23.**ABSTRACT:****KEYWORDS:****NOTES:** The NANA survey was designed to provide information which reflected the attitudes and activities of people from all communities and lifestyles of the NANA Region. The communities surveyed included: Kotzebue (pop. 2431), Ambler (pop. 217), Buckland (pop. 172), Deering (pop. 100), Kiana (pop. 314), Kivalina (pop. 208), Kobuk (pop. 60), Noatak (pop. 261), Noorvik (pop. 527), Selawik (pop. 521), Shungnak (pop. 182).

Nash, Manning

**1964 The organization of economic life.** In Tribal and peasant economies. G. Dalton, ed. Texas Press sourcebooks in anthropology. Austin: University of Texas Press.**ABSTRACT:****KEYWORDS:****NOTES:**

Natcher, DC

**2004 Implications of fire policy on Native land use in the Yukon Flats, Alaska.** Human Ecology 32(4):421-441.**ABSTRACT:****KEYWORDS:****NOTES:**

Natcher, DC, S Davis, and CG Hickey

**2005 Co-management: managing relationships, not resources.** Human Organization 64(3):240-250.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Natcher, DC, and CG Hickey

**2002 Putting the community back into community-based resource management: A criteria and indicators approach to sustainability.** Human Organization 61(4):350-363.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Natcher, David C.

**2001 Land use research and the duty to consult: a misrepresentation of the aboriginal landscape.** Land Use Policy 18(2):113-122.

**ABSTRACT:** This paper addresses the means by which the government of Canada is fulfilling its fiduciary obligation to consult with Aboriginal communities whose traditionally used lands are subject to industrial development. Specifically, the use of Aboriginal land use studies, as a means of consultation, is called into question on the basis of methodological limitations and cultural misrepresentation. In closing, it is suggested that until the Canadian government is prepared to take a proactive stance in mitigating land use conflicts through an effective and equitable consultative framework one should expect an escalation of litigation and continued Aboriginal discord.

**KEYWORDS:** Canada; Consultation; Resource development; Aboriginal rights; Land use; Co-management; Empowerment

**NOTES:** doi: DOI: 10.1016/S0264-8377(01)00011-4

Natcher, D. C., M. Calef, O. Huntington, S. Trainor, H. P. Huntington, L. DeWilde, S. Rupp, and F. S. Chapin

**2007 Factors contributing to the cultural and spatial variability of landscape burning by native peoples of interior Alaska.** Ecology and Society 12(1).

**ABSTRACT:** Although wildfire has been central to the ecological dynamics of Interior Alaska for 5000 yr, the role of humans in this dynamic is not well known. As a multidisciplinary research team, together with native community partners, we analyzed patterns of human-fire interaction in two contiguous areas of Interior Alaska occupied by different Athabaskan groups. The Koyukon in the western Interior considered fire a destructive force and had no recollection or oral history of using fire for landscape management. Low lightning-strike density and moist climate constrained the effects of lightning fires, and a subsistence dependence on salmon, a relatively predictable resource, resulted in a trilocal residency pattern. In this environment the occurrence of wildfire would have negatively impacted territorial use and the exploitation of wildlife resources. In contrast, the Gwich'in of the eastern Interior actively used fires to manage the landscape. The Gwich'in territory experienced a higher lightning-strike density and a corresponding increase in wildfire activity. The Gwich'in showed greater mobility in hunting moose and caribou, their less spatially predictable subsistence resources, which enabled them to avoid and/or target a range of habitats affected by wildfires. The contrasts between these two neighboring Athabaskan groups indicate different uses and views of wildfire that are derived from their cultural adaptation to local biophysical and ecological settings. These findings call into question the commonly held view that native peoples of North America pervasively and near universally modified landscapes through the use of fire.

**KEYWORDS:****NOTES:** Times Cited: 6

Natcher, David C., Clifford G. Hickey, Mark Nelson, and Susan Davis

**2009 Implications of Tenure Insecurity for Aboriginal Land Use in Canada.** Human Organization 68(3):245-257.

**ABSTRACT:** In Canada, Aboriginal peoples are succeeding at regaining portions of their traditional land base. Accomplished through the signing of historic treaties and the negotiation of comprehensive land claims agreements, nearly seven percent of Canada's entire land base is now under the administrative authority of Aboriginal governments. Notwithstanding these accomplishments, it remains unclear whether such territorial gains coincide with a heightened sense of tenure security. Together with the Little Red River Cree Nation of Alberta and the Little Salmon/Carmacks First Nation of the Yukon Territory, we set out to learn how First Nation members perceive their access to traditional lands to be changing over time and by generation. Findings indicate that despite various tenure reforms, First Nation members remain concerned that their traditional territories are susceptible to the interests of others. Given that perceptions of tenure security informs the basis by which people exploit resources, these conditions could potentially intensify into conflict with those who are seen as benefiting at the expense of First Nation members and propagate behaviors yielding higher short-term benefits leading to the over-exploitation of natural resources. While grounded in two Canadian case studies, the findings of this research have broad implications for other countries that are using treaties and other modern forms of agreement making to restructure land tenure arrangements with Aboriginal peoples.

**KEYWORDS:** Aboriginal, Canada, tenure security, resource use, conflict**NOTES:**

Natcher, David C., Orville Huntington, Henry P. Huntington, F. Stuart Chapin, III, Sarah Fleisher Trainor, and La'ona DeWilde

**2007 Notions of Time and Sentience: Methodological Considerations for Arctic Climate Change Research.** Arctic anthropology 44(2):113-126.

**ABSTRACT:** For anthropologists who are involved in Arctic climate change research, cultural conceptions of time and sentience have yet to receive explicit research attention, choosing rather to focus on the societal effects of climate change and formulating more adaptive human responses. Notwithstanding the value of this research, the methodologies often used tend to reflect a culturally based assumption that there exists a single characterization of time and sentience that applies to all Arctic residents. Based on collaborative research with the Koyukon community of Huslia, Alaska, this paper challenges that assumption and identifies some of the cross-cultural challenges of conducting climate change research when differing notions of time and sentience are encountered.

**KEYWORDS:** Koyukon, philosophy, climate change**NOTES:**

Naves, Liliana C.

**2010 Alaska migratory bird subsistence harvest estimates, 2004–2007, Alaska Migratory Bird Co-Management Council.** Anchorage, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report presents subsistence harvest estimates of migratory birds and their eggs in Alaska for the data years 2004–2007. Data were gathered through the harvest assessment program of the Alaska Migratory Bird Co-Management Council. This program relies on collaboration among the U.S. Fish and Wildlife Service, the Alaska Department of Fish and Game, and a number of regional Alaska Native organizations. Information obtained by this



program is used to evaluate federal subsistence harvest regulations, to document customary and traditional uses of migratory birds in Alaska, and to plan for the continued harvest and conservation of birds. Participation in the harvest survey is voluntary at both the village and household levels. The survey covers spring, summer, and fall harvests in most regions. Some regions also have a winter survey. Harvest estimates are based on a stratified clustered sampling. The sample frame encompasses all households in villages eligible for the subsistence harvest of migratory birds and their eggs in Alaska. Households are the primary sampling unit and villages are the secondary unit. Data at the household level are confidential and are further aggregated to conform to information management protocols. Data at village level are considered sensitive. Clusters of villages (subregions) with similar harvest patterns allow expansion of reported harvests in surveyed villages to nonsurveyed villages in the same subregion. Subregions are grouped within regions, which approximately correspond to the designated migratory bird management regions. Within villages, households are stratified by harvest level. Villages and regions are surveyed on a rotating schedule based on monitoring priorities and budget constraints.

**KEYWORDS:** Alaska Migratory Bird Co-Management Council, AMBCC, migratory birds, migratory bird eggs, subsistence harvest, subsistence hunting, subsistence harvest estimates, ducks, geese, swans, cranes, grouse, seabirds, shorebirds, grebes, loons

**NOTES:**

Naves, Liliana C.

**2010 Alaska migratory bird subsistence harvest estimates, 2008, Alaska Migratory Bird Co-Management Council.** Anchorage, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report presents subsistence harvest estimates of migratory birds and their eggs in Alaska for the data year 2008. Data were gathered through the harvest assessment program of the Alaska Migratory Bird Co- Management Council. This program relies on collaboration among the U.S. Fish and Wildlife Service, the Alaska Department of Fish and Game, and a number of regional Alaska Native organizations. Information obtained by this program is used to evaluate federal subsistence harvest regulations, to document customary and traditional uses of migratory birds in Alaska, and to plan for the continued harvest and conservation of birds. Participation in the harvest survey is voluntary at both the village and household levels. The survey covers spring, summer, and fall harvests in most regions. Some regions also have a winter survey. Harvest estimates are based on a stratified clustered sampling. The sample frame encompasses all households in regions eligible for the subsistence harvest of migratory birds and their eggs in Alaska. Households are the primary sampling unit. Data at the household level are confidential and data at the village level are considered sensitive. Clusters of villages (subregions) with similar harvest patterns allow expansion of reported harvests in surveyed villages to nonsurveyed villages in the same subregion. Subregions are grouped into regions, which approximately correspond to the designated migratory bird management regions. Within villages, households are stratified by harvest level. Villages and regions are surveyed on a rotating schedule, which can be adjusted based on monitoring priorities and budget constraints. In 2008, the harvest survey was conducted in 5 regions: Aleutian–Pribilof Islands, Bristol Bay, Yukon–Kuskokwim Delta, North Slope, and Interior Alaska (although only in the Yukon–Koyukuk subregion).

**KEYWORDS:** Alaska Migratory Bird Co-Management Council, AMBCC, migratory birds, migratory bird eggs, subsistence harvest, subsistence hunting, subsistence harvest estimates, ducks, geese, swans, cranes, grouse, seabirds, shorebirds, grebes, loons

**NOTES:**

Naves, Liliana C., Michael F. Turek, and William E. Simeone

**2010 Subsistence-personal use salmon harvest, Southeast-Yakutat management region, 1996-2006.** Anchorage, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report summarizes household subsistence-personal use salmon harvests in Southeast Alaska between 1996 and 2006 using data from a permit program administered by ADF&G Division of Commercial Fisheries and data from household surveys conducted by the ADF&G Division of Subsistence. A brief history of the customary and traditional harvest and use of Pacific salmon in Southeast Alaska is also included.

**KEYWORDS:** Southeast Alaska, Yakutat, subsistence fishing, personal use, salmon, sockeye salmon, harvest assessment, permit, household survey, fisheries management

**NOTES:**

Nebesky, William, and Lee Huskey

**1981 Statewide and Regional Economic and Demographic Systems, Beaufort Sea (71) Impact Analysis.** Anchorage: U.S. Department of the Interior/Bureau of Land Management Alaska OCS Office.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** This study is concerned primarily with measuring the economic effects of the proposed Outer Continental Shelf (OCS) petroleum development in the Beaufort Sea (sale 71). This study includes a statewide and regional historic baseline analysis and base case projections against which the direct and indirect economic effects of Beaufort Sea OCS petroleum development are measured. The analysis and projections are carried out on a statewide level for selected regions within the state economy. The regions include Anchorage, Southcentral, Fairbanks, and North Slope regions of the Man-in-the-Arctic Program (MAP) models. Part II of the study contains the historical baseline analysis for each of the economic areas in question and generally focuses on specific economic and demographic concerns relevant to an understanding of the historic growth of the economies. The baseline analysis also assists in laying the foundation for assumptions regarding future growth of the areas. Part III contains three important elements. First, the underlying projection methodology is explained and reviewed in terms of the accuracy and limitations of the projection methodology and the projections themselves. Second, the assumptions necessary to drive the models are presented. Finally, the base case projections for the respective areas are presented.

Neda, Z., Erszébet Ravasz, Y. Brechet, T. Vicsek, and Albert-László Barabási

**2000 Self-organizing processes: The sound of many hands clapping.** *Nature* 403(6772):849-850.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Nellemann, C., and R. D. Cameron

**1998 Cumulative impacts of an evolving oil-field complex on the distribution of calving caribou.** *Canadian Journal of Zoology* 76(8):1425-1430.

**ABSTRACT:** We investigated changes in distribution and terrain use of calving barren-ground caribou (*Rangifer tarandus granti*) with increasing density of roads in the Kuparuk Development Area, an oil-field region near Prudhoe Bay, Alaska. In June of 1987-1992, caribou density, as determined by aerial surveys, was inversely related to road density, declining by 63% at >0.0-0.3 km road/km<sup>2</sup> and by 86% at >0.6-0.9 km road/km<sup>2</sup>. The latter road density virtually excluded cow-calf pairs. Effects of avoidance were most apparent in preferred rugged terrain, comprising important habitats for foraging during the calving period. Our results show that (i) females and calves are far more sensitive to surface development than adult males and yearlings, (ii) the greatest incremental impacts are attributable to initial construction of roads and related facilities, and (iii) the extent of avoidance greatly exceeds the physical "footprint" of an oil-field complex. A

disproportionate reduction in use of foraging habitats within the Kuparuk Development Area, combined with decreasing tolerance of the expanding industrial complex, may explain the recent displacement of some calving activity to areas farther inland, and, in part, lower fecundity. Possible consequences include heightened competition for forage, increased risk of predation, and lower productivity of the herd.

**KEYWORDS:**

**NOTES:**

Nelson, DR, WN Adger, and K Brown

**2007    Adaptation to environmental change: contributions of a resilience framework.**

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Nelson, Edward William

**1899    The Eskimo about Bering Strait.** *In* Eighteenth Annual Report of the US Bureau of American Ethnology. Pp. 3-518, Vol. 1. Washington, D.C.: Government Printing Office.

**ABSTRACT:**

**KEYWORDS:** Alaska; Eskimo; Bering Strait; Ethnography

**NOTES:**

Nelson, Robert

**1983    Pt. Lay belukha hunt.** Nome, Alaska: Alaska Department of Fish and Game/ Game division.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Nelson, R

**1993    Searching for the lost arrow: Physical and spiritual ecology in the hunter's world.** *In* The biophilia hypothesis. E.O. Willson and S.R. Kellert, eds. Pp. 201-228. Island Press: Washington, DC.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** Similar to "Understanding Eskimo Science" article published in Audubon

Nelson, R

**1993    Understanding Eskimo science: traditional hunters' insights into the natural world are worth rediscovering.** Audubon (September/October):102-109.

**ABSTRACT:**

**KEYWORDS:** Koyukon; Alaska Native;

**NOTES:** "There's been much discussion in recent years about what biologist E. O. Wilson has termed "biophilia" - a deep, pervasive, ubiquitous, all-embracing affinity for nonhuman life. Evidence for this "instinct" may be elusive in Western cultures, but not among traditional societies. People like the Koyukon manifest biophilia in virtually all dimensions of their existence. Connectedness with nonhuman life infuses the whole spectrum of their thought, behavior, and belief."

"It's often said that a fish might have no concept of water, never having left it. In the same way, traditional people might never stand far enough outside themselves to imagine a generalized concept of biophilia. Perhaps it would be impossible for people to intimately bound with the natural world, people who recognize that all nature is our own embracing community. Perhaps,

to bring a word like biophilia into their language, they would first need to separate themselves from nature." (p. 109)

Nelson, Richard K.

**1880 Athapaskan subsistence adaptations in Alaska.** National Museum of Ethnology:205-232.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Nelson, Richard K.

**1977 Forest resources in the culture and economy of Native Alaskans.** Socioeconomic Aspects of High-Latitude Forestry:207-225.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Nelson, Richard K.

**1979 Cultural values and the land.** Pp. 77-94.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** The land has vastly different meanings and values for people who live in different cultures. These meanings derive in part from the nature of a people's economic relationship with their surrounding landscape. Thus, land-related concepts among nomadic hunters differ greatly from those found among sedentary agriculturalists or urbanized industrial societies. Other meanings derive from purely cultural concepts which have evolved unaccountably from human thought or imagination rather than from pragmatic concerns. For example, in some cultures land is regarded as a commodity which can be divided and sold; but in others, the concept of dividing and selling land is literally unthinkable.

Nelson, R. K.

**1980 Athapaskan subsistence adaptations in Alaska.** Senri Ethnological Studies:205-32.

**ABSTRACT:**

**KEYWORDS:** Descriptor: Cultural Anthropology

Ethnography

America

North America

**NOTES:** Using Smart Source Parsing

4, (), p. Journal Code: Senri ethnol Stud

illus., map, tables, bibliogr. Document Type: article

Nelson, Richard K.

**1982 Cultural and ecological dimensions of subsistence [Tracks in the wilderness: a portrayal of Koyukon and Numamiut subsistence].** Occasional paper Anthropology and Historic Preservation, Cooperative Park Studies Unit, University of Alaska no 9:199-300.

**ABSTRACT:**

**KEYWORDS:** Descriptor: Koyukon -- Economic anthropology -- Surveys.

Koyukon -- Economic anthropology -- Subsistence.

Athabascan -- Economic anthropology -- Subsistence.

**NOTES:** Using Smart Source Parsing

p. ill. Additional Info: Fairbanks  
 Source of data: Anthropological Literature, Harvard University.  
 by Richard K. Nelson.

Noble, H

**1987 Tribal powers to regulate hunting in Alaska.** Alaska Law Review 4:223.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Nobmann, Elizabeth D.

**1997 Nutritional benefits of subsistence foods.** Pp. 33. Anchorage, AK: EDN Nutrition Consulting.

**ABSTRACT:** The Institute of Social and Economic Research (ISER) requested information to assist in developing a comprehensive program that assists individuals and agency personnel in understanding the nutritional aspects of subsistence foods so that they can make informed decisions about the consumption of subsistence foods. The purposes of this report are to 1.) Review and summarize published information about the nutritional benefits of subsistence or Native foods consumed in Alaska; 2.) Identify the gaps in written knowledge about the nutritional benefits, and 3.) Propose ways to address them. The report is intended for administrators in villages and agencies who may deal with subsistence foods. It also is intended for anyone interested in subsistence or Native foods in Alaska and their benefits.

**KEYWORDS:** nutrient, nutrition, subsistence, diet, Alaska

**NOTES:** A report submitted to the University of Alaska - Anchorage Institute of Social and Economic Research

Nobmann, Elizabeth D., Tim Byers, Anne P. Lanier, Jean H. Hankin, and M. Yavonne Jackson

**1992 The diet of Alaska Native adults: 1987-1988.** American Journal of Clinical Nutrition 55(5):1024-1032.

**ABSTRACT:** Although in the past, rates of heart disease, cancer, and diabetes were lower in Alaska Natives than in US whites, these diseases are now increasing. The rate of iron-deficiency anemia for Alaska Natives continues to be higher than that in the general population. To understand the role of diet in these chronic diseases, seasonal dietary intakes of 35 1 Alaska Native adults from 11 communities were assessed during 1987-1988. Alaska Natives consumed more energy (19%), protein (39%), fat (21%), carbohydrate (13%), iron (25%), vitamin A (53%), and vitamin C (31%), but less calcium (19%) than did the general US adult population [National Health and Nutrition Examination Survey II (NHANES II)]; Alaska Natives consumed six times more fish but less fruits and vegetables. Results suggest that energy and protein intakes decreased in the last 30 y but the proportion of energy from fat (37%) remained unchanged. High fish consumption and large seasonal dietary variations persisted, which may protect against chronic diseases. However, excess energy and fat and low calcium, fruit, and vegetable intakes may be contributing to recent increases in chronic diseases. Dietary guidelines are proposed.

**KEYWORDS:** Alaska; Alaska Native; diet; chronic disease; survey

**NOTES:**

Nobmann, Elizabeth D., Rafael Ponce, Claudia Mattil, Richard Devereux, Bennett Dyke, Sven O. E. Ebbesson, Sandra Laston, Jean MacCluer, David Robbins, Terry Romenesko, Giacomo Ruotolo, Charlotte R. Wenger, and Barbara V. Howard

**2005 Dietary Intakes Vary with Age among Eskimo Adults of Northwest Alaska in the GOCADAN Study, 2000-2003.** *Journal of Nutrition* 135(4):856-862.

**ABSTRACT:** Dietary factors influence the development of cardiovascular disease (CVD). The diet of Alaskan Eskimos differs from that of other populations. We surveyed Eskimo adults in Northwest Alaska to document their usual dietary intakes, differences based on gender and age, and sources of selected nutrients, and to generate appropriate dietary advice to reduce CVD. Interviewers surveyed 850 men and women 17-92 y old, using a quantitative food-frequency instrument. We observed many significant ( $\chi^2$  analysis  $P < 0.05$ ) differences in nutrient intakes among 3 age-groups. Energy intake from carbohydrate was negatively related to participant age-group ( $P \leq 0.01$ ). Energy intake from all fats ( $P < 0.001$ ) and polyunsaturated fat ( $P \leq 0.01$ ) was positively related to age-group among both men and women in contrast to other studies in which age differences were either not observed or decreased with age. Native foods were major sources of monounsaturated and polyunsaturated fats, including 56% of (n-3) fatty acids primarily from seal oil and salmon. However, Native foods contributed significantly less to the diets of young adults than to those of elders, especially among women. Store-bought foods were the main sources of energy, carbohydrate, fat, saturated fat, and fiber for all adults. Based on their nutrient density and potential to inhibit CVD, continued consumption of traditional foods is recommended. Variations in intake by age may portend changing eating patterns that will influence CVD as participants age. These data will contribute to understanding dietary risk factors for cardiovascular disease in this population.

**KEYWORDS:**

**NOTES:**

Nockels, Joan M.

**1996 Katie John v. United States: Redefining federal public lands in Alaska.** *Environmental Law* 26:693-1313.

**ABSTRACT:** In *Alaska v. Babbitt*, the official case name for the *Katie John v. United States* dispute, the Ninth Circuit invalidated Department of Interior regulations that exempted waters in which the United States holds reserved water rights from the definition of "federal public lands" provided under the Alaska National Interests Land Conservation Act of 1980 (ANILCA). This decision opens the way for federal officials to provide rural residents of Alaska with a preferential right to take fish and game traversing these waterways. While the court correctly invalidated these regulations, it wrongly ignored its own precedents that supported an even broader definition of public lands. These precedents should have been followed, thereby allowing the subsistence priority to extend to all waters subject to the navigational servitude of the United States. This Note concludes that federal agencies can correct this error by issuing regulations that provide that all waters subject to the navigational servitude are "federal public lands" for the purpose of ANILCA implementation.

**KEYWORDS:**

**NOTES:**

Nord, Mark, M Andrews, and S Carlson

**2003 Household food security in the United States, 2002.** *In Food Assistance and Nutrition Research Reports*. Washington: U.S. Department of Agriculture.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Nord, Mark, Margaret Andrews, and Steven Carlson

**2004 Household food security in the United States, 2003.** U.S. Department of Agriculture Economic Research Service, ed. Pp. 61. Washington.

**ABSTRACT:** Eighty-nine percent of American households were food secure throughout the entire year in 2003, meaning that they had access, at all times, to enough food for an active, healthy life for all household members. The remaining households were food insecure at least some time during that year. The prevalence of food insecurity, 11.2 percent of households, was not statistically different from the 11.1 percent observed in 2002. The prevalence of food insecurity with hunger was unchanged at 3.5 percent. This report, based on data from the December 2003 food security survey, provides the most recent statistics on the food security of U.S. households, as well as on how much they spent for food and the extent to which food-insecure households participated in Federal and community food assistance programs. Survey responses indicate that the typical food-secure household in the U.S. spent 34 percent more on food than the typical food-insecure household of the same size and household composition. Just over one-half of all food-insecure households participated in one or more of the three largest Federal food assistance programs during the month prior to the survey.

**KEYWORDS:** Food security, food insecurity, hunger, food pantry, emergency, kitchen, material well-being, Food Stamp Program, National School Lunch Program, WIC

**NOTES:**

Nord, M, M Andrews, and S Carlson

**2005 Household food security in the United States, 2004.** Washington: U.S. Department of Agriculture.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Nord, M, M Andrews, and S Carlson

**2006 Household food security in the United States, 2005.** *In* Economic Research Report, Vol. 29. Washington: U.S. Department of Agriculture.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Nord, M, M Andrews, and S Carlson

**2007 Household food security in the United States, 2006.** *In* Economic Research Report, Vol. 49. Washington: U.S. Department of Agriculture.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Nord, M., M. Andrews, and J. Winicki

**2002 Frequency and duration of food insecurity and hunger in US households.** *J Nutr Educ Behav* 34(4):194-200.

**ABSTRACT:** **OBJECTIVE:** This study examines the extent to which food insecurity and hunger in US households are occasional, recurring, or frequent/chronic. **Design/Variables:** The federal food security scale measures the severity of food insecurity in surveyed households and classifies households as to their food security status during the previous year. The Current Population Survey Food Security Supplement (CPS-FSS) collects the data elements used to calculate the food security scale. Supplementary data on the frequency of occurrence of the behaviors and experiences comprising the food security scale are also collected by the CPS-FSS, but most of this information is not included in the food security scale. This study analyzes these supplementary data along with the food security scale and its constituent items using data from the Food Security Supplement of the nationally representative CPS conducted in August 1998. **RESULTS:** About two thirds of households classified as food insecure by the federal food security scale experience the condition as recurring, and around one fifth

experience these conditions as frequent or chronic. The monthly prevalence of hunger is about 60% of the annual prevalence, and the daily prevalence is about 13% to 18% of the annual prevalence. **CONCLUSIONS AND IMPLICATIONS:** Nutritionists can use these findings to enhance the informative value of food insecurity and hunger statistics from national, state, and local surveys when interpreting them to policy makers and to the general public.

**KEYWORDS:** Adolescent; Adult; Aged; Child; Food Supply; Humans; Hunger; Middle Aged; Nutrition Surveys; Poverty; Prevalence; Questionnaires; Recurrence; Time Factors; United States

**NOTES:** Nord, Mark

Andrews, Margaret

Winicki, Joshua

Canada

Journal of nutrition education and behavior

J Nutr Educ Behav. 2002 Jul-Aug;34(4):194-200.

Nord, Mark, and Heather Hopwood

**2007 Recent Advances Provide Improved Tools for Measuring Children's Food Security.** Journal of Nutrition 137(3):533-536.

**ABSTRACT:** Food security, or consistent access to adequate food, is important for children's health and development. The first U.S. assessment of children's food security was conducted in 1995 using the U.S. Household Food Security Scale, a measure based on 18 survey questions developed by the USDA and the U.S. Department of Health and Human Services. Three recent developments have improved on that early measurement method and expanded the scope for assessing children's food security. 1) Development of the Children's Food Security Scale, based only on the 8 child-referenced questions in the U.S. Household Food Security Survey Module, improved the measurement of children's food security and was found to have excellent internal validity. 2) Questions indicating severe ranges of food insecurity and referenced to an individual child (answered by an adult proxy) were tested in a national health survey and found to have acceptable internal validity. 3) A food security measure based on a self-administered module was validated (internal validation only) for children [≥]12 y of age. Children's food security is correlated with that of adults in the same household, but the relation depends on the ages of children, such that separate measures of children's and adults' food security appear to provide better assessment than a single measure that attempts to represent both. Further research is needed to assess the relation between food security and children's diet quality/variety and the effects of children's food security on their health and development.

**KEYWORDS:**

**NOTES:**

Nord, Mark, and Linda S. Kantor

**2006 Seasonal Variation in Food Insecurity Is Associated with Heating and Cooling Costs among Low-Income Elderly Americans.** Journal of Nutrition 136(11):2939-2944.

**ABSTRACT:** In this study we examine the association between household food insecurity and seasonally high heating and cooling costs. Logistic regression models, controlling for socioeconomic and demographic characteristics, were estimated using data on household food security and economic and demographic data from the 1995-2001 Current Population Survey Food Security Supplements and state-level data on heating and cooling degree days from the National Oceanic and Atmospheric Administration. Low-income households, especially those consisting entirely of elderly persons, experienced substantial seasonal differences in the incidence of very low food security (the more severe range of food insecurity) in areas with high winter heating costs and high summer cooling costs. In high-cooling states, the odds of very low food security for poor, elderly only households were 27% higher in the summer than in the winter. In high-heating states, the pattern was reversed for such households; the odds of very



low food security were 43% lower in the summer. In light of recent sharp increases in home heating and cooling costs in many parts of the U.S., it is important to understand the extent to which households make tradeoffs between heating and cooling costs and other basic needs that affect their food security.

**KEYWORDS:**

**NOTES:**

Norton, D. W., and A. G. Gaylord

**2004 Drift velocities of ice floes in Alaska's northern Chukchi sea flaw zone: Determinants of success by spring subsistence whalers in 2000 and 2001.** Arctic 57(4):347-362.

**ABSTRACT:** By March each year, coast-influenced sea ice in Alaska's northern Chukchi Sea consists of the shorefast ice itself plus ice floes moving in a zone that extends from immediately beyond the shorefast ice to coherent pack ice, some 100 km farther offshore. Because westward-drifting polar pack ice encounters fewer landmasses (and less resistance from them) once it passes Point Barrow, a semipermanent polynya or flaw zone dominates coastal ice in this region. Inupiat residents use open water in flaw leads to hunt migrating bowhead whales from mid-April to early June. Although Inupiat hunters grasp the nature and importance of ice in motion beyond their horizon, the flaw zone has received less scientific attention than either shorefast ice or polar pack ice farther offshore. Synthetic aperture radar (SAR) satellite imagery is a form of remote sensing recently made available that allows us to address ice movement at a spatial scale familiar to traditional hunters. SAR-tracked ice movements differed between 2000 and 2001, illustrating contrasts between adverse and optimal conditions for spring whaling at Barrow. Case studies of ice-floe accelerations in the two contrasting seasons suggest that many variables influence ice motion. These include weather, seafloor topography, currents, sea-level changes, and events that occurred earlier during an annual accretion of ice. Adequate prediction of threats to ice integrity in the northern Chukchi Sea will require adjustments of our current concepts, including 1) recognizing the pervasive influence of the flaw zone; 2) replacing a focus on vessel safety in ice-dominated waters with an emphasis on ice integrity in high-energy environments; and 3) chronicling ice motions through coordinated ground observation and remote sensing of March-June events in future field studies.

**KEYWORDS:**

**NOTES:** Times Cited: 8

Nowak, Michael

**1987 Mobility and subsistence access.** Etudes/Inuit/Studies 11(1):33-45.

**ABSTRACT:**

**KEYWORDS:** Descriptor: Eskimos -- Alaska -- Food.

Alaska -- Economic conditions.

**NOTES:** Mobilité et accès aux biens de subsistance.

Additional Info: Quebec

French summary.; Source of data: Anthropological Literature, Harvard University.

Michael Nowak.

Nunam Kitlutsisti

**1984 Just a small fishery: the Cape Romanzof District commercial herring fishery: An example of successful exclusive use management benefiting rural Alaskan villages.** Bethel, Alaska.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Nunam Kitlutsisti, and Mary Lenz

**1981 "You don't forget hunger".**

**ABSTRACT:****KEYWORDS:****NOTES:**

O'Faircheallaigh, Ciaran, and Saleem Ali, eds.

**2008 Earth Matters: Indigenous peoples, the extractive industries, and corporate social responsibility.** Sheffield, U.K.: Greenleaf Publishing.978-1-906093-16-7

**ABSTRACT:** Earth Matters gathers key experts from around the world who discuss corporate initiatives in Alaska, Ecuador, Australia, Canada, Peru, Papua New Guinea, Indonesia and Russia. The book explores the great diversity that characterises initiatives and policies under the name of 'corporate social responsibility', the highly contingent and contextual nature of corporate responses to indigenous demands, and the complex and evolving nature of indigenous–corporate relations. It also reveals much about the conditions under which CSR can contribute to a redistribution of benefits and costs from large-scale resource development.

**KEYWORDS:** indigenous peoples; corporate social responsibility

**NOTES:**

O'Dell, Rice

**1986 Alaska: A Frontier Divided.** Environment: Science and Policy for Sustainable Development 28(7):11-37.

**ABSTRACT:****KEYWORDS:****NOTES:**

Odess, Dan

**2003 An Early Arctic Small Tool tradition structure from interior Northwestern Alaska.** Etudes/Inuit/Studies 27(1):13-27.

**ABSTRACT:** Il y a plus de quarante ans, William Irving proposa l'expression "Tradition microlithique de l'Arctique", pour désigner l'unité taxonomique et les liens historiques partagés par plusieurs cultures du milieu de l'Holocène récemment identifiées en Alaska (complexe Denbigh), au Canada (Prédorsétien), et au Groenland (Indépendancien I et Saqqaquien). Depuis, les recherches menées au Canada et au Groenland ont affiné notre compréhension des relations culturelles entretenues par les membres orientaux de cette tradition, de leur économie, de leurs techniques et de leurs histoires démographiques. Par comparaison, la recherche sur le complexe Denbigh, membre alaskien de la tradition, est restée à la traîne. Peu de travaux de terrain ont été menés depuis le milieu des années 1970 et peu d'attention a été portée aux questions évoquées ci-dessus ou aux relations historiques existant entre les Denbighiens et leurs voisins orientaux. Cet article présente un site de la Tradition microlithique de l'Arctique ancienne localisé dans la chaîne des Brooks occidentale et discute de son importance dans le cadre du contexte de cette tradition à travers l'Arctique nord-américain. La structure mise au jour sur le site présente de grandes similitudes avec les habitations du Prédorsétien, de l'Indépendancien I et du Saqqaquien trouvées dans l'Arctique canadien et au Groenland. Elle apporte une nouvelle dimension à notre compréhension des relations entre les divers complexes techniques qui composent la Tradition microlithique de l'Arctique ancienne. Over forty years ago, William Irving proposed the Arctic Small Tool tradition (ASTt) to indicate taxonomic unity and historical relatedness among several recently identified mid-Holocene cultures in Alaska (Denbigh Flint complex), Canada (Pre-Dorset), and Greenland (Independence I and Saqqaq). Since then, research in Canada and Greenland has helped refine our understanding of cultural relationships between the eastern members of this tradition, their economies, technologies, and

demographic histories. By comparison, research on the Denbigh Flint complex, the Alaskan member of the tradition, has lagged behind. Little fieldwork has been conducted since the mid-1970s, and little attention paid to Denbigh subsistence and settlement systems or to the historical relationship between Denbigh and its neighbors to the east. This paper reports on an Early ASTt site in the western Brooks Range, northwestern Alaska, and discusses its significance within the context of the Early ASTt across the North American Arctic. The structure from the site bears strong similarities to Pre-Dorset, Independence I, and Saqqaq houses from the Canadian Arctic and Greenland, and adds an additional dimension to our understanding of the relationships between the various techno-complexes that compose the Early Arctic Small Tool tradition.

**KEYWORDS:**

**NOTES:**

O'Hara, T. M., T. F. Albert, E. O. Oen, L. M. Philo, J. C. George, and A. L. Ingling

**1999 The role of Eskimo hunters, veterinarians, and other biologists in improving the humane aspects of the subsistence harvest of bowhead whales.** J Am Vet Med Assoc 214(8):1193-8.

**ABSTRACT:**

**KEYWORDS:** Alaska

\*Animal Welfare/legislation & jurisprudence

Animals

\*Biology

International Cooperation

\*Inuits

United States

\*Veterinarians

\*Whales

**NOTES:** O'Hara, T M

Albert, T F

Oen, E O

Philo, L M

George, J C

Ingling, A L

Review

United states

Journal of the American Veterinary Medical Association

J Am Vet Med Assoc. 1999 Apr 15;214(8):1193-8.

O'Hara, T. M., J. C. George, J. Blake, K. Burek, G. Carroll, J. Dau, L. Bennett, C. P. McCoy, P. Gerard, and V. Woshner

**2003 Investigation of heavy metals in a large mortality event in caribou of northern Alaska.** Arctic 56(2):125-135.

**ABSTRACT:** We measured element concentrations (As, Cd, Cu, Pb, Zn, Fe) and body condition (gross and histologic endpoints) of animals from a caribou (*Rangifer tarandus*) mortality event that occurred in Alaska, in the area of Point Hope and Cape Thompson (including the Chariot site), in 1995. These were compared to results from hunter-killed caribou from reference sites (Barrow and Teshekpuk Lake, Alaska) and from the area of a mine (Red Dog Mine) to determine whether heavy metals had played a role in the mortality event or whether any elements were at concentrations of concern for human consumers. Starvation and malnutrition were major factors leading to death or severe weakness, as very little or no fat (very low body condition scores) and serous atrophy of fat (observed as watery contents of the marrow cavity, with no apparent fat, and histologically) were more prevalent in caribou associated with the mortality event than in

hunter-killed animals from reference sites. Accumulation of hepatic (liver) hemosiderin in Kupffer cells (macrophages) was noted as an indicator of cachexia. Concentrations of lead in feces and liver, copper in the rumen contents, and arsenic in muscle were higher in caribou harvested near Red Dog Mine, as might be expected in that mineral-rich area, but were not at levels of concern for toxicoses. Kidney concentrations of cadmium, which increased significantly with increasing age, present a potential concern for human consumers, and this is an expected finding. We concluded that caribou had starved and that heavy metals had played no role in the mortality event. Further investigation of regional mineral differences is required to understand the sources and transport mechanisms that explain these findings and to properly address mining activity. Mortality events on the north slope of Alaska are common and likely involve starvation as described here, but in most cases they are not investigated, even though recent industrial activities have heightened concern among some local residents and wildlife managers.

**KEYWORDS:**

**NOTES:** Times Cited: 6

O'Hara, T. M., J. C. George, J. Blake, K. Burek, G. Carroll, J. Dau, L. Bennett, C. P. McCoy, P. Gerard, and V. Woshner

**2003 Investigation of heavy metals in a large mortality event in caribou of northern Alaska.** *Arctic* 56(2):125-135.

**ABSTRACT:** We measured element concentrations (As, Cd, Cu, Pb, Zn, Fe) and body condition (gross and histologic endpoints) of animals from a caribou (*Rangifer tarandus*) mortality event that occurred in Alaska, in the area of Point Hope and Cape Thompson (including the Chariot site), in 1995. These were compared to results from hunter-killed caribou from reference sites (Barrow and Teshekpuk Lake, Alaska) and from the area of a mine (Red Dog Mine) to determine whether heavy metals had played a role in the mortality event or whether any elements were at concentrations of concern for human consumers. Starvation and malnutrition were major factors leading to death or severe weakness, as very little or no fat (very low body condition scores) and serous atrophy of fat (observed as watery contents of the marrow cavity, with no apparent fat, and histologically) were more prevalent in caribou associated with the mortality event than in hunter-killed animals from reference sites. Accumulation of hepatic (liver) hemosiderin in Kupffer cells (macrophages) was noted as an indicator of cachexia. Concentrations of lead in feces and liver, copper in the rumen contents, and arsenic in muscle were higher in caribou harvested near Red Dog Mine, as might be expected in that mineral-rich area, but were not at levels of concern for toxicoses. Kidney concentrations of cadmium, which increased significantly with increasing age, present a potential concern for human consumers, and this is an expected finding. We concluded that caribou had starved and that heavy metals had played no role in the mortality event. Further investigation of regional mineral differences is required to understand the sources and transport mechanisms that explain these findings and to properly address mining activity. Mortality events on the north slope of Alaska are common and likely involve starvation as described here, but in most cases they are not investigated, even though recent industrial activities have heightened concern among some local residents and wildlife managers.

**KEYWORDS:**

**NOTES:** Times Cited: 6

O'Hara, T. M., C. Hanns, G. Bratton, R. Taylor, and V. M. Woshner

**2006 Essential and non-essential elements in eight tissue types from subsistence-hunted bowhead whale: Nutritional and toxicological assessment.** *International Journal of Circumpolar Health* 65(3):228-242.

**ABSTRACT:** Objectives. To assess essential/non-essential elements in bowhead whale. Study Design. Analyzes of tissues for key elements and comparing them to published food guidelines. Methods. Using national and international guidelines calculate percent (%) "Recommended Daily

Allowance" of essential elements in 100 g portion of bowhead tissues. For non-essential elements, determine maximal tissue consumption based on average element concentrations and provisional tolerable weekly intake; and minimal risk level. Results. Liver and kidney are rich in essential/non-essential elements and have the greatest concentration of cadmium (Cd) among tissues studied, while mercury (Hg), lead (Pb) and arsenic (As) are relatively low. Kidney of bowhead whale is consumed in very limited amounts (limited tissue mass compared to muscle and maktak); liver is consumed rarely. Other tissues, except blubber, are excellent sources of many essential elements, without the abundance of liver and kidney Cd. Conclusions. Renal Cd concentrations are most restrictive for consumption on a tissue mass basis. Better understanding of Cd bioavailability, food processing, and actual consumption rates and patterns, are critical to providing improved guidance. Compared to store-bought meat, bowhead whale had comparable concentrations of elements in the tissues studied, with a few noted differences. The occasional blubber substitute, Crisco, was nearly devoid of trace element content.

**KEYWORDS:**

**NOTES:** Times Cited: 2

O'Hara, T. M., P. F. Hoekstra, C. Hanns, S. M. Backus, and D. C. Muir

**2005 Concentrations of selected persistent organochlorine contaminants in store-bought foods from northern Alaska.** International Journal of Circumpolar Health 64(4):303-13.

**ABSTRACT:** OBJECTIVES: We address marine and terrestrial mammal blubber, liver, muscle, kidney, heart, tongue, maktak and maktaaq (epidermis and blubber from bowhead, beluga whales, respectively), and fish muscle and livers, as commonly consumed tissues in subsistence communities across northern Alaska in the context of organochlorine (OC) contamination of store-bought foods. Human exposure to contaminants from biota, as part of a subsistence diet, has been superficially evaluated in numerous studies (focused on liver and blubber), but are limited in the type of tissues analyzed, and rarely consider the contaminants in the alternatives (i.e., store-bought foods). STUDY DESIGN: Concentrations from published literature on selected persistent organochlorine contaminants (OCs) in eight tissues of the bowhead whale and other biota (1) were compared to store-bought foods evaluated in this study. RESULTS: As expected, store-bought foods had lower concentrations of OCs than some tissues of the marine mammals (especially blubber, maktak, and maktaaq). However, blubber is rarely eaten alone and should not be used to give consumption advice unless considered as a portion of the food item (i.e., maktak). This study indicates that the store-bought food alternatives have detectable OC concentrations (e.g., < 0.01 to 22.5 ng/g w.w. for hexachlorobenzene) and, in many cases, have greater OC concentrations than some subsistence food items. Many wildlife tissues had OC concentrations similar to those quantified in local store-bought food. CONCLUSIONS: Switching from the traditional diet to western store-bought foods will not always reduce exposure to OCs. However, raw blubber-based products are clearly more contaminated with OCs due to lipid content. A detailed profile of traditional/country foods and western foods consumed by subsistence communities of northern Alaska is required to address chronic exposure in more detail for the diverse sources of foods (subsistence use and commercially available) and the widely varying concentrations of contaminants reported therein. This should be combined with biomonitoring people dependent upon subsistence foods. Further assessment of essential and non-essential elements, emerging contaminants (e.g. brominated flame retardants), etc. should be conducted in order to improve our understanding of the differences and similarities between wildlife and store-bought foods.

**KEYWORDS:** Alaska

Animals

Environmental Exposure/analysis/statistics & numerical data

Food Contamination/\*analysis/statistics & numerical data

Food Supply/\*statistics & numerical data

Humans

Hydrocarbons, Chlorinated/\*analysis  
 Meat/\*analysis/statistics & numerical data  
 Seafood/analysis/statistics & numerical data

**NOTES:** O'Hara, Todd M

Hoekstra, Paul F

Hanns, Cyd

Backus, Sean M

Muir, Derek C G

Comparative Study

Research Support, Non-U.S. Gov't

Research Support, U.S. Gov't, Non-P.H.S.

Finland

International journal of circumpolar health

Int J Circumpolar Health. 2005 Sep;64(4):303-13.

O'Hara, T. M., M. M. Krahn, D. Boyd, P. R. Becker, and L. M. Philo

**1999 Organochlorine contaminant levels in Eskimo harvested bowhead whales of Arctic Alaska.** Journal of Wildlife Diseases 35(4):741-752.

**ABSTRACT:** Organochlorine (OC) levels in liver and blubber of 20 bowhead whales (*Balaena mysticetus*) collected during the Eskimo subsistence harvest at Barrow (Alaska, USA) in 1992 and 1993 are presented. Liver sum DDT (Lipid weight) was significantly greater in male whales than in females. Most of the organochlorines measured were at higher levels in longer (older) than in shorter (younger) males. For female bowhead whales, hexachlorobenzene and lipid levels decreased and other OC levels did not change significantly with increasing length. Most organochlorine contaminants have low concentrations in tissues of the bowhead whale compared to concentrations in tissues of other cetaceans, especially Odontocetes. Based on allowable daily intakes (ADI) levels established by the Canadian Northern Contaminants Program (Ottawa, Ontario, Canada) "safe" levels of blubber to consume were calculated. Chlordane levels in bowhead whale blubber results in the most restrictive consumption amount (50 g blubber/day). We expect no adverse effects related to these organochlorine contaminants to occur in bowhead whales or in consumers of their tissues. However, investigation of low level chronic exposure effects and a more rigorous assessment of histopathology, biomarkers, and immune status in the bowhead whale would be required to conclude "no effect" with more certainty.

**KEYWORDS:**

**NOTES:** Times Cited: 21

Olsen, Dean F.

**1979 Cooperative ownership experiences of Alaskan Eskimo reindeer herders.** Human Organization 29(1):57-62.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Olsen, Dean F.

**1979 Cooperative ownership experiences of Alaskan Eskimo reindeer herders.** Human Organization 29(1):57-62.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Olson, Julia

**2011 Understanding and contextualizing social impacts from the privatization of fisheries: An overview.** *Ocean & Coastal Management* 54(5):353-363.

**ABSTRACT:** Fisheries management around the world has experimented with regulations to promote privatization, in order to reach such multifaceted goals as ending overfishing and reducing economic inefficiencies. This review surveys a wide range of empirical experiences in different contexts around the world to help provide a fuller picture of potential and sometimes disparate consequences from privatization in general and new ways of organizing around fishing that can follow in the wake of such measures. Looking at the many different participants in the fishing industry--from crew, small-boat owners, to households and communities--as well as the diverse sociocultural contexts in which fishing takes place, enables a better understanding of who and what is impacted, how they are impacted, why and with what further consequences, such that communities come to be seen less oppositional to economy, but rather constituted by multiple scalar processes and by economic relations comprising different motivations and behaviors.

**KEYWORDS:**

**NOTES:**

Oltvai, Z. N., and Albert-László Barabási

**2002 Life's complexity pyramid.** *Science* 298(5594):763-764.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Opsomer, Jean D., Helen H. Jensen, and Suwen Pan

**2003 An Evaluation of the U.S. Department of Agriculture Food Security Measure with Generalized Linear Mixed Models.** *Journal of Nutrition* 133(2):421-427.

**ABSTRACT:** Over the last decade, new information has been developed and collected to measure the extent of food insecurity and hunger in the United States. Common measurement of the phenomenon of hunger and food insecurity has become possible through efforts of the U.S. Department of Agriculture (USDA) to develop a set of survey questions that can be used to obtain estimates of the prevalence and severity of food insecurity. We evaluated the measurement of food insecurity and the effect of household variables on measured food insecurity. The effects of demographic and survey-specific variables on the food insecurity hunger scale were evaluated using a generalized linear model with mixed effects. Data came from the 1995, 1997 and 1999 Food Security Module of the Current Population Survey. The results generally validated the model currently used by the USDA. In addition, our approach made it possible to consider the effect of demographics and several survey design variables on food security among measurably food-insecure households, as well as interactions between these factors and the food security questions. The analysis of the expanded model with the 1995 data found results similar to those reported based on the Rasch model used by the USDA. Even though the sample size was reduced and a number of screening and questionnaire changes were introduced in 1997 and 1999, the results for those years appear mostly unchanged and confirm the robustness of the scale in measuring food insecurity. There is some evidence that interpretation of questions may vary among different demographic groups.

**KEYWORDS:**

**NOTES:**

Oquilluk, W. A., and L. L. Bland

**1973 People of Kauwerak: Legends of the Northern Eskimo:** AMU Press.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Ostrom, Elinor

**2005 Understanding institutional diversity:** Princeton University Press.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Ostrom, Elinor

**2007 A diagnostic approach for going beyond panaceas.** Proceedings of the National Academy of Sciences 104(39):15181-15187.

**ABSTRACT:** The articles in this special feature challenge the presumption that scholars can make simple, predictive models of social–ecological systems (SESs) and deduce universal solutions, panaceas, to problems of overuse or destruction of resources. Moving beyond panaceas to develop cumulative capacities to diagnose the problems and potentialities of linked SESs requires serious study of complex, multivariable, nonlinear, cross-scale, and changing systems. Many variables have been identified by researchers as affecting the patterns of interactions and outcomes observed in empirical studies of SESs. A step toward developing a diagnostic method is taken by organizing these variables in a nested, multitier framework. The framework enables scholars to organize analyses of how attributes of (i) a resource system (e.g., fishery, lake, grazing area), (ii) the resource units generated by that system (e.g., fish, water, fodder), (iii) the users of that system, and (iv) the governance system jointly affect and are indirectly affected by interactions and resulting outcomes achieved at a particular time and place. The framework also enables us to organize how these attributes may affect and be affected by larger socioeconomic, political, and ecological settings in which they are embedded, as well as smaller ones. The framework is intended to be a step toward building a strong interdisciplinary science of complex, multilevel systems that will enable future diagnosticians to match governance arrangements to specific problems embedded in a social–ecological context.

**KEYWORDS:**

**NOTES:**

Ostrom, Elinor

**2007 Sustainable Social-Ecological Systems: An Impossibility?** In Annual Meetings of the American Association for the Advancement of Science. San Francisco.

**ABSTRACT:** Given rapid changes in large-scale human and biophysical processes - carbon emissions, population increase and migrations, overharvesting and pollution leading to loss of species - scientists are worried that many of the social-ecological systems existing today may collapse by the end of the 21st century. Is this an exaggerated worry? The thesis I will present is that the negative prognosis will indeed occur in many parts of the world if we do not worry a great deal about these processes and their consequences. More important than simply worrying, however, is the development of a strong diagnostic method for analyzing the diversity of processes and the multiplicity of potential social and biophysical solutions that are needed to cope effectively with these varied processes. Past efforts to impose simple solutions to these complex problems have frequently led to worse outcomes than the problems addressed. Our need today is building a strong interdisciplinary science of complex, multilevel systems that will enable over time a matching of potential solutions to a careful diagnosis of specific problems embedded in a social-ecological context. I will take some small steps toward this goal in my presentation.

**KEYWORDS:** sustainability, social-ecological systems

**NOTES:**

Ostrom, Elinor

**2009 A General Framework for Analyzing Sustainability of Social-Ecological Systems.** Science 325(5939):419-422.



**ABSTRACT:** A major problem worldwide is the potential loss of fisheries, forests, and water resources. Understanding of the processes that lead to improvements in or deterioration of natural resources is limited, because scientific disciplines use different concepts and languages to describe and explain complex social-ecological systems (SESs). Without a common framework to organize findings, isolated knowledge does not cumulate. Until recently, accepted theory has assumed that resource users will never self-organize to maintain their resources and that governments must impose solutions. Research in multiple disciplines, however, has found that some government policies accelerate resource destruction, whereas some resource users have invested their time and energy to achieve sustainability. A general framework is used to identify 10 subsystem variables that affect the likelihood of self-organization in efforts to achieve a sustainable SES.

**KEYWORDS:**

**NOTES:** "A core challenge in diagnosing why some SESs are sustainable whereas others collapse is the identification and analysis of relationships among multiple levels of these complex systems at different spatial and temporal scales. Understanding a complex whole requires knowledge about specific variables and how their component parts are related. Thus, we must learn how to dissect and harness complexity, rather than eliminate it from such systems. This process is complicated, however, because entirely different frameworks, theories, and models are used by different disciplines to analyze their parts of the complex multilevel whole. A common, classificatory framework is needed to facilitate multidisciplinary efforts toward a better understanding of complex SESs." (p. 420)

Furthermore, the long-term sustainability of rules devised at a focal SES level depends on monitoring and enforcement as well their not being overruled by larger government policies. The long-term effectiveness of rules has been shown in recent studies of forests in multiple countries to depend on users' willingness to monitor one another's harvesting practices. **Larger scale governance systems may either facilitate or destroy governance systems at a focal SES level.** The colonial powers in Africa, Asia, and Latin America, for example, did not recognize local resource institutions that had been developed over centuries and imposed their own rules, which frequently led to overuse if not destruction. (p.422)

Ostrom, Elinor

**2010 Beyond markets and states: polycentric governance of complex economic systems.** *In* Les Prix Nobel. The Nobel Prizes 2009. K. Grandin, ed. Pp. 408-444. Stockholm: Nobel Foundation.

**ABSTRACT:** Contemporary research on the outcomes of diverse institutional arrangements for governing common-pool resources (CPRs) and public goods at multiple scales builds on classical economic theory while developing new theory to explain phenomena that do not fit in a dichotomous world of "the market" and "the state." Scholars are slowly shifting from positing simple systems to using more complex frameworks, theories, and models to understand the diversity of puzzles and problems facing humans interacting in contemporary societies. The humans we study have complex motivational structures and establish diverse private-for-profit, governmental, and community institutional arrangements that operate at multiple scales to generate productive and innovative as well as destructive and perverse outcomes.

**KEYWORDS:** common pool resources

**NOTES:** "The existence of a large number of cases where users had overcome social dilemmas in order to sustain long-term use of common-pool resources successfully challenged the presumption that this was impossible." (P. 423)

"Experiments on CPRs and public goods have shown that many predictions of the conventional

theory of collective action do not hold. More cooperation occurs than predicted, "cheap talk" increases cooperation, and subjects invest in sanctioning free-riders. Experiments also establish that motivational heterogeneity exists in harvesting or contribution decisions as well as decisions on sanctioning." (P. 426)

"Building trust in one another and developing institutional rules that are well matched to the ecological systems being used are of central importance for solving social dilemmas. The surprising but repeated finding that users of resources that are in relatively good condition – or even improving – do invest in various ways of monitoring one another relates to the core problem of building trust.

**"Unfortunately, policy analysts, public officials, and scholars who still apply simple mathematical models to the analysis of field settings have not yet absorbed the central lessons articulated here.** All too often a single policy prescription – such as Individual Transferable Quotas (ITQs) – is recommended for all resources of a particular type, such as all fisheries. While several ITQ systems are working successfully, the time and effort needed to tailor the broad theoretical concept of an ITQ system into an operational system in a particular location involves multiple years of hard work by the fishers involved as well as the government officials (see Clark 2006; Yandle 2007; Yandle and Dewees 2003; Eggertsson 1990)." (P.435)

Ostrom, Elinor, and Marco A. Janssen

**2005 Multi-Level Governance and Resilience of Social-Ecological Systems.** *In* Globalisation, Poverty and Conflict. M. Spoor, ed. Pp. 239-259: Springer Netherlands.

**ABSTRACT:**

**KEYWORDS:** Economics/Management Science

**NOTES:**

Ostrom, Elinor, Marco A. Janssen, and John M. Anderies

**2007 Going beyond panaceas.** *Proceedings of the National Academy of Sciences* 104(39):15176-15178.

**ABSTRACT:** In the context of governance of human–environment interactions, a panacea refers to a blueprint for a single type of governance system (e.g., government ownership, privatization, community property) that is applied to all environmental problems. The aim of this special feature is to provide theoretical analysis and empirical evidence to caution against the tendency, when confronted with pervasive uncertainty, to believe that scholars can generate simple models of linked social–ecological systems and deduce general solutions to the overuse of resources. Practitioners and scholars who fall into panacea traps falsely assume that all problems of resource governance can be represented by a small set of simple models, because they falsely perceive that the preferences and perceptions of most resource users are the same. Readers of this special feature will become acquainted with many cases in which panaceas fail. The articles provide an excellent overview of why they fail. Furthermore, the articles in this special feature address how scholars and public officials can increase the prospects for future sustainable resource use by facilitating a diagnostic approach in selecting appropriate starting points for governance and monitoring, as well as by learning from the outcomes of new policies and adapting in light of effective feedback.

**KEYWORDS:**

**NOTES:**

Ostrom, Elinor, and Harini Nagendra

**2006 Insights on linking forests, trees, and people from the air, on the ground, and in the laboratory.** *Proceedings of the National Academy of Sciences* 103(51):19224-19231.

**ABSTRACT:** Governing natural resources sustainably is a continuing struggle. Major debates occur over what types of policy "interventions" best protect forests, with choices of property and

land tenure systems being central issues. Herein, we provide an overview of findings from a long-term interdisciplinary, multiscale, international research program that analyzes the institutional factors affecting forests managed under a variety of tenure arrangements. This program analyzes satellite images, conducts social-ecological measurements on the ground, and tests the impact of structural variables on human decisions in experimental laboratories. Satellite images track the landscape dimensions of forest-cover change within different management regimes over time. On-the-ground social-ecological studies examine relationships between forest conditions and types of institutions. Behavioral studies under controlled laboratory conditions enhance our understanding of explicit changes in structure that affect relevant human decisions. Evidence from all three research methods challenges the presumption that a single governance arrangement will control overharvesting in all settings. When users are genuinely engaged in decisions regarding rules affecting their use, the likelihood of them following the rules and monitoring others is much greater than when an authority simply imposes rules. Our results support a frontier of research on the most effective institutional and tenure arrangements for protecting forests. They move the debate beyond the boundaries of protected areas into larger landscapes where government, community, and comanaged protected areas are embedded and help us understand when and why deforestation and regrowth occur in specific regions within these larger landscapes.

**KEYWORDS:****NOTES:**

Oswalt, W.H.

**1957 A western Eskimo ethnobotany.** Anthropological Papers of the University of Alaska 6(1):16-36.

**ABSTRACT:** The fact that plant products can play a significant part in Eskimo subsistence patterns is usually ignored. Oswalt discusses the botanical knowledge and general range of plant uses among the residence of Napaskiak, a Western Eskimo Village. The names of plants, utilization of these plants as food, medicines, ceremonial equipment or raw material for artifacts is recorded.

**KEYWORDS:****NOTES:**

Otto, Robert S.

**1986 Management and assessment of eastern Bering Sea king crab stocks**, 1986. Vol. 92, pp. 83–106. of.

**ABSTRACT:****KEYWORDS:**

**NOTES:** North Pacific workshop on stock assessment and management of invertebrates. Canadian Special Publication of Fisheries and Aquatic Sciences

Otto, Robert S.

**1986 Management and assessment of eastern Bering Sea king crab stocks**, 1986. Vol. 92, pp. 83–106. of.

**ABSTRACT:****KEYWORDS:**

**NOTES:** North Pacific workshop on stock assessment and management of invertebrates. Canadian Special Publication of Fisheries and Aquatic Sciences

Otto, Robert S., and Glen S. Jamieson, eds.

**2001 Commercially important crabs, shrimps and lobsters of the North Pacific Ocean.** Sidney, B.C., Canada: North Pacific Marine Science Organization (PICES)

**ABSTRACT:**

**KEYWORDS:** shellfish, commercial fishing, king crab, shrimp, Bering Sea, Bristol Bay

**NOTES:** "Changes in the abundance of commercially important crustaceans in the North Pacific led PICES to form Working Group 12 in 1997. Objectives were to identify important North Pacific crustacean stocks, to describe historical changes in their abundance, to identify current research programs on them, and to clarify mechanisms that might account for their observed patterns of abundance. The PICES Region includes almost all of FAO Statistical Areas 61 and 67 and a small portion of Area 71. The Region in 1998 provided 48% of world crab landings and 45% of world shrimp landings, excluding data from North Korea." (p. 1)

"The mid 1960s was a period of high red king crab landings in Asia as well as North America, but there were signs that stock exploitations were at or approaching their limits. For example, Bristol Bay data in the Bering Sea showed that CPUE peaked in 1960 and that increased catch was being maintained by increases in the number of tangle nets being fished and in the average time that nets were soaked. Following peak catches in 1964, the Bristol Bay stock began to decline.

**The Kodiak and other GOA stocks also declined sharply, and this led to both more stringent management measures and renewed interest by US fishermen in the Adak area and the Bering Sea.** The Kodiak and other GOA stocks supported smaller but more stable fisheries in the late 1960's and through the 1970's, only to decline sharply, leading to many fishery closures in 1982 and 1983. Only small fisheries in the eastern GOA have been allowed since. The Adak fishery declined in the early 1970s and has never fully recovered, although small (ca. 500 t) fisheries have been allowed in most recent years." (p. 29)

"Throughout most of the GOA and eastern Aleutians, red king crab populations declined from the late 1970s until the fisheries were closed in 1983 (Fig. 26). Populations have been at low levels and fisheries closed since 1983. **Populations declined soon after the now recognized regime shift (Anderson et al. 1997, Anderson and Piatt 1999) of the late 1970's**, and this offers an opportunity for both retrospective study and comparative study with Asian populations that have differing patterns of abundance over time. Comparative study of Bristol Bay and West Kamchatkan populations may be particularly instructive. **Over the past 20-30 years it appears that southern stocks of red king crab (Hokkaido, Adak, GOA) have not fared as well as more northerly stocks (EBS, West Kamchatka).**" (p. 32)

Otto, Robert S., and Glen S. Jamieson, eds.

**2001 Commercially important crabs, shrimps and lobsters of the North Pacific Ocean.** Sidney, B.C., Canada: North Pacific Marine Science Organization (PICES)

**ABSTRACT:**

**KEYWORDS:** shellfish, commercial fishing, king crab, shrimp, Bering Sea, Bristol Bay

**NOTES:** "Changes in the abundance of commercially important crustaceans in the North Pacific led PICES to form Working Group 12 in 1997. Objectives were to identify important North Pacific crustacean stocks, to describe historical changes in their abundance, to identify current research programs on them, and to clarify mechanisms that might account for their observed patterns of abundance. The PICES Region includes almost all of FAO Statistical Areas 61 and 67 and a small portion of Area 71. The Region in 1998 provided 48% of world crab landings and 45% of world shrimp landings, excluding data from North Korea." (p. 1)

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Overpeck, JT, M Sturm, JA Francis, DK Perovich, MC Serreze, R Benner, EC Carmack, FS Chapin III, SC Gerlach, and LC Hamilton

**2005 Arctic system on trajectory to new, seasonally ice-free state.** Eos 86(34):309-316.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Overturf, Jan H.

**1984 Regional subsistence bibliography Volume IV, Southcentral Alaska, number I.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This bibliography includes references on a wide range of topics concerning subsistence uses of fish and wildlife in Alaska's Southcentral Region, including the Copper River Basin, Prince William Sound, the Cook Inlet region, and Kodiak Island. Each citation of 456 works includes a brief abstract and is indexed by keyword and author.

**KEYWORDS:**

**NOTES:**

Padron, Dennis V., Edward H.Y. Han, Mark T. Faeth, Bill Paparis, K.W. Hofman, A. Bresters, J.F. Nixon, I.G. Jones, M.D. McPherson, A. Barrington, Sackinger William M., and Sid G. Sheps

**1985 Beaufort Sea Petroleum Technology Assessment.** Anchorage: U.S. Department of the Interior, Minerals Management Service, Alaska OCS Region.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Paige, Amy W., Sandara Churchill, Nancy C. Ratner, Michael F. Turek, and Phillipa A. Coiley-Kenner

**2009 Local knowledge, harvest patterns, and community uses of salmon in Wrangell, Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report presents findings from a project that examined the historical uses of fishing sites at Mill Creek, Thoms Place, Salmon Bay, and the Stikine River, by residents of Wrangell, Alaska. This project was a collaborative effort between the Wrangell Cooperative Association and the Alaska Department of Fish and Game, Division of Subsistence. Methods included key respondent interviews, reviews of available literature, and examination of harvest data about Pacific salmon *Oncorhynchus*. Historical and contemporary sockeye salmon *O. nerka* fishing patterns, methods and means, and processing methods are described.

**KEYWORDS:** Stikine River, Mill Creek, Thoms Place, Salmon Bay, Wrangell, Southeastern Region, sockeye salmon, *Oncorhynchus nerka*

**NOTES:**

Paige, Amy W., Cheryl L. Scott, David B. Andersen, Susan E. Georgette, and Robert J. Wolfe  
**1996 Subsistence use of birds In the Bering Strait Region, Alaska.** Juneau, Alaska:  
 ADF&G Division of Subsistence.

**ABSTRACT:** This report describes the subsistence uses of birds and eggs in the Bering Strait Region of Alaska, based on surveys of households and bird hunting experts in 15 communities. The geographic area covered includes the coastal regions of Norton Sound, the Seward Peninsula, and Saint Lawrence, Diomede, and King islands in Northwest Alaska. The report also provides general information on subsistence use patterns for each community based on interviews with local bird experts. The report represents the first comprehensive description of the subsistence harvest and use patterns for birds in the communities in the Bering Strait Region.

**KEYWORDS:** Arctic Region, migratory birds, migratory bird eggs, subsistence hunting, Bering Strait, Norton Sound, Seward Peninsula, Saint Lawrence Island, Diomede Island, King Island

**NOTES:**

Paige, Amy W., and Robert J. Wolfe  
**1997 The subsistence harvest of migratory birds in Alaska - compendium and 1995 update.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This compendium presents detailed information on the subsistence harvest and use of migratory birds in rural Alaska, based on surveys conducted through the 1995 survey year. The compendium updates information presented in the report, The Subsistence Harvest of Migratory Birds in Alaska by Robert J. Wolfe, Amy W. Paige, and Cheryl L. Scott, Technical Paper No. 197. This compendium was prepared for the U.S. Fish and Wildlife Service under agreement number 1448-0007-95-7735.

**KEYWORDS:** subsistence hunting, subsistence gathering, migratory birds, Prince William Sound, Lower Kenai Peninsula, Kodiak Island, Alaska Peninsula, Aleutian-Pribilof islands, Bristol Bay, Yukon-Kuskokwim Delta, Seward Peninsula, Norton Sound, Saint Lawrence Island

**NOTES:**

Palinkas, L. A.  
**1993 Social, cultural, and psychological impacts of the "Exxon Valdez" oil spill.** Human Organisation 52:1-13.

**ABSTRACT:**

**KEYWORDS:** Descriptor: Oil spills

social aspects

Stress (psychology)

effect of oil spills

Subsistence change

effect of oil spills

Alaska

CULTURAL ETHNOGRAPHY

AMERICAS

NORTH AMERICA

United States

Document Type: article

**NOTES:** Using Smart Source Parsing

no. 1 (), p. Journal Code: Hum Org

Palinkas, L. A., J. S. Petterson, J. C. Russell, and M. A. Downs

**2004 Ethnic differences in symptoms of post-traumatic stress after the Exxon Valdez oil spill.** Prehosp Disaster Med 19(1):102-12.

**ABSTRACT:** INTRODUCTION: Previous studies have reported ethnic differences in the prevalence of post-traumatic stress disorder (PTSD), but the reasons for these differences remain unclear. HYPOTHESIS: Ethnic differences in the prevalence of PTSD may reflect ethnic differences in (1) exposure to traumatic events; (2) appraisal of such event as traumatic; and (3) culturally-determined responses to standardized diagnostic instruments, reflecting differences in cultural meanings associated with physical symptoms and idioms of distress. METHODS: Ethnic differences in risk factors and factor structures of PTSD symptoms were examined in 188 Alaskan Natives and 371 Euro-Americans exposed to the Exxon-Valdez oil spill in 1989. RESULTS: High levels of social disruption were associated with PTSD one year after the oil spill in both ethnic groups. However, low family support, participation in spill clean-up activities, and a decline in subsistence activities were significantly associated with PTSD in Alaskan Natives, but not in Euro-Americans. Factor analysis of the Diagnostic Interview Schedule PTSD subscale revealed five factors for both ethnic groups. However, the items comprising these factors were dissimilar. CONCLUSIONS: These results suggest that social disruption is sufficiently traumatic to be associated with symptoms of post-traumatic stress, but that a diagnosis of PTSD must take into consideration local interpretations of these symptoms.

**KEYWORDS:** Adult

Alaska/epidemiology

Cross-Cultural Comparison

Cross-Sectional Studies

\*Disasters

European Continental Ancestry Group/\*psychology

Female

Humans

Indians, North American/\*psychology

Inuits/\*psychology

Logistic Models

Male

Multivariate Analysis

Petroleum

Prevalence

Risk Factors

Stress Disorders, Post-Traumatic/\*ethnology/psychology

**NOTES:** Palinkas, Lawrence A

Petterson, John S

Russell, John C

Downs, Michael A

Comparative Study

Research Support, Non-U.S. Gov't

United States

Prehospital and disaster medicine : the official journal of the National Association of EMS Physicians and the World Association for Emergency and Disaster Medicine in association with the Acute Care Foundation

Prehosp Disaster Med. 2004 Jan-Mar;19(1):102-12.

Palinkas, L. A., J. Russell, M. A. Downs, and J. S. Petterson

**1992 Ethnic differences in stress, coping, and depressive symptoms after the Exxon Valdez oil spill.** J Nerv Ment Dis 180(5):287-95.

**ABSTRACT:** This study assessed levels of depressive symptomatology in a household probability sample of Alaskan Native (N = 188) and Euro-American (N = 371) residents of 13 communities in Alaska. Our objective was to examine ethnic differences in both the association between depressive symptomatology and exposure to the Exxon Valdez oil spill and subsequent cleanup efforts, and in the role of family support as a moderator of exposure to this technological disaster. Level of exposure was significantly associated with mean Center for Epidemiological Studies-Depression Scale scores in both Natives (p less than .05) and Euro-Americans (p less than .01). Both ethnic groups also reported significant declines in traditional relations with increasing levels of exposure (p less than .001). However, Natives had a significantly higher mean Exposure Index score than Euro-Americans and were more likely to report working on cleanup activities, damage to commercial fisheries, and effects of the spill on subsistence activities. Depressive symptomatology was associated with reported participation in cleanup activities and other forms of contact with the oil in Natives, and reported damage to commercial fisheries, use of affected areas, and residence in a community in geographic proximity to the spill in Euro-Americans. Perceived family support was not directly associated with depressive symptoms in either ethnic group, but did serve to buffer the effects of exposure on depressive symptoms in Euro-Americans. The results suggest that cultural differences play an important role in determining the psychosocial impacts of a technological disaster, particularly with respect to exposure, appraisal of an event as stressful, perceived family support as a moderator of stress, and expression of depressive symptomatology.

**KEYWORDS:** \*Adaptation, Psychological

Adult  
Age Factors  
Alaska/epidemiology  
Depressive Disorder/\*epidemiology  
\*Disasters  
Educational Status  
Employment  
European Continental Ancestry Group/\*psychology  
Female  
Humans  
Income  
Inuits/\*psychology  
Life Change Events  
Male  
Marriage  
Sex Factors  
Social Behavior  
Social Support  
Stress, Psychological/\*epidemiology

**NOTES:** Palinkas, L A

Russell, J  
Downs, M A  
Petterson, J S  
Comparative Study  
Research Support, Non-U.S. Gov't  
United states  
The Journal of nervous and mental disease  
J Nerv Ment Dis. 1992 May;180(5):287-95.

Palla, Gergely, Albert-László Barabási, and T. Vicsek  
**2007 Quantifying social group evolution.** Nature 446:664-667.

**ABSTRACT:**



**KEYWORDS:****NOTES:**

Parmesan, Camille, and Gary Yohe

**2003 A globally coherent fingerprint of climate change impacts across natural systems.** Nature 421(6918):37-42.

**ABSTRACT:** Causal attribution of recent biological trends to climate change is complicated because non-climatic influences dominate local, short-term biological changes. Any underlying signal from climate change is likely to be revealed by analyses that seek systematic trends across diverse species and geographic regions; however, debates within the Intergovernmental Panel on Climate Change (IPCC) reveal several definitions of a 'systematic trend'. Here, we explore these differences, apply diverse analyses to more than 1,700 species, and show that recent biological trends match climate change predictions. **Global meta-analyses documented significant range shifts averaging 6.1 km per decade towards the poles (or metres per decade upward), and significant mean advancement of spring events by 2.3 days per decade.** We define a diagnostic fingerprint of temporal and spatial 'sign-switching' responses uniquely predicted by twentieth century climate trends. Among appropriate long-term/large-scale multi-species data sets, this diagnostic fingerprint was found for 279 species. This suite of analyses generates 'very high confidence' (as laid down by the IPCC) that climate change is already affecting living systems.

**KEYWORDS:** climate change

**NOTES:** 10.1038/nature01286

Patterson, Tom

**2010 Outside the bubble: real-world mapmaking advice for students.** Cartographic Perspectives 65(Winter):7-15.

**ABSTRACT:****KEYWORDS:****NOTES:**

Patz, JA, HK Gibbs, JA Foley, JV Rogers, and KR Smith

**2007 Climate change and global health: quantifying a growing ethical crisis.** EcoHealth 4(4):397-405.

**ABSTRACT:****KEYWORDS:****NOTES:**

Pearce, T., J. D. Ford, F. Duerden, B. Smit, M. Andrachuk, L. Berrang-Ford, and T. Smith

**2011 Advancing adaptation planning for climate change in the Inuvialuit Settlement Region (ISR): a review and critique.** Regional Environmental Change 11(1):1-17.

**ABSTRACT:** This paper reviews scientific and gray literature addressing climate change vulnerability and adaptation in the Inuvialuit Settlement Region (ISR) in the western Canadian Arctic. The review is structured using a vulnerability framework, and 420 documents related directly or indirectly to climate change are analyzed to provide insights on the current state of knowledge on climate change vulnerability in the ISR as a basis for supporting future research and long-term adaptation planning in the region. The literature documents evidence of climate change in the ISR which is compromising food security and health status, limiting transportation access and travel routes to hunting grounds, and damaging municipal infrastructure. Adaptations are being employed to manage changing conditions; however, many of the adaptations being undertaken are short term, ad-hoc, and reactive in nature. Limited long-term strategic planning for climate change is being undertaken. Current climate change risks are expected to continue in the future with further implications for communities but less is known about the adaptive capacity

of communities. This review identifies the importance of targeted vulnerability research that works closely with community members and decision makers to understand the interactions between current and projected climate change and the factors which condition vulnerability and influence adaptation. Research gaps are identified, and recommendations for advancing adaptation planning are outlined.

**KEYWORDS:**

**NOTES:** Times Cited: 0

Pearce, T, B Smit, F Duerden, JD Ford, A Goose, and F Kataoyak

**2009 Inuit vulnerability and adaptive capacity to climate change in Ulukhaktok, Northwest Territories, Canada.** Polar Record 46(02):157-177.

**ABSTRACT:** Climate change is already being experienced in the Arctic with implications for ecosystems and the communities that depend on them. This paper argues that an assessment of community vulnerability to climate change requires knowledge of past experience with climate conditions, responses to climatic variations, future climate change projections, and non-climate factors that influence people's susceptibility and adaptive capacity. The paper documents and describes exposure sensitivities to climate change experienced in the community of Ulukhaktok, Northwest Territories and the adaptive strategies employed. It is based on collaborative research involving semistructured interviews, secondary sources of information, and participant observations. In the context of subsistence hunting, changes in temperature, seasonal patterns (for example timing and nature of the spring melt), sea ice and wind dynamics, and weather variability have affected the health and availability of some species of wildlife important for subsistence and have exacerbated risks associated with hunting and travel. Inuit in Ulukhaktok are coping with these changes by taking extra precautions when travelling, shifting modes of transportation, travel routes and hunting areas to deal with changing trail conditions, switching species harvested, and supplementing their diet with store bought foods. Limited access to capital resources, changing levels of traditional knowledge and land skills, and substance abuse were identified as key constraints to adaptation. The research demonstrates the need to consider the perspectives and experiences of local people for climate change research to have practical relevance to Arctic communities such as for the development and promotion of adaptive strategies.

**KEYWORDS:**

**NOTES:**

Pearce, T., B. Smit, F. Duerden, J. D. Ford, A. Goose, and F. Kataoyak

**2010 Inuit vulnerability and adaptive capacity to climate change in Ulukhaktok, Northwest Territories, Canada.** Polar Record 46(237):157-177.

**ABSTRACT:** Climate change is already being experienced in the Arctic with implications for ecosystems and the communities that depend on them. This paper argues that an assessment of community Vulnerability to climate change requires knowledge of past experience with climate conditions, responses to climatic variations, future climate change projections, and non-climate factors that influence people's Susceptibility and adaptive capacity. The paper documents and describes exposure sensitivities to climate change experienced in the community of Ulukhaktok, Northwest Territories and the adaptive strategies employed. It is based on collaborative research involving semi-structured interviews, secondary Sources of information, and participant observations. In the context of subsistence hunting, changes in temperature, seasonal patterns (for example timing and nature of the spring melt), sea ice and wind dynamics, and weather variability have affected the health and availability of some species of wildlife important for subsistence and have exacerbated risks associated with hunting and travel. Inuit in Ulukhaktok are coping with these changes by taking extra precautions when travelling, shifting modes of transportation, travel routes and hunting areas to deal with changing trail conditions, switching species harvested, and supplementing their diet with store bought foods. Limited access to

capital resources, changing levels of traditional knowledge and land skills, and Substance abuse were identified as key constraints to adaptation. The research demonstrates the need to consider the perspectives and experiences of local people for climate change research to have practical relevance to Arctic communities such as for the development and promotion of adaptive strategies.

**KEYWORDS:**

**NOTES:** Times Cited: 5

Pearce, T, B Smit, F Duerden, F Katayoak, R Inuktalik, A Goose, James D. Ford, and J Wandel  
**2006 Travel Routes, Harvesting and Climate Change in Ulukhaktok, Canada.** Fourth  
 Open Meeting of the Northern Research Forum - The Borderless North, Oulu, Finland  
 Lulea, Sweden, 2006.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Pearce, T. D., J. D. Ford, G. J. Laidler, B. Smit, F. Duerden, M. Allarut, M. Andrachuk, S. Baryluk, A. Dialla, P. Elee, A. Goose, T. Ikummaq, E. Joamie, F. Kataoyak, E. Loring, S. Meakin, S. Nickels, K. Shappa, J. Shirley, and J. Wandel

**2009 Community collaboration and climate change research in the Canadian Arctic.**  
 Polar Research 28(1):10-27.

**ABSTRACT:** Research on climate change impacts, vulnerability and adaptation, particularly projects aiming to contribute to practical adaptation initiatives, requires active involvement and collaboration with community members and local, regional and national organizations that use this research for policy-making. Arctic communities are already experiencing and adapting to environmental and socio-cultural changes, and researchers have a practical and ethical responsibility to engage with communities that are the focus of the research. This paper draws on the experiences of researchers working with communities across the Canadian Arctic, together with the expertise of Inuit organizations, Northern research institutes and community partners, to outline key considerations for effectively engaging Arctic communities in collaborative research. These considerations include: initiating early and ongoing communication with communities, and regional and national contacts; involving communities in research design and development; facilitating opportunities for local employment; and disseminating research findings. Examples of each consideration are drawn from climate change research conducted with communities in the Canadian Arctic.

**KEYWORDS:**

**NOTES:** Times Cited: 10

Pearce, T. D., J. D. Ford, J. Prno, F. Duerden, J. Pittman, M. Beaumier, L. Berrang-Ford, and B. Smit  
**2011 Climate change and mining in Canada.** Mitigation and Adaptation Strategies for  
 Global Change 16(3):347-368.

**ABSTRACT:** Climate is an important component of the operating environment for the Canadian mining sector. However, in recent years mines across Canada have been affected by significant climatic hazards, several which are regarded to be symptomatic of climate change. For the mining sector, climate change is a pressing environmental threat and a significant business risk. The extent to which the mining sector is able to mitigate its own impact and adapt to climate change will affect its long-term success and prosperity, and have profound economic consequences for host communities. This paper draws upon case studies conducted with mining operations in Canada involving in-depth interviews with mining professionals and analysis of secondary sources to characterize the vulnerability of the Canadian mining industry to climate change. Five key findings are discussed: i) mines in the case studies are affected by climate

events that are indicative of climate change, with examples of negative impacts over the past decade; ii) most mine infrastructure has been designed assuming that the climate is not changing; iii) most industry stakeholders interviewed view climate change as a minor concern; iv) limited adaption planning for future climate change is underway; v) significant vulnerabilities exist in the post-operational phase of mines. This paper argues for greater collaboration among mining companies, regulators, scientists and other industry stakeholders to develop practical adaptation strategies that can be integrated into existing and new mine operations, including in the post-operational phase.

**KEYWORDS:**

**NOTES:** Times Cited: 0

Peat Marwick Mitchell & Co.

**1978 Beaufort Sea Region Socioeconomic Baseline.** Anchorage: U.S. Department of the Interior/Bureau of Land Management/Alaska OCS Office.

**ABSTRACT:****KEYWORDS:**

**NOTES:** The purpose of this report is to provide a basis upon which to project socioeconomic impacts on the Beaufort Sea Petroleum Development Region, given a variety of Outer Continental Shelf petroleum development scenarios. This report is based on four essentially concurrent investigations of the Beaufort Sea Region conducted from 1976 to 1978.

Peat Marwick Mitchell & Co.

**1978 Beaufort Sea Region Socioeconomic Baseline: Executive Summary.** Anchorage: U.S. Department of the Interior/Bureau of Land Management/Alaska OCS Office.

**ABSTRACT:****KEYWORDS:**

**NOTES:** This Executive Summary is intended to highlight the major findings of the Beaufort Sea Region Socioeconomic Baseline Report. Detailed information and analysis of four individual Beaufort Sea Region communities (Barrow, Kaktovik, Wainwright, Nuiqsut) are reported in the latter chapters of the Beaufort Sea Region Socioeconomic Baseline Report itself.

Peat Marwick Mitchell & Co., URSA, Crittenden Cassetta Cannon, Hellmuth Obata Kassabaum Inc., and Dames & Moore

**1977 Beaufort Sea Basin Petroleum Development Scenarios for the Federal Outer Continental Shelf (Parts 1 and 2): Interim Report.** Anchorage: U.S. Department of the Interior Bureau of Land Management/Alaska OCS Office.

**ABSTRACT:****KEYWORDS:**

**NOTES:** In order to analyze the socioeconomic and environmental impacts of Beaufort Sea petroleum exploration, development and production, it is necessary to make reasonable predictions of the nature of that development. Petroleum development scenarios serve that purpose by providing a "project description" for the impact analysis. Particularly important to socioeconomic studies are the manpower, equipment and material requirements, and the scheduling of petroleum development. The scenarios have to provide a reasonable range of technological, economic and geographic options so that both the minimum and maximum development impacts can be discerned. The primary purpose of this report is, therefore, to describe in detail a set of petroleum development scenarios that are the most economically and technically feasible based upon available estimates of oil and gas resources of the Beaufort Sea.

Pedersen, Sverre

**1980 WACH management program components—draft.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report outlines elements for a proposed Western Arctic Caribou Herd (WACH) management plan. Overall management objectives and possible program components are offered, reflecting Division of Subsistence's concerns about the herd.

**KEYWORDS:** Arctic Region, Western Arctic Caribou Herd, WACH, caribou, Rangifer tarandus.

**NOTES:**

Pedersen, Sverre

**1990 Caribou hunting: land use dimensions, harvest level, and selected aspects of the hunt during regulatory year 1987-88 in Kaktovik, Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** Kaktovik caribou harvest activities for the regulatory year 1987-1988 are the focus of this report. Estimated harvest levels for the community, land areas used, methods and means of harvest, and the composition of caribou hunting groups are described. Comparisons are made with data from previous caribou harvest monitoring projects conducted in Kaktovik. This report demonstrates the continuing importance of caribou in the household economies of Kaktovik residents.

**KEYWORDS:** Arctic Region, Kaktovik, caribou, Rangifer tarandus, subsistence areas, subsistence hunting.

**NOTES:**

Pedersen, Sverre, and Richard A. Caulfield

**1981 Some elements of subsistence land and resource use within the range of the Porcupine Caribou Herd in Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This paper provides an overview of the Division of Subsistence's concerns and research efforts on subsistence use of the Porcupine Caribou Herd. Research projects documenting land and resource use in Kaktovik and Arctic Village are briefly summarized.

**KEYWORDS:** Arctic Region, Porcupine Caribou Herd, Kaktovik, Arctic Village.

**NOTES:**

Pedersen, Sverre, and Michael W. Coffing

**1984 Caribou hunting: land use dimensions and recent harvest patterns in Kaktovik, Northeast Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report presents information on the caribou hunting areas and caribou harvest levels for study years 1981-1983 by residents of Kaktovik, Alaska. Detailed caribou harvest information for these years was collected through interviews with community hunters. The annual caribou harvest levels were highly variable during the 3-year study period. The average annual harvest level in recent years has been estimated to be about 100 caribou per year. Traditional caribou hunting areas, intensively-used caribou harvest areas, and recent harvest sites occur in areas either undergoing rapid industrialization or being considered for oil and gas exploration and development in the near future.

**KEYWORDS:** Arctic Region, Kaktovik, caribou, Rangifer tarandus, Porcupine Caribou Herd, Central Arctic Caribou Herd, Arctic National Wildlife Refuge

**NOTES:**

Pedersen, Sverre, Michael W. Coffing, and Jane Thompson

**1985 Subsistence land use and place names maps for Kaktovik, Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report focuses on the spatial dimensions of land use associated with the procurement of wild resources by residents of Kaktovik, Alaska. Kaktovik subsistence land uses cover a minimum area of 11,406 sq mi. Distribution of 167 local Inupiaq place names provides support for the extensive subsistence land use area. The cultural geography of the Kaktovik Inupiaq extends much farther to the east and west than present-day village-based subsistence activities. Reliance on resources harvested within the defined use area is high in Kaktovik. The report concludes that resource management and development plans for the eastern Arctic must recognize and be sensitive to the potential vulnerability of the local subsistence-based economy.

**KEYWORDS:** Arctic Region, North Slope, Kaktovik, Inupiaq, subsistence land uses.

**NOTES:**

Pedersen, Sverre, Terry L. Haynes, and Robert J. Wolfe

**1991 Historic and current use of musk ox by North Slope residents, with specific reference to Kaktovik, Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report summarizes information on the historical presence and uses of muskoxen in northern Alaska. The report describes how muskoxen, since their 1969 introduction to the North Slope, are becoming reincorporated into the subsistence hunting patterns of the Inupiat community of Kaktovik. The report also details the changes in the state's regulatory framework for allocating muskoxen hunting opportunities between subsistence and sport user groups. This includes the establishment of subsistence hunting seasons for muskoxen in 1989 by the Alaska Board of Game, reversing the 1986 finding that no subsistence uses of transplanted muskoxen existed on the North Slope.

**KEYWORDS:** Arctic Region, muskox, muskoxen, Ovibos moschatus, North Slope, Inupiat, Kaktovik, subsistence hunting, Alaska Board of Game

**NOTES:**

Peel, RT

**2000 Katie John v. United States: Balancing Alaskan State Sovereignty with a Native Grandmother's Right to Fish.** BYU J. Pub. L. 15:263.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Peluso, Nancy Lee

**1993 Coercing conservation? : The politics of state resource control.** Global Environmental Change 3(2):199-217.

**ABSTRACT:** International environmental agreements assume that nation-states have the capacity, Internal legitimacy, and the will to manage resources within their territorial boundaries. Although many state agencies or factions may be interested in joining international conservation interests to preserve threatened resources and habitats, some state interests appropriate the ideology, legitimacy, and technology of conservation as a means of increasing or appropriating their control over valuable resources and recalcitrant populations. While international conservation groups may have no direct agenda for using violence to protect biological resources, their support of states which either lack the capacity to manage resources or intend to control [']national' resources at any price, contributes to the disenfranchisement of indigenous people with resource claims. This paper compares two examples of state efforts to control valuable resources in Kenya and Indonesia. In both cases, the maintenance of state control has

led to a militarization of the resource [']conservation' process. International conservation interests either directly or indirectly legitimate the states' use of force in resource management.

**KEYWORDS:**

**NOTES:**

Pendergrast, D.

**Social Science in Gates of the Arctic National Park and Preserve.**

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Perez-Escamilla, Rafael, Ana Maria Segall-Correa, Lucia Kurdian Maranhã, Maria de Fatima Archanjo Sampaio, Leticia Marin-Leon, and Giseli Panigassi

**2004 An Adapted Version of the U.S. Department of Agriculture Food Insecurity Module Is a Valid Tool for Assessing Household Food Insecurity in Campinas, Brazil.** Journal of Nutrition 134(8):1923-1928.

**ABSTRACT:** Until recently, Brazil did not have a national instrument with which to assess household food insecurity (FI). The objectives of this study were as follows: 1) to describe the process of adaptation and validation of the 15-item USDA FI module, and 2) to assess its validity in the city of Campinas. The USDA scale was translated into Portuguese and subsequently tested for content and face validity through content expert and focus groups made up of community members. This was followed by a quantitative validation based on a convenience (n = 125) and a representative (n = 847) sample. Key adaptations involved replacing the term "balanced meal" with "healthy and varied diet," to construct items as questions rather than statements, and to ensure that respondents understood that information would not be used to determine program eligibility. Chronbach's {alpha} was 0.91 and the scale item response curves were parallel across the 4 household income strata. FI severity level was strongly associated in a dose-response manner ( $P < 0.001$ ) with income strata and the probability of daily intake of fruits, vegetables, meat/fish, and dairy. These findings were replicated in the 2 independent survey samples. Results indicate that the adapted version of the USDA food insecurity module is valid for the population of Campinas. This validation methodology has now been replicated in urban and/or rural areas of 4 additional states with similar results. Thus, Brazil now has a household food insecurity instrument that can be used to set national goals, to follow progress, and to evaluate its national hunger and poverty eradication programs.

**KEYWORDS:**

**NOTES:**

Perrings, Charles, and Brian Walker

**1997 Biodiversity, resilience and the control of ecological-economic systems: the case of fire-driven rangelands.** Ecological Economics 22(1):73-83.

**ABSTRACT:** The loss of resilience in systems characterised by multiple equilibria is indicated by a discontinuous change in the state of the system, or the transition from one locally stable state corresponding to a particular mix of species to another state corresponding to a different mix of species. The resilience of the system (the state of the range in this example) may be influenced by the management regime through its impact on the response to disturbances. The paper shows that optimal management of an event-driven system should be sensitive to the opportunities created by such events.

**KEYWORDS:** resilience

**NOTES:**

Perry, Sandy

**1977 A history of the Alaskan Native as published in the headlines of the *Nome Nugget* from 1901 to 1976:** sn.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Person, B. T., A. K. Prichard, G. M. Carroll, D. A. Yokel, R. S. Suydam, and J. C. George

**2007 Distribution and movements of the Teshekpuk Caribou Herd 1990-2005: Prior to oil and gas development.** Arctic 60:238-250.

**ABSTRACT:** Four caribou (*Rangifer tarandus grantii*) herds calve on the North Slope of Alaska, three of which have been exposed to little or no resource development. We present 15 years of baseline data on the distribution and movements of 72 satellite-collared and 10 GPS-collared caribou from the Teshekpuk caribou herd (TCH) that have had little to no exposure to oil and gas activities. Fixed-kernel home range analyses of collared caribou revealed that calving grounds were concentrated (i.e., 50% kernel utilization distribution) along the northeastern, eastern, and southeastern shores of Teshekpuk Lake. During the post-calving period, 51% and 35% of caribou moved through two constricted zones to the east and west of Teshekpuk Lake, respectively, and accessed insect-relief habitat along the Beaufort Sea coast. During late summer and early fall, TCH caribou were concentrated to the southeast and southwest of Teshekpuk Lake. Although 65% of the Teshekpuk caribou wintered in two areas on the central coastal plain around the village of Atkasuk and south of Teshekpuk Lake, other TCH animals wintered in a great variety of places, including the Seward Peninsula, the eastern and southern Brooks Range, and the Arctic National Wildlife Refuge. We detected an apparent emigration rate of 6.9%. One male and five female TCH caribou joined the breeding populations of the Western Arctic and Central Arctic herds. TCH caribou traveled an average distance of 2348 190 km annually. Movement rates were at a maximum in midsummer, lowest in winter, and intermediate during spring and fall migrations. Restrictions on oil and gas leasing and surface occupancy have been in place to protect calving, migratory corridors, and insect-relief habitat for the TCH, but these protections are likely to be removed. These data will provide a good baseline that can be used to compare predevelopment distribution and movement patterns of TCH caribou to distribution and movement patterns during and after petroleum development.

**KEYWORDS:**

**NOTES:** Times Cited: 2

Pete, Mary C.

**1984 Subsistence use of herring in the Nelson Island Region of Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** Information is summarized on the subsistence uses of Pacific herring by 9 villages in the Nelson Island Region of Western Alaska. The uses of herring are described in terms of recent harvest levels, geographic harvest areas, and methods of harvest and processing. Socioeconomic characteristics of the 9 communities using herring for subsistence are also described.

**KEYWORDS:**

**NOTES:**

Pete, Mary C.

**1986 Contemporary patterns of wild resource use by residents of Russian Mission, Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report documents contemporary patterns of local wild resource use by the residents of Russian Mission along the Yukon River, including harvest areas, seasonality, and



harvest levels for the study year. Population profiles, household analysis, current employment, and a brief ethnohistory are also provided.

**KEYWORDS:**

**NOTES:**

Pete, Mary C.

**1990 Subsistence herring fishing in the Nelson Island and Nunivak Island districts, 1990.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report summarizes results of surveys conducted in summer 1990 on the participation rates and harvest levels of Pacific herring for subsistence use by communities in the Nelson Island and Nunivak Island districts. The 1990 surveys were prompted by concerns over low projected returns of herring to those districts. Communities in the Nelson Island area were surveyed 1986-1988 and results of those surveys are compared with the 1990 findings. This is the first complete survey (100 percent sample) administered in Mekoryuk, the single contemporary community on Nunivak Island. All fishing families were surveyed in 4 communities. Harvest estimates were generated for a fifth community, Nightmute, which did not give permission to conduct the surveys, primarily because of their concern about the declining herring stocks.

**KEYWORDS:**

**NOTES:**

Pete, Mary C.

**1991 Subsistence herring fishing in the Eastern Bering Sea Region: Nelson Island, Nunivak Island, and Kuskokwim Bay.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report summarizes information on the subsistence use of Pacific herring in the Nelson Island and Etolin Strait regions of Alaska. Data were gathered in annual surveys 1986-1988. All fishing families were surveyed each season to arrive at total harvests. Qualitative information on community experiences with depletions of herring stocks in the late 1960s and early 1970s is included. A brief description of subsistence herring uses by 5 other communities in the Nunivak Island and Kuskokwim Bay areas supplements the more detailed information presented for Nelson Island communities.

**KEYWORDS:**

**NOTES:**

Pete, Mary C.

**1991 Subsistence herring fishing in the Nelson and Nunivak islands districts, 1991.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** The report describes findings of surveys on participation rates and harvest levels of Pacific herring for subsistence uses by communities in the Nelson Island and Nunivak Island districts in summer 1991. This survey recorded the lowest production levels since 1986 in the Nelson Island District. Comparisons with results of previous surveys are made, as well as a discussion of adjustments made by families in those communities to the low production rates of herring for subsistence uses. This survey includes the first documentation of harvest effort and levels of herring spawn on kelp by residents of Mekoryuk on Nunivak Island.

**KEYWORDS:**

**NOTES:**

Pete, Mary C.

**1992 Subsistence herring fishing in the Nelson Island and Nunivak Island districts, 1992.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report summarizes results of the surveys of the subsistence harvest of Pacific herring, which were conducted in 5 communities in the Nelson Island and Nunivak Island districts in 1992. Results are compared with 5 years of survey data, 1986-1988 and 1990-1991. Surveys in the 1980s were initiated to document the subsistence herring fishery on Nelson Island when local commercialization on those stocks began. Surveys since 1990 have been prompted by poor returns of herring to both the Nelson Island and Nunivak Island districts and concerns for adequate opportunities for subsistence herring fishing.

**KEYWORDS:**

**NOTES:**

Pete, Mary C., Daniel E. Albrecht, and Ronald E. Kreher

**1987 Subsistence herring fishing in the Nelson Island District and Northern Kuskokwim Bay, 1987.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report documents the results of a 1987 survey administered to all families that fished for Pacific herring for subsistence uses in 5 communities in the Kuskokwim Region. This survey duplicated one administered in 1986. In both years, the surveys attempted a comprehensive recording of the production of herring for subsistence uses, including harvest levels, timing, facilities, gear, areas used for herring fishing and related activities, and persons involved. The 1987 report compares and contrasts the 1986 and 1987 seasons and incorporates new information relative to a community that was added to the survey.

**KEYWORDS:**

**NOTES:**

Pete, Mary C., and Ronald E. Kreher

**1986 Subsistence herring fishing in the Nelson Island District, 1986.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes the production of Pacific herring for subsistence uses by all fishing families in the communities of the Nelson Island area in 1986. Information on harvest levels, timing, facilities, gear, areas used for herring fishing, spawn-on-kelp and beach grass collecting, and persons involved in the production of herring for subsistence is presented. This report describes current techniques for processing, drying and storing herring for food.

**KEYWORDS:**

**NOTES:**

Peter Eakland and Associates

**1981 Transportation Baseline Update and Forecast of Conditions without the Planned Lease Sale, Beaufort Sea (71).** Anchorage: U.S. Department of the Interior/Bureau of Land Management/Alaska OCS Office.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Petersen, KM, AJ Parkinson, ED Nobmann, L Bulkow, R Yip, and A Mokdad

**1996 Iron deficiency anemia among Alaska Natives may be due to fecal loss rather than inadequate intake.** *Journal of Nutrition* 126(11):2774.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Peterson, Charles H.

**2001 The "Exxon Valdez" oil spill in Alaska: Acute, indirect and chronic effects on the ecosystem.** *In* *Advances in Marine Biology*. Pp. 1-103, Vol. Volume 39: Academic Press.

**ABSTRACT:** Following the oil spill in Prince William Sound, Alaska, in 1989, effects were observed across a wide range of habitats and species. The data allow us to evaluate direct and indirect links between shoreline habitats and the coastal ecosystem in general. The intertidal zone suffered from direct oiling and clean-up treatments such as pressurized hot water, resulting in freeing of bare space on rocks and reductions in fucoid algal cover. Grazing limpets, periwinkles, mussels and barnacles were killed or removed. Subsequent indirect effects included colonization of the upper shore by ephemeral algae and an opportunistic barnacle and, in some regions, spread of *Fucus gardneri* into the lower shore where it inhibited return of red algae. The loss of habitat provided by the *Fucus* canopy slowed recovery on high shores, and lowered abundance of associated invertebrates. Abundance of sediment infauna declined and densities of clams were reduced directly. Their recovery was still incomplete by 1997 on oiled and treated shores where fine sediments had been washed down slope during treatment. Impacts in subtidal habitats were less intense than in the intertidal zone. Kelps were reduced in 1989 but recovered rapidly through re-colonization by 1990. Abundances of a dominant crab and seastar were reduced greatly, with recovery of the more mobile species, the crab, occurring by 1991. For about 4 years, there was reduced eelgrass density and hence less habitat for associated animals. Abundance of several toxin-sensitive amphipods declined dramatically and had not recovered by 1995. In general, however, many subtidal infaunal invertebrates increased in abundance, especially oligochaetes and surface deposit-feeding polychaetes. This may have resulted from increases in sediment hydrocarbon-degrading bacteria, but may also reflect reduction of predators. Along northern Knight Island, where sea otter populations had not recovered by 1997, green sea-urchins were larger, compared with those in un-oiled parts of Montague Island. This initial response from reduced predation by sea otters, if sustained, could lead to additional indirect effects of the spill. Scavenging terrestrial birds, such as bald eagles and northwestern crows, suffered direct mortality as adults and reproductive losses, although eagles recovered rapidly. Numbers of intertidal benthic fishes were 40% lower on oiled than on un-oiled shores in 1990, but recovery was underway by 1991. Small benthic fishes living in eelgrass showed sensitivity to hydrocarbon contamination until at least 1996, as evidenced by hemosiderosis in liver tissues and P450 1A enzyme induction. Oiling of intertidal spawning habitats affected breeding of herring and pink salmon. Pink salmon, and possibly Dolly Varden char and cut-throat trout, showed slower growth when foraging on oiled shorelines as older juveniles and adults, which for pink salmon implies lower survival. The pigeon guillemots that suffered from the oil spill showed reduced feeding on sand eels and capelin, which may also have been affected by the spill, and this may have contributed to failure of guillemot recovery. There was an analogous failure of harbor seals to recover. Sea otters declined by approximately 50%, and juvenile survival was depressed on oiled shores for at least four winters. Both black oystercatchers, shorebirds that feed on intertidal invertebrates, and also harlequin ducks showed reduced abundance on oiled shores that persisted for years after the spill. Oystercatchers consumed oiled mussels from beds where contamination by only partially weathered oil persisted until at least 1994, with a resulting impact on productivity of chicks. A high over-winter mortality of adult harlequin ducks continued in 1995-1996, 1996-1997 and 1997-1998. Delays in the recovery of avian and mammalian predators of fishes and invertebrates through chronic and indirect effects occurred long after the initial impacts of the spill. Such delayed effects are not usually incorporated into ecotoxicity risk assessments which thus substantially underestimate impacts of a spill. Detection of delayed impacts requires rigorous long-term field sampling, so as to observe the dynamics of recovery processes.

**KEYWORDS:**

**NOTES:**

Peterson, Garyy, Craig R. Allen, and C. S. Holling

**1998 Ecological resilience, biodiversity, and scale.** *Ecosystems* 1(1):6-18.

**ABSTRACT:** We describe existing models of the relationship between species diversity and ecological function, and propose a conceptual model that relates species richness, ecological resilience, and scale. We suggest that species interact with scale-dependent sets of ecological structures and processes that determine functional opportunities. We propose that ecological

resilience is generated by diverse, but overlapping, function within a scale and by apparently redundant species that operate at different scales, thereby reinforcing function across scales. The distribution of functional diversity within and across scales enables regeneration and renewal to occur following ecological disruption over a wide range of scales.

**KEYWORDS:** biodiversity; cross-scale; ecological function; ecological organization; functional group; keystone; multiple stable states; resilience; scale; stability

**NOTES:**

Petterson, John S., Yvonne Yarber, Dorcas Neakok, Kate Peterson, and Paul Tazruk

**1989 Point Lay Biographies.** Anchorage: U.S. Department of the Interior, Minerals Management Service, Alaska OCS Region.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** This is the second volume of the Point Lay Case Study, sponsored by the Minerals Management Service. Unlike the first volume, which is a technical report intended for a professional audience and especially interested readers, this volume is intended to appeal to a wider range of people. It is issued as a separate work to facilitate its distribution. We hope in this small way to help repay the community of Point Lay in particular, and all other North Slope residents in general, who were so generous with their time in our study.

Phyllis, Ann Fast

**1998 Subsistence among the Gwich'in Athabascans of northern Alaska.** *In* Cultural survival quarterly. Pp. 57-8, Vol. 23.

**ABSTRACT:**

**KEYWORDS:** Descriptor: Alaska

Athapaskans

Subsistence economy

Tradition

Hunting

CULTURAL ETHNOGRAPHY

AMERICAS

NORTH AMERICA

Document Type: article

**NOTES:** Using Smart Source Parsing

no. 3 (), p. Journal Code: Cult Survival Q

Pickering Sherman, Kathleen, James Van Lanen, and Richard Sherman

**2010 Practical environmentalism on the Pine Ridge Reservation: Confronting structural constraints to indigenous stewardship.** *Human Ecology* 38(4):507-520.

**ABSTRACT:** Parallels exist between the academic theory of a dwelling approach to resilience and the Indigenous Stewardship Model developed on the Pine Ridge Indian Reservation in South Dakota. In both approaches, sustainable resource management depends on a practical environmentalism that creates linkages between local community members and their surrounding ecosystem. Research on the Pine Ridge Indian Reservation reveals that Lakota people possess a conservation ethic that stems from their physical connection to place. However, tribal, state, and federal land policies create structural barriers that reduce access of Lakota households to the land, which in turn reduces adaptability and resilience in their ecological practice. To overcome these barriers, Lakota households envision local stewardship of reservation lands and resources. Particular emphasis is placed on the intergenerational

transfer of knowledge to Lakota youth, to transcend local and political conflict, and to reestablish social and cultural relationships with the reservation's ecology.

**KEYWORDS:** Humanities; Social Sciences and Law

**NOTES:**

Platteau, Jean-Philippe

**2006 Solidarity norms and institutions in village societies: static and dynamic considerations.** *In* Handbook on the Economics of Giving, Reciprocity and Altruism. K. Serge-Christophe and Y. Jean Mercier, eds. Pp. 819-886, Vol. Volume 1: Elsevier.

**ABSTRACT:** The purpose of this essay is to argue that **process-regarding preferences or social norms are pervasive in traditional village communities, yet are subject to gradual erosion under the influence of new forces, particularly population growth and market penetration.** This is illustrated with respect to norms regarding the allocation of locally controlled natural resources, such as land, forest, pastures and water spaces. As a matter of fact, a communal system of land rights, together with the accompanying set of norms and preferences, is conceivable only under conditions of high land-man ratios resulting in extensive land use patterns. When land becomes intensively exploited, the efficiency costs of equity-oriented arrangements increase significantly. On the other hand, informal insurance arrangements relying on voluntary state-contingent transfers tend to be less effective under the pressure of market integration and the emergence of alternative income-earning opportunities accessible to at least a segment of rural populations.

**KEYWORDS:** social norms, altruism, reciprocity, land access, common property, informal insurance

**NOTES:**

Plusquellec, P., G. Muckle, E. Dewailly, P. Ayotte, G. Bégin, C. Desrosiers, C. Després, D. Saint-Amour, and K. Poitras

**2010 The relation of environmental contaminants exposure to behavioral indicators in Inuit preschoolers in Arctic Quebec.** *NeuroToxicology* 31(1):17-25.

**ABSTRACT:** Although lead (Pb) exposure has been identified as an important risk factor in child behavioral development, less is known regarding the relation between child behavior and exposure to polychlorinated biphenyls (PCBs) and mercury (Hg). Inuit children are particularly exposed to these chemicals and the aim of this study was to investigate the association between prenatal and postnatal exposure to Pb, PCBs, Hg and several aspects of behavioral function in Inuit preschoolers. The sample consisted of one hundred and ten 5-year-old Inuit children from Arctic Quebec. An umbilical cord blood sample was used to document prenatal exposure to Pb, PCBs and Hg. Child blood samples were collected at age 5 and the same contaminants were measured. A modified version of the Infant Behavior Rating Scale from the Bayley Scales of Infant Development-II was used to assess child behavior through examiners' ratings. Furthermore, attention, activity and emotional outcomes were assessed through behavioral coding of video recordings taken during fine motor testing. Pb exposure during childhood was associated with examiners ratings of greater impulsivity, irritability and with coding of observed inattention. Prenatal exposure to PCB 153 correlated with the examiners ratings of increased state of unhappiness and anxiety during the testing session, which was corroborated from video coding since cord PCB 153 was related to fewer manifestations of positive affects. No association was found with Hg exposure. These data corroborated those from previous Pb cohort studies and revealed an association between prenatal PCBs exposure and emotional outcomes in preschoolers.

**KEYWORDS:** Lead

Polychlorinated biphenyls

Child behavior  
 Direct observation  
 Bayley Infant Behavior Rating Scale  
 Prenatal exposure

**NOTES:**

Polyak, Leonid, Richard B. Alley, John T. Andrews, Julie Brigham-Grette, Thomas M. Cronin, Dennis A. Darby, Arthur S. Dyke, Joan J. Fitzpatrick, Svend Funder, Marika Holland, Anne E. Jennings, Gifford H. Miller, Matt O'Regan, James Savelle, Mark Serreze, Kristen St. John, James W. C. White, and Eric Wolff  
**2010 History of sea ice in the Arctic.** Quaternary Science Reviews In Press, Corrected Proof.

**ABSTRACT:** Arctic sea-ice extent and volume are declining rapidly. Several studies project that the Arctic Ocean may become seasonally ice-free by the year 2040 or even earlier. Putting this into perspective requires information on the history of Arctic sea-ice conditions through the geologic past. This information can be provided by proxy records from the Arctic Ocean floor and from the surrounding coasts. Although existing records are far from complete, they indicate that sea ice became a feature of the Arctic by 47 Ma, following a pronounced decline in atmospheric pCO<sub>2</sub> after the Paleocene-Eocene Thermal Optimum, and consistently covered at least part of the Arctic Ocean for no less than the last 13-14 million years. Ice was apparently most widespread during the last 2-3 million years, in accordance with Earth's overall cooler climate. Nevertheless, episodes of considerably reduced sea ice or even seasonally ice-free conditions occurred during warmer periods linked to orbital variations. The last low-ice event related to orbital forcing (high insolation) was in the early Holocene, after which the northern high latitudes cooled overall, with some superimposed shorter-term (multidecadal to millennial-scale) and lower-magnitude variability. The current reduction in Arctic ice cover started in the late 19th century, consistent with the rapidly warming climate, and became very pronounced over the last three decades. **This ice loss appears to be unmatched over at least the last few thousand years and unexplainable by any of the known natural variabilities.**

**KEYWORDS:**

**NOTES:** doi: DOI: 10.1016/j.quascirev.2010.02.010

Ponce, R. A., G. M. Egeland, J. P. Middaugh, and P. R. Becker

**1998 Twenty years of trace metal analyses of marine mammals in Alaska: evaluation and summation.** International Journal of Circumpolar Health 57 Suppl 1:576-81.

**ABSTRACT:** The compilation of existing data on contaminants in the marine food chain is essential in addressing concerns regarding the magnitude of potential human exposures and in the evaluation of subsistence food safety. This paper presents a summary of studies on trace metals in tissues of Alaska marine mammals from the 1970s to the present, along with derived mean tissue trace metal concentrations. The derived mean can serve as a norm against which future monitoring results may be compared, and may be used to estimate human exposure to trace metals through the consumption of marine mammals. Additionally, the variation among studies in the reported mean tissue concentrations has been described through a derived standard deviation. Sufficient analytical and methodological details were available to derive means and standard deviations for tissues in bearded seal, bowhead whale, beluga whale, fur seal, harbor seal, Pacific walrus, and ringed seal. A high concordance between trace metal values reported in tissues (i.e., liver, kidney, muscle) was observed despite significant differences in reported sampling and analytical methodologies. Consistent with other reviews of trace metal concentrations in marine species, the standard deviation of tissue metal concentrations was generally < or = 100% of the reported mean. Significant gaps in available information remain, particularly for muscle tissues and for methylmercury, despite the considerable efforts to monitor marine mammal species in Alaska.

**KEYWORDS:** Alaska

Animals  
Arsenic/\*analysis  
Cadmium/\*analysis  
Environmental Monitoring/methods/\*statistics & numerical data  
Female  
\*Food Chain  
Humans  
Liver/chemistry  
Male  
Marine Biology  
Mercury/\*analysis  
Muscle, Skeletal/chemistry  
Risk Assessment  
Seals, Earless/metabolism  
Selenium/\*analysis  
Sensitivity and Specificity  
Ursidae/metabolism  
Whales/metabolism

**NOTES:** Ponce, R A

Egeland, G M  
Middaugh, J P  
Becker, P R  
Finland  
International journal of circumpolar health  
Int J Circumpolar Health. 1998;57 Suppl 1:576-81.

Ponce, R. A., G. M. Egeland, J. P. Middaugh, and P. R. Becker

**1998 Twenty years of trace metal analyses of marine mammals in Alaska: evaluation and summation.** International Journal of Circumpolar Health 57 Suppl 1:576-81.

**ABSTRACT:** The compilation of existing data on contaminants in the marine food chain is essential in addressing concerns regarding the magnitude of potential human exposures and in the evaluation of subsistence food safety. This paper presents a summary of studies on trace metals in tissues of Alaska marine mammals from the 1970s to the present, along with derived mean tissue trace metal concentrations. The derived mean can serve as a norm against which future monitoring results may be compared, and may be used to estimate human exposure to trace metals through the consumption of marine mammals. Additionally, the variation among studies in the reported mean tissue concentrations has been described through a derived standard deviation. Sufficient analytical and methodological details were available to derive means and standard deviations for tissues in bearded seal, bowhead whale, beluga whale, fur seal, harbor seal, Pacific walrus, and ringed seal. A high concordance between trace metal values reported in tissues (i.e., liver, kidney, muscle) was observed despite significant differences in reported sampling and analytical methodologies. Consistent with other reviews of trace metal concentrations in marine species, the standard deviation of tissue metal concentrations was generally  $< \text{ or } = 100\%$  of the reported mean. Significant gaps in available information remain, particularly for muscle tissues and for methylmercury, despite the considerable efforts to monitor marine mammal species in Alaska.

**KEYWORDS:** Alaska

Animals  
Arsenic/\*analysis  
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Female

\*Food Chain  
 Humans  
 Liver/chemistry  
 Male  
 Marine Biology  
 Mercury/\*analysis  
 Muscle, Skeletal/chemistry  
 Risk Assessment  
 Seals, Earless/metabolism  
 Selenium/\*analysis  
 Sensitivity and Specificity  
 Ursidae/metabolism  
 Whales/metabolism

**NOTES:** Ponce, R A

Egeland, G M  
 Middaugh, J P  
 Becker, P R  
 Finland  
 International journal of circumpolar health  
 Int J Circumpolar Health. 1998;57 Suppl 1:576-81.

Popkin, BM

**1998 The nutrition transition and its health implications in lower-income countries.**  
 Public Health Nutrition 1(01):5-21.

**ABSTRACT:** *Objective:* This article reviews information on the rapid changes in diet, activity and body composition that lower- and middle-income countries are undergoing and then examines some of the potential health implications of this transition. *Design and Setting:* Data came from numerous countries and also from national food balance (FAOSTAT) and World Bank sources. Nationally representative and nationwide surveys are used. The nationally representative Russian Longitudinal Monitoring Surveys from 1992-96 and the nationwide China Health and Nutrition Survey from 1989-93 are examined in detail. *Results.* Rapid changes in the structure of diet, in particular associated with urbanization, are documented. In addition, large changes in occupation types are documented. These are linked with rapid increases in adult obesity in Latin America

and Asia. Some of the potential implications for adult health are noted. *Conclusions.* The rapid changes in diet, activity and obesity that are facing billions of residents of lower- and middle-income countries are cause for great concern. Linked with these changes will be a rapid increase in chronic diseases. Little to date has been done at the national level to address these problems.

**KEYWORDS:**

**NOTES:**

Popkin, BM, and P Gordon-Larsen

**2004 The nutrition transition: worldwide obesity dynamics and their determinants.**  
 International Journal of Obesity 28:S2-S9.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Poppe, Roger

**1970 Where will all the Natives go?** The Western Canadian journal of anthropology  
 2(1):164-175.

**ABSTRACT:**



**KEYWORDS:****NOTES:**

Portes, Alejandro

**2000 The Two Meanings of Social Capital.** Sociological Forum 15(1):1.

**ABSTRACT:** The popularity of the concept of social capital has been accompanied by increasing controversy about its actual meaning and effects. The concept of social capital is arguably one of the most successful exports from sociology to other social sciences and to public discourse during the last two decades. It is being used to explain the differential performance of children raised in intact versus broken families, the success of housing programs in some communities but not others and the economic development and government efficiency of cities and even entire nations. Much of the controversy surrounding social capital has to do with its application to different types of problems and its use in theories involving different units of analysis. Collective social capital or civic-ness lacks this distinct separation. As a property of cities and nations, measurable in stocks, social capital is said to lead to better governance and more effective policies and its existence is simultaneously inferred from the same outcomes.

**KEYWORDS:** SOCIAL capital; SOCIAL influence; INDIVIDUATION; COLLECTIVISM; SOCIOLOGY; ETHNOLOGY

**NOTES:**

Posner, R. A.

**1980 Theory of Primitive Society, with Special Reference to Law, A.** Journal of Law and Economics 23:1.**ABSTRACT:****KEYWORDS:****NOTES:**

Post, E

**2005 Large-scale spatial gradients in herbivore population dynamics.** Ecology 86(9):2320-2328.

**ABSTRACT:** Spatial gradients in density dependence and cyclicity are familiar features of the population dynamics of small mammals, particularly Fennoscandian rodents. The most well-documented of such gradients is a weakening of direct density dependence and an increase in the tendency of populations to cycle the farther north they occur, a phenomenon that has been attributed to gradients in predation and seasonality. Among large mammals, however, for which evidence of cyclicity is less clear, geographic gradients in population dynamics are limited to spatial variation in the strength of density independence. The population dynamics of caribou and muskoxen in Greenland, for example, display latitudinal gradients in the response of populations to large-scale climatic fluctuation. To my knowledge, the existence of spatial gradients in density dependence has not been explicitly investigated in large mammals. Here I present an analysis of the dynamics of 27 populations of caribou and reindeer in Greenland, Finland, and Russia, spanning 21 degrees of latitude (51.78–72.78 N) and 215 degrees of longitude (56.48 W–159.58 E), to identify spatial gradients in density dependence and independence. Results of autoregressive time series analysis show a clear gradient in the strength of direct density dependence exhibited by these populations that declines from southern to northern latitudes. Although this pattern mirrors the latitudinal gradient evident in Fennoscandian rodent dynamics, an analysis of the dimensionality of these time series suggests that few, if any, of the populations are limited by predators. The existence of an inverse latitudinal gradient in the magnitude of the influence of large-scale climate on the dynamics of these populations suggests there may be a tension in the strength of density-dependent vs. density-independent limitation experienced by them.

**KEYWORDS:** caribou; density dependence; density independence; latitude; longitude; Rangifer tarandus; reindeer

**NOTES:**

Post, E, PS Bøving, C Pedersen, and MA MacArthur

**2003 Synchrony between caribou calving and plant phenology in depredated and non-depredated populations.** Canadian Journal of Zoology 81(10):1709-1714.

**ABSTRACT:** Two main hypotheses have been proposed to explain reproductive synchrony exhibited by many species of large herbivores: the predation hypothesis and the seasonality hypothesis. Although examples supporting both hypotheses have been presented, no study has compared the intraseasonal progression of parturition and plant phenology in depredated and non-depredated populations of large herbivores. We monitored, on a daily or near-daily basis, the progression of the caribou (*Rangifer tarandus*) calving seasons in two populations: the Caribou River population in Alaska, U.S.A., where predators of caribou are present and the Kangerlussuaq-Sisimiut population in West Greenland where such predators have been absent for approximately 4000 years. Simultaneously, we quantified directly the phenological progression of caribou forage plants on spatially replicated plots in both study sites. Parturition was significantly more synchronous in the West Greenland (predator-free) population than in the Alaskan (depredated) population. Progression of the calving seasons in both populations was highly synchronized to the progression of forage plant phenology, and the slopes of these relationships were statistically indistinguishable, with 50% of births having occurred when approximately 60%–70% of forage plant species were emergent. These results document clear synchronization of the timing of parturition by caribou to plant phenology, regardless of predation pressure.

**KEYWORDS:**

**NOTES:**

Post, Eric, and MC Forchhammer

**2008 Climate change reduces reproductive success of an Arctic herbivore through trophic mismatch.** Philosophical Transactions of the Royal Society B: Biological Sciences 363(1501):2367.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Post, Eric, and Mads C. Forchhammer

**2002 Synchronization of animal population dynamics by large-scale climate.** Nature 420(6912):168-171.

**ABSTRACT:** The hypothesis that animal population dynamics may be synchronized by climate is highly relevant in the context of climate change because it suggests that several populations might respond simultaneously to climatic trends if their dynamics are entrained by environmental correlation. The dynamics of many species throughout the Northern Hemisphere are influenced by a single large-scale climate system, the North Atlantic Oscillation (NAO), which exerts highly correlated regional effects on local weather. But efforts to attribute synchronous fluctuations of contiguous populations to large-scale climate are confounded by the synchronizing influences of dispersal or trophic interactions. Here we report that the dynamics of caribou and musk oxen on opposite coasts of Greenland show spatial synchrony among populations of both species that correlates with the NAO index. Our analysis shows that the NAO has an influence in the high degree of cross-species synchrony between pairs of caribou and musk oxen populations separated by a minimum of 1,000 km of inland ice. The vast distances, and complete physical and ecological separation of these species, rule out spatial coupling by dispersal or interaction. These results indicate that animal populations of different species may respond synchronously to global climate change over large regions.

**KEYWORDS:****NOTES:** 10.1038/nature01064

Post, Eric, Mads C. Forchhammer, M. Sydonia Bret-Harte, Terry V. Callaghan, Torben R. Christensen, Bo Elberling, Anthony D. Fox, Olivier Gilg, David S. Hik, Toke T. Høye, Rolf A. Ims, Erik Jeppesen, David R. Klein, Jesper Madsen, A. David McGuire, Søren Rysgaard, Daniel E. Schindler, Ian Stirling, Mikkel P. Tamstorf, Nicholas J.C. Tyler, René van der Wal, Jeffrey Welker, Philip A. Wookey, Niels Martin Schmidt, and Peter Aastrup

**2009 Ecological Dynamics Across the Arctic Associated with Recent Climate Change.**  
Science 325(5946):1355-1358.

**ABSTRACT:** At the close of the Fourth International Polar Year, we take stock of the ecological consequences of recent climate change in the Arctic, focusing on effects at population, community, and ecosystem scales. Despite the buffering effect of landscape heterogeneity, Arctic ecosystems and the trophic relationships that structure them have been severely perturbed. These rapid changes may be a bellwether of changes to come at lower latitudes and have the potential to affect ecosystem services related to natural resources, food production, climate regulation, and cultural integrity. We highlight areas of ecological research that deserve priority as the Arctic continues to warm.

**KEYWORDS:****NOTES:**

Poteete, Amy R., and Elinor Ostrom

**2004 In pursuit of comparable concepts and data about collective action.** Agricultural Systems 82(3):215-232.

**ABSTRACT:** Empirical research must overcome two major obstacles: conceptual inconsistency and the scarcity of comparable data. These problems are particularly severe for interdisciplinary research on topics such as the study of collective action. There is no agreement on the appropriate unit of analysis (who should act collectively), measures of successful collective action, ways to distinguish among forms of collective action, or how best to measure independent variables. These disagreements limit the inferences that can be drawn from empirical research. We discuss the implications for scientific advancement in this area of research and present the strategies developed by the International Forestry Resources and Institutions research programme to overcome each of these problems.

**KEYWORDS:** Collective action

Research methods

Common-pool resources

Forestry

**NOTES:**

Poteete, Amy R., and Elinor Ostrom

**2008 Fifteen Years of Empirical Research on Collective Action in Natural Resource Management: Struggling to Build Large-N Databases Based on Qualitative Research.**  
World Development 36(1):176-195.

**ABSTRACT:** Summary Many debates exist among social scientists that relate to the "best" way of collecting data about important theoretical questions. As scholars, who conduct individual case studies as well as participate in large-N studies combining qualitative and quantitative data, we recognize the value of each research strategy and trade-offs in choosing between them. We support the combination of qualitative and quantitative methods to build on the strengths of each. A meta-analysis of the scholarly literature indexed during 1990-2004 on collective action related to natural resource governance yielded strong evidence that small-N studies are still the

dominant empirical method. The continued reliance on research designs with limited comparative scope reflects practical challenges that limit the quantity and geographic breadth of data that any one researcher can collect using field-based research. We discuss the relative merits and shortcomings of two strategies for overcoming those challenges: Meta-databases constructed from existing qualitative studies and large-N field-based studies. Resource constraints, career incentives, and, ironically, collective action problems among researchers currently limit adoption of these strategies.

**KEYWORDS:** common-pool resources  
natural resource management  
collective action  
institutions  
empirical research methods

**NOTES:**

Powers, William Roger, Jo Anne Adams, Alicia Godfrey, James A. Ketz, David C. Plaskett, and Richard G. Scott

**1982 The Chukchi-Imuruk report.**

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Pratt, Kenneth L., ed.

**2009 Chasing the dark: Perspectives on place, history and Alaska Native land claims.**

Anchorage, Alaska :: U.S. Dept. of the Interior, Bureau of Indian Affairs, Alaska Region, Division of Environmental and Cultural Resources Management, ANCSA Office.9781607257400  
1607257408

**ABSTRACT:** This book by the U.S. Bureau of Indian Affairs (BIA) is based on its implementation of Section 14(h)(1) of the Alaska Native Claims Settlement Act (ANCSA), which allows Native Regional Corporations the opportunity to obtain title to historical places (e.g., former villages, seasonal camps) and cemetery sites throughout the state. The volume begins with a brief historical overview of this roughly 30-year old program, providing context for the articles that follow—which are separated into four sections under the quasi-thematic headings “History and Culture,” “Implementation,” “Interpretation and Innovation,” and “Moving Forward.” These articles share a common trait: each draws heavily on information from the ANCSA 14(h)(1) records collection, and/or concerns past or future work related to the program. Beyond having to satisfy this requirement, individual authors were free to choose the subject matter, geographical focus and presentation styles of their contributions. This comparatively loose format (and the consequent eclectic mixture of writing styles) was considered an ideal way to illustrate the program’s rich history and the wide range of applications its associated records can support. Three appendices complete the volume: (i) a listing of ANCSA 14(h)(1) field crew and office staff members from 1975 through 2008; (ii) a synopsis of the ANCSA 14(h)(1) Records Collection; and (iii) a review of BIA work on land claims filed under ANCSA Sections 14(h)(2) [Native Groups] and 14(h)(5) [Native Primary Places of Residence].

**KEYWORDS:** Alaska Native Claims Settlement Act; ANCSA; Bureau of Indian Affairs; historic sites

**NOTES:**

Prentice, AM

**2006 The emerging epidemic of obesity in developing countries.** International journal of epidemiology 35(1):93-99.

**ABSTRACT:**

**KEYWORDS:****NOTES:**

Price, Monroe E.

**1985 Book review: Alaska Natives and American law.** Alaska Law Review 2:435-440.

**ABSTRACT:**

**KEYWORDS:** law; Alaska Native; ANCSA; ANILCA

**NOTES:** "The discussion of subsistence is an example of both the strength and the weakness of Professor Case's treatment of the federal preemption issue. Without doubt, the work presents the fullest available exploration of the legal basis of subsistence and the context in which subsistence law develops. On the other hand, Case is reluctant, perhaps appropriately, to recognize how fundamentally corrosive the enactment of ANCSA might be to the perpetuation of subsistence values, and, as a result of the change in federal law, how the subsistence rights of Alaska Natives become intertwined with the subsistence rights of other rural Alaskans. Substantial dangers exist in the evolution of a legal framework in which the Alaska Natives do not reap the exclusive benefit from the enactment of federal legislation. More significant than the legislative dangers, the conveyance of lands to the Native Corporations, which have Indian sponsorship and a nominally Native direction, will ironically pose a threat to subsistence." (p. 438)

Putnam, Robert D.

**1995 Bowling alone: America's declining social capital.** Journal of Democracy 6:65-79.

**ABSTRACT:**

**KEYWORDS:** Social Capital

**NOTES:**

Putnam, Robert D.

**2000 Bowling alone: The collapse and revival of American community.** New York, NY: Simon and Schuster.

**ABSTRACT:**

**KEYWORDS:** Social Capital

**NOTES:**

Quakenbush, LT, and GG Sheffield

**2007 Ice seal bio-monitoring in the Bering-Chukchi Sea region.** North Pacific Research Board Final Report 46:2.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Quakenbush, Lori T.

**2007 Polybrominated diphenyl ether compounds in ringed, bearded, spotted, and ribbon seals from the Alaskan Bering Sea.** Marine Pollution Bulletin 54(2):232-236.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Rabe, Benjamin, Michael Karcher, Ursula Schauer, John M. Toole, Richard A. Krishfield, Sergey Pisarev, Frank Kauker, Rüdiger Gerdes, and Takashi Kikuchi

**2011 An assessment of Arctic Ocean freshwater content changes from the 1990s to the 2006-2008 period.** Deep Sea Research Part I: Oceanographic Research Papers 58(2):173-185.

**ABSTRACT:** Unprecedented summer-season sampling of the Arctic Ocean during the period 2006-2008 makes possible a quasi-synoptic estimate of liquid freshwater (LFW) inventories in the Arctic Ocean basins. In comparison to observations from 1992 to 1999, LFW content relative to a salinity of 35 in the layer from the surface to the 34 isohaline increased by  $8400 \pm 2000 \text{ km}^3$  in the Arctic Ocean (water depth greater than 500 m). This is close to the annual export of freshwater (liquid and solid) from the Arctic Ocean reported in the literature. Observations and a model simulation show regional variations in LFW were both due to changes in the depth of the lower halocline, often forced by regional wind-induced Ekman pumping, and a mean freshening of the water column above this depth, associated with an increased net sea ice melt and advection of increased amounts of river water from the Siberian shelves. Over the whole Arctic Ocean, changes in the observed mean salinity above the 34 isohaline dominated estimated changes in LFW content; the contribution to LFW change by bounding isohaline depth changes was less than a quarter of the salinity contribution, and non-linear effects due to both factors were negligible.

**KEYWORDS:** Arctic, Freshwater, Observation, Model, IPY, Upper ocean

**NOTES:**

Ragen, TJ, HP Huntington, and GK Hovelsrud

**2008 Conservation of Arctic marine mammals faced with climate change.** Ecological Applications 18(sp2):166-174.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Rainey, Richard, and Jennifer Byington

**1984 State land policy in remote Alaska: An analysis of potential immigration and associated impacts:** Rural Research Agency, Alaska State Senate.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Rainey, F

**1941 The Ipiutak Culture at Point Hope, Alaska.** American Anthropologist:364-375.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Rainey, F

**1941 A new form of culture on the Arctic coast.** Proceedings of the National Academy of Sciences 27(3):141-144.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Rainey, Froelich G.

**1941 The Okvik site on the Penuk Islands.** Anthropological Papers of the American Museum of Natural History 37(4):453-569.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Rasmussen, Morten, Yingrui Li, Stinus Lindgreen, Jakob Skou Pedersen, Anders Albrechtsen, Ida Moltke, Mait Metspalu, Ene Metspalu, Toomas Kivisild, Ramneek Gupta, Marcelo Bertalan, Kasper Nielsen, M. Thomas P. Gilbert, Yong Wang, Maanasa Raghavan, Paula F. Campos, Hanne Munkholm

Kamp, Andrew S. Wilson, Andrew Gledhill, Silvana Tridico, Michael Bunce, Eline D. Lorenzen, Jonas Binladen, Xiaosen Guo, Jing Zhao, Xiuqing Zhang, Hao Zhang, Zhuo Li, Minfeng Chen, Ludovic Orlando, Karsten Kristiansen, Mads Bak, Niels Tommerup, Christian Bendixen, Tracey L. Pierre, Bjarne Gr  nnow, Morten Meldgaard, Claus Andreasen, Sardana A. Fedorova, Ludmila P. Osipova, Thomas F. G. Higham, Christopher Bronk Ramsey, Thomas v O. Hansen, Finn C. Nielsen, Michael H. Crawford, S  ren Brunak, Thomas Sicheritz-Pont  n, Richard Villems, Rasmus Nielsen, Anders Krogh, Jun Wang, and Eske Willerslev

**2010 Ancient human genome sequence of an extinct Palaeo-Eskimo.** Nature 463(7282):757-762.

**ABSTRACT:** We report here the genome sequence of an ancient human. Obtained from ~4,000-year-old permafrost-preserved hair, the genome represents a male individual from the first known culture to settle in Greenland. Sequenced to an average depth of 20 , we recover 79% of the diploid genome, an amount close to the practical limit of current sequencing technologies. We identify 353,151 high-confidence single-nucleotide polymorphisms (SNPs), of which 6.8% have not been reported previously. We estimate raw read contamination to be no higher than 0.8%. We use functional SNP assessment to assign possible phenotypic characteristics of the individual that belonged to a culture whose location has yielded only trace human remains. We compare the high-confidence SNPs to those of contemporary populations to find the populations most closely related to the individual. This provides evidence for a migration from Siberia into the New World some 5,500 years ago, independent of that giving rise to the modern Native Americans and Inuit.

**KEYWORDS:**

**NOTES:** 10.1038/nature08835

Rasmussen, Rasmus Ole

**1999 Settlement development and the formal, informal and subsistence sector in the Arctic.** Geografisk Tidsskrift:171-180.

**ABSTRACT:** The development of the settlement structure in the Arctic is influenced by several processes. On one hand it is highly structured by relations to the Euro-American capitalism and the development of the tertiary - or the "next " - sector. On the other hand, the traditional subsistence economy as well as the informal economic relations are crucial ingredients when trying to understand the present development process.

**KEYWORDS:** mixed economy, cash, subsistence

**NOTES:**

Ratner, Nancy C., Peter Brown, James Rowan, Donald Yates, Morgen Smith, Jesse A. Dizard, Amy Paige, and Michael F. Turek

**2006 Local knowledge, customary practices, and harvest of sockeye salmon from the Klawock and Sarkar rivers, Prince of Wales Island, Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes subsistence sockeye salmon *Oncorhynchus nerka* harvest and uses by the people of Klawock and Craig, Alaska, at Klawock River and Sarkar River, Prince of Wales Island. Topics include the historical and contemporary methods of harvesting and processing, location of sockeye salmon fisheries, issues of competition, and distribution and exchange of salmon. Traditional ecological knowledge was collected through interviews with residents of Klawock and Craig. Observations of fisheries also provided information on which the report is based.

**KEYWORDS:** subsistence fishing, traditional ecological knowledge, sockeye salmon, red salmon, *Oncorhynchus nerka*, Southeast Alaska, Craig, Klawock, Sarkar, Prince of Wales Island, Tongass National Forest

**NOTES:**

Ratner, Nancy C., and Jesse A. Dizard

**2006 Local knowledge, harvest patterns, and community use of sockeye salmon in Hoonah, Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes the contemporary subsistence sockeye salmon *Oncorhynchus nerka* harvest and use by the Tlingit of Hoonah, Alaska at Hotktaheen Cove and Neva River, Excursion Inlet. Topics include local ecological knowledge of the sockeye salmon runs in these areas, harvest patterns, issues of competition, distribution of salmon, continuity of traditional practices, and related trends. Local and traditional ecological knowledge was collected through interviews with Tlingit key respondents who reside in Hoonah and actively participate in the fisheries. Observation of the fisheries also provided information on which the report is based.

**KEYWORDS:** subsistence fishing, traditional ecological knowledge, sockeye salmon, red salmon, *Oncorhynchus nerka*, Southeast Alaska, Hoonah, Neva Creek, South Creek, Excursion Inlet, Hotktaheen Cove, Tongass National Forest

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Ray, Dorothy Jean

**1961 Artists of the Tundra and the Sea:** University of Washington Press.

**ABSTRACT:**

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Ray, Dorothy Jean

**1964 Kawerak: Lost village of Alaska.** *The Beaver* (295):4-13.

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Ray, Dorothy Jean

**1964 Nineteenth century settlement and subsistence patterns in Bering Strait.** *Arctic anthropology*:61-94.

**ABSTRACT:**

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Ray, Dorothy Jean

**1965 Sheldon Jackson and the reindeer industry of Alaska.** *Journal of Presbyterian history* 43(2):71-99.

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**1965 Sheldon Jackson and the reindeer industry of Alaska.** *Journal of Presbyterian history* 43(2):71-99.

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Ray, Dorothy Jean

**1966 The Eskimo of St. Michael and vicinity as related by HMW Edmonds.**  
Anthropological Papers of the University of Alaska 13(2):1-143.

**ABSTRACT:**

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Ray, Dorothy Jean

**1967 Land tenure and polity of the Bering Strait Eskimos.** Journal of the West  
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Ray, Dorothy Jean

**1971 Eskimo place names in Bering Strait.** Names: Journal of the American Name Society  
19(1):1-33.

**ABSTRACT:**

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Ray, Dorothy Jean

**1975 Early Maritime Trade with the Eskimo of Bering Strait and the Introduction of Firearms.** Arctic anthropology 12(1):1-9.

**ABSTRACT:** Firearms were generally thought to have been introduced to the Eskimos of northwestern Alaska at mid 19th century by American whalers or traders. However, information in the accounts of two officers of the Vasiliev-Shishmarev expedition to the American Arctic between 1819 and 1922 reveals that guns were sold in both the Siberian and the American Arctic as early as 1819, and were in use at Kotzebue Sound in 1820. The information recorded in the journals of Lieutenant Aleksei P. Lazarev and Midshipman Karl K. Hillsen, both of the sloop Good Intent, is analyzed and discussed within the context of early 19th century trade in the Pacific Ocean, especially John Jacob Astor's Hawaiian trade and his attempts to extend his operations to the Arctic. The identity of the initial source of the firearms is thus derived from this analysis. Observations concerning the use of firearms in 1820 at Kotzebue Sound and various related ethnographic facts are quoted verbatim from Hillsen's journal, which contains the first published account about the Buckland River Eskimos.

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Ray, Dorothy Jean

**1975 The Eskimos of Bering Strait, 1650-1898:** University of Washington Press Seattle.

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**1984 The Sinuk Mission: Experiment in Eskimo Relocation and Acculturation.** Alaska History 1:27-43.

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**KEYWORDS:**

**NOTES:**

Ray, Lily, Caroline L. Brown, Amy Russell, Amy Krauthoefer, Crystal Wassillie, and Jennifer Hooper

**2010 Local knowledge and harvest monitoring of nonsalmon fishes in the lower Kuskokwim River region, Alaska, 2005–2009.** Fairbanks, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** The Lower Kuskokwim River communities of Eek, Tuntutuliak, and Nunapitchuk are located off the mainstem of the Kuskokwim River, in areas of smaller rivers and lakes that are prime habitat for nonsalmon fishes. Through a combination of household harvest surveys and key respondent interviews, the Alaska Department of Fish and Game (ADF&G) Division of Subsistence and the Association of Village Council Presidents (AVCP) developed baseline documentation of traditional ecological knowledge and subsistence harvests and uses of nonsalmon fishes in these 3 communities. In the first year of the project (April 2006–March 2007), household surveys and key respondent interviews for the project period were conducted in Eek, Nunapitchuk, and Tuntutuliak. Follow-up key respondent interviews were conducted in fall 2008 and winter 2009. Information collected with surveys included the species and number of fish harvested, type of gear used, and general locations of harvests. Information collected during key respondent interviews included contemporary and historical nonsalmon fish harvest and use patterns, areas of use, gear types, and processing methods; life histories of the nonsalmon species, including habitats, seasonal migrations, spawning locations, and diets; community taxonomy of nonsalmon species; and contemporary and traditional self management practices.

**KEYWORDS:** Kuskokwim River

Eek

Tuntutuliak

Nunapitchuk

Johnson River

Kialik River

Eek River

harvest monitoring

nonsalmon fishes

non-salmon fishes

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Read, Dwight W., and Steven A. LeBlanc

**2003 Population Growth, Carrying Capacity, and Conflict.** Current Anthropology 44(1):59-85.

**ABSTRACT:** The standard model of population growth and regulation is critiqued. It is argued that any model of population growth and regulation must accommodate ten propositions, and a multitrajectory model that does so is described. This model identifies competition between groups, individual choice in reproductive behavior, the scale for spatial and temporal variation in resource abundance, and the social unit for resource access and ownership as important components of population behavior.

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Rearden, Jim

**1978 Subsistence: A troublesome issue.** Alaska Magazine 44(7):5-87.**ABSTRACT:****KEYWORDS:**

**NOTES:** Subsistence has become a major emotional and political issue in Alaska in recent years. In the name of subsistence some of Alaska's Eskimo, Indian and Aleut leaders have called for the federal government to force the State of Alaska to establish subsistence as the first priority use for fish and game on all federal lands in Alaska. Legislation has been introduced by state lawmakers that would establish a Division of Subsistence Hunting and Fishing in the Department of Fish & Game, a state Subsistence Hunting and Fishing Committee in the legislature and a law which would establish subsistence as the priority use of fish and game throughout Alaska.

Rearden, Jim

**1979 Subsistence: The old and new way of life.** In Alaska Geographic Magazine. Pp. 73-81, Vol. 6. Anchorage: Alaska Geographic Society.**ABSTRACT:****KEYWORDS:****NOTES:**

Receveur, O., M. Boulay, and H. V. Kuhnlein

**1997 Decreasing traditional food use affects diet quality for adult Dene/Metis in 16 communities of the Canadian Northwest Territories.** Journal of Nutrition 127(11):2179-86.

**ABSTRACT:** We assessed diets in 16 Dene/Metis communities in the Canadian Arctic. We described nutrient intakes and identified nutrients at risk among adult Dene/Metis, evaluated the influence of traditional food on diet quality, and examined the direction of dietary change by comparing intergenerational and between-community differences in dietary intake. Diet varied according to sex, age and community. Nutrients of possibly inadequate intake (irrespective of subject sex, age or community) included calcium, vitamin A and folic acid. Dietary fiber intake was also of concern. Traditional food (animals and plants harvested from the local environment) was consumed on 65.4% of interview days; on those days intakes of iron, zinc and potassium were higher ( $P < 0.05$ ) and those of sodium, fat, saturated fat and sucrose were lower ( $P < 0.05$ ) than on days when market food only was consumed. In this population, the shift away from traditional food towards a diet composed exclusively of market food was characterized by an increase ( $P < 0.05$ ) in absolute energy intake and an increase ( $P < 0.01$ ) in the relative contributions of carbohydrate (particularly sucrose), fat and saturated fat. This pattern of change calls for initiatives to document the current health status of this population and to prevent potential negative health consequences of dietary change.

**KEYWORDS:** Adult

Age Factors

Aged

Culture

Diet/ standards

Dietary Carbohydrates/standards

Dietary Fats/standards

Dietary Fiber/standards

Eating/physiology

Female

Folic Acid/administration &amp; dosage

Food Habits  
 Health Status  
 Humans  
 Indians  
 North American  
 Male  
 Middle Aged  
 Minerals/administration & dosage  
 Northwest Territories  
 Nutrition Surveys  
 Potassium  
 Dietary/standards  
 Seasons  
 Sex Factors  
 Vitamin A/standards

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Boulay, M  
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 Research Support, Non-U.S. Gov't  
 United states  
 The Journal of nutrition  
 J Nutr. 1997 Nov;127(11):2179-86.

Receveur, O., and H. V. Kuhnlein

**1998 Benefits of traditional food in Dene/Metis communities.** International Journal of Circumpolar Health 57 Suppl 1:219-21.

**ABSTRACT:** Data collected in 16 Dene/Metis communities are used to illustrate the many nutritional, economic, and sociocultural benefits associated with the harvest and consumption of traditional food by indigenous peoples. These include exceptional nutrient composition, absence of industrial processing that changes quality and taste properties, taste preference, reasonable cost compared to market food, quality of the time spent on the land, increased physical activity, sharing of the harvest within the community, opportunity to practice spirituality, and encouragement for children to discover the natural environment. The importance of traditional food to the health of individuals and communities can be directly related to the nutritional value of the food itself, the physical activity associated with its procurement, and its role in mediating positive health determinants such as self-efficacy and locus of control.

**KEYWORDS:** American Native Continental Ancestry Group

Arctic Regions  
 Canada  
 Costs and Cost Analysis  
 Culture  
 Diet/ economics/ standards  
 Energy Intake  
 Food Analysis  
 Food Habits  
 Humans  
 Nutrition Surveys  
 Nutritional Status  
 Quality of Life

**NOTES:** Receveur, O

Kuhnlein, H V  
 Finland

International journal of circumpolar health  
Int J Circumpolar Health. 1998;57 Suppl 1:219-21.

Reed, Carolyn E.

**1985 The role of wild resource use in communities of the Central Kenai Peninsula and Kachemak Bay, Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** Based upon interviews with 71 key respondents and 427 randomly-selected households conducted in 1982 and 1983, this report describes the contemporary role of hunting and fishing for local use in five Kenai Peninsula communities: Kenai, Ninilchik, Homer, the Homer area, and Seldovia. Data include the kinds and quantities of resources harvested and used over a 12-month study period, the methods of harvest, the location of harvests, and exchange patterns. The report illustrates the effects of roads, oil and gas development, rapidly-growing populations, economic diversification, and burgeoning recreational activities on the role of wild resource uses in the communities' economies. It concludes that while fish and game harvests by the sampled populations were low compared to communities with subsistence-based economies, many Kenai Peninsula residents still valued the harvest and use of wild resources.

**KEYWORDS:**

**NOTES:**

Reed, Mark, Katherine Jayko, Ann Bowles, and Steve Leatherwood

**1988 Numerical models of bowhead and gray whale migration in Alaskan waters.** Ecological Modelling 44(1-2):1-42.

**ABSTRACT:** Numerical models of migrating bowhead and gray whales were developed as part of a larger project to assess the probability that these endangered marine mammals will encounter spilled oil in Alaskan waters. The distribution of animals is represented in space and time by discrete points, each of which may represent one or more whales. The movement of a whale point is governed by a random walk algorithm which follows stochastically a migratory pathway. The migration models rely on sightings of whales to define mean migration pathways. Distances traveled over 3-6 months, divided by the travel time, were used to estimate mean migratory speeds over appropriate sections of the migration route. Stochastic velocity components were added such that maximum instantaneous swimming speeds did not exceed those observed. Modeled whale densities were then compared with field estimates at various times and locations, as available, and mean migration speeds were adjusted locally to calibrate the model. The model proved to be an extremely useful tool for exploring the raw observational data, making clear a number of inconsistencies therein.

**KEYWORDS:**

**NOTES:**

Reedy-Maschner, K.

**2007 The best-laid plans: Limited entry permits and limited entry systems in Eastern Aleut culture.** Human Organization 66(2):210-225.

**ABSTRACT:** Alaska has continually restructured its fisheries to prevent or delay overfishing and increase market share by limiting numbers of fishermen and boats. As restricted access programs become more prevalent, the lasting effects of programs already in place can serve as a useful means for predicting future effects of new fisheries restructuring plans. The Limited Entry Permit Plan of 1973 for Alaska's salmon fisheries was a defining moment for modern social relations among the predominantly fishing society of the Eastern Aleut, although its future impact was not well understood. The plan resulted in more than one limited entry system and exaggerated existing status differences, by conferring not only the right to fish but also a suite of social and political advantages. In the Aleut village of King Cove, Alaska, permit ownership has cemented differences between men in their ability to fulfill subsistence obligations, in leadership

roles, in family structure, and in prosperity. The transfer of physical and intellectual property from fathers to sons has linked generations. Now, however, the system is limited in such a way that the knowledge and practices are being handed down, but the property is more difficult to obtain.

**KEYWORDS:**

**NOTES:** Times Cited: 2

Reedy-Maschner, K.

**2007 The best-laid plans: Limited entry permits and limited entry systems in Eastern Aleut culture.** Human Organization 66(2):210-225.

**ABSTRACT:** Alaska has continually restructured its fisheries to prevent or delay overfishing and increase market share by limiting numbers of fishermen and boats. As restricted access programs become more prevalent, the lasting effects of programs already in place can serve as a useful means for predicting future effects of new fisheries restructuring plans. The Limited Entry Permit Plan of 1973 for Alaska's salmon fisheries was a defining moment for modern social relations among the predominantly fishing society of the Eastern Aleut, although its future impact was not well understood. The plan resulted in more than one limited entry system and exaggerated existing status differences, by conferring not only the right to fish but also a suite of social and political advantages. In the Aleut village of King Cove, Alaska, permit ownership has cemented differences between men in their ability to fulfill subsistence obligations, in leadership roles, in family structure, and in prosperity. The transfer of physical and intellectual property from fathers to sons has linked generations. Now, however, the system is limited in such a way that the knowledge and practices are being handed down, but the property is more difficult to obtain.

**KEYWORDS:**

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Reedy-Maschner, Katherine

**2009 Entangled livelihoods : economic integration and diversity in the western arctic.** Alaska Journal of Anthropology 7(2):135-146.

**ABSTRACT:** No Arctic society can live today without a source of cash income, nor do they want to. Many people sell fish, skins, and carvings, among other items, within and beyond their local communities either for profit or for redistribution, or engage directly in commercial fishing. Yet many of the most accessible anthropological depictions of Native peoples in the western Arctic minimize their participation in the modern economy no matter how small or large the scale, preferring instead to document more "authentic" human-animal-environment relationships. These depictions are at odds with those in other parts of the Arctic and indeed the world. Problematizing the role of the anthropologist, this article pulls together the scant references on modern articulations of indigenous peoples in the western Arctic, highlighting their entangled livelihoods in the commercial and subsistence worlds.

**KEYWORDS:** subsistence, economy, Alaska, tradition, modernity

**NOTES:**

Reedy-Maschner, Katherine

**2010 Where Did All the Aleut Men Go? Aleut Male Attrition and Related Patterns in Aleutian Historical Demography and Social Organization.** Human Biology 82(5-6):583-611.

**ABSTRACT:**

**KEYWORDS:**

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Reeves, R. R.

**2002 The origins and character of 'aboriginal subsistence' whaling: a global review.**  
Mammal Review 32(2):71-106.

**ABSTRACT:** The International Whaling Commission (IWC) recognizes aboriginal subsistence whaling to be distinct from commercial whaling, and these two broad categories of whaling are subject to different management approaches. This paper describes recent, ongoing and likely future whale hunts that qualify, or may qualify, for aboriginal subsistence status within the IWC's management framework. To ensure conservation of the whale populations, a forthright exposition of the origins, development and character of these hunts is needed in addition to stock assessment, a risk-averse catch limit algorithm and appropriate mechanisms within the whaling communities to ensure compliance. The hunts for Bowhead Whales (*Balaena mysticetus*) and Gray Whales (*Eschrichtius robustus*) in the Arctic and North Pacific, respectively, and Sperm Whales (*Physeter macrocephalus*) in Indonesia have long histories and local origins. Those for Humpback Whales (*Megaptera novaeangliae*) in the Lesser Antilles and at Tonga in the South Pacific were introduced by foreign commercial whalers. Whale hunting in the Philippines appears to have originated both locally and as a result of foreign influence. The relatively recent initiation of whaling for Fin Whales (*Balaenoptera physalus*) and Minke Whales (*Balaenoptera acutorostrata*) in Greenland required introduced technology but can be viewed as a modern adaptation of an ancient tradition. Consensus in deciding how to classify and manage non-industrial whaling has been, and will remain, elusive. Even with common definitions of key terms such as 'subsistence', 'commercial' and 'aboriginal', interpretations will depend on whether one's priorities are whale-centred or human-centred.

**KEYWORDS:**

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**1999 Origin and evolution of the 1918 "Spanish" influenza virus hemagglutinin gene.**  
Proceedings of the National Academy of Sciences of the United States of America  
96(4):1651-1656.

**ABSTRACT:** The "Spanish" influenza pandemic killed over 20 million people in 1918 and 1919, making it the worst infectious pandemic in history. Here, we report the complete sequence of the hemagglutinin (HA) gene of the 1918 virus. Influenza RNA for the analysis was isolated from a formalin-fixed, paraffin-embedded lung tissue sample prepared during the autopsy of a victim of the influenza pandemic in 1918. Influenza RNA was also isolated from lung tissue samples from two additional victims of the lethal 1918 influenza: one formalin-fixed, paraffin-embedded sample and one frozen sample obtained by biopsy of the lung of a victim buried in permafrost since 1918. The complete coding sequence of the A/South Carolina/1/18 HA gene was obtained. The HA1 domain sequence was confirmed by using the two additional isolates (A/New York/1/18 and A/Brevig Mission/1/18). The sequences show little variation. Phylogenetic analyses suggest that the 1918 virus HA gene, although more closely related to avian strains than any other mammalian sequence, is mammalian and may have been adapting in humans before 1918.

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Reist, James D., Frederick J. Wrona, Terry D. Prowse, Michael Power, J. Brian Dempson, Richard J. Beamish, Jacquelynne R. King, Theresa J. Carmichael, and Chantelle D. Sawatzky

**2006 General Effects of Climate Change on Arctic Fishes and Fish Populations.** AMBIO:  
A Journal of the Human Environment 35(7):370-380.

**ABSTRACT:** Projected shifts in climate forcing variables such as temperature and precipitation are of great relevance to arctic freshwater ecosystems and biota. These will result in many direct and indirect effects upon the ecosystems and fish present therein. Shifts projected for fish populations will range from positive to negative in overall effect, differ among species and also

among populations within species depending upon their biology and tolerances, and will be integrated by the fish within their local aquascapes. This results in a wide range of future possibilities for arctic freshwater and diadromous fishes. Owing to a dearth of basic knowledge regarding fish biology and habitat interactions in the north, complicated by scaling issues and uncertainty in future climate projections, only qualitative scenarios can be developed in most cases. This limits preparedness to meet challenges of climate change in the Arctic with respect to fish and fisheries.

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Renner, LL, and Dorothy Jean Ray

**1979 Pioneer missionary to the Bering Strait Eskimos: Bellarmine Lafortune, SJ:** Binford & Mort Pub.

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Renner, Louis L.

**1983 Charles Olaranna: Chief of the King Islanders.** The Alaska Journal 13(2):14-23.

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Reynolds, J. E., D. L. Wetzel, and T. M. O'Hara

**2006 Human health implications of omega-3 and omega-6 fatty acids in blubber of the bowhead whale (*Balaena mysticetus*).** Arctic 59(2):155-164.

**ABSTRACT:** Concerns exist regarding the health and nutrition of subsistence-based communities in Alaska. An apparent increase in diabetes, heart disease, obesity, and other disease conditions among Alaska Natives has accompanied their change from a traditional diet to a more "Western" diet. In northern Alaska, the meat, maktak (epidermis and blubber), and other products of bowhead whales provide important components of Native diets. This study assessed the fatty acid constituents of bowhead whale blubber to evaluate their possible health benefits. Working with hunters in Barrow, Alaska, we acquired samples for chemical analysis from five blubber depths at each of six body locations. We used gas chromatography-mass spectrometry of fatty-acid picolinyl esters to confirm the fatty-acid composition of samples. Analyses indicated that bowhead blubber contains relatively high levels of omega-3 fatty acids and that, on average, blubber samples from sites at the umbilical girth contain more omega-3 fatty acids than do samples from a girth 1 m caudal to the blowhole (roughly at the axillary girth). Omega-6 fatty acids were rare or undetectable in all samples. Omega-3 fatty acids have been suggested or shown to be important in the treatment or prevention of many diseases, including elevated blood pressure and cholesterol, heart disease, stroke, diabetes, arthritis, depression, and some cancers. Beyond the cultural benefits associated with subsistence hunting of bowhead whales, consumption of bowhead whale blubber provides some important health and nutritional benefits.

**KEYWORDS:**

**NOTES:** Times Cited: 2

Rhoades, C., D. Binkley, H. Oskarsson, and R. Stottlemeyer

**2008 Soil nitrogen accretion along a floodplain terrace chronosequence in northwest Alaska: Influence of the nitrogen-fixing shrub *Shepherdia canadensis*.** Ecoscience 15(2):223-230.



**ABSTRACT:** Nitrogen enters terrestrial ecosystems through multiple pathways during primary succession. We measured accumulation of total soil nitrogen and changes in inorganic nitrogen (N) pools across a 300-y sequence of river terraces in northwest Alaska and assessed the contribution of the nitrogen-fixing shrub *Shepherdia canadensis*. Our work compared 5 stages of floodplain succession, progressing from a sparsely vegetated silt cap to dense shrubby vegetation, balsam poplar-dominated (*Populus balsamifera*) and white spruce-dominated (*Picea glauca*) mixed forests, and old-growth white spruce forest. Total soil N (0-30 cm depth) increased throughout the age sequence, initially by 2.4 g N.m<sup>-2</sup>.y<sup>-1</sup> during the first 120 y of terrace development, then by 1.6 g N.m<sup>-2</sup>.y<sup>-1</sup> during the subsequent 2 centuries. Labile soil N, measured by anaerobic incubation, increased most rapidly during the first 85 y of terrace formation, then remained relatively constant during further terrace development. On recently formed terraces, *Shepherdia* shrubs enriched soil N pools several-fold compared to soil beneath *Salix* spp. shrubs or intercanopy sites. Total and labile soil N accretion was proportional to *Shepherdia* cover during the first century of terrace development, and mineral soil delta N-15 content indicated that newly formed river terraces receive substantial N through N-fixation. About half the 600 g total N.m<sup>-2</sup> accumulated across the river terrace chronosequence occurred during the 120 y when *S. canadensis* was dominant. Sediment deposited by periodic flooding continued to add N to terrace soils after the decline in *Shepherdia* abundance and may have contributed 25% of the total N found in the floodplain terrace soils.

**KEYWORDS:**

**NOTES:** Times Cited: 2

Rhoades, C., H. Oskarsson, D. Binkley, and B. Stottlemeyer

**2001 Alder (*Alnus crispa*) effects on soils in ecosystems of the Agashashok River valley, northwest Alaska.** *Ecoscience* 8(1):89-95.

**ABSTRACT:** At the northern limit of the boreal forest biome, alder (*Alnus crispa* [Ait.] Pursh) shrubs occur in a variety of ecosystems. We assessed the effects of individual alder shrubs on soil properties and understory plant tissue nitrogen in floodplain terraces, valley slopes and tussock tundra ridges. The three ecosystems differed with respect to soil properties and abiotic conditions and supported distinct plant communities. Alder increased resin-exchangeable soil N and NO<sub>3</sub> production significantly in each ecosystem. The greatest difference between alder canopy and surrounding soil NO<sub>3</sub> measured both under field and laboratory conditions occurred in floodplain sites. The shrub effect on soil pH and soil organic matter was greatest on tundra ridges. Alder shrubs also influenced the nitrogen nutrition of plants growing beneath their canopies. Plants growing below older canopies had higher foliar nitrogen concentration and natural abundance N-15 composition and lower carbon to nitrogen ratio than open-grown plants. Similar to soil N availability, understory plant leaf chemistry responded more to alder on floodplains than on slope or tundra ecosystems. This pattern suggests that understory plants rely more heavily on alder-fixed-N in this resource-poor ecosystem.

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Richerson, Peter J., Robert Boyd, and Robert L. Bettinger

**2009 Cultural Innovations and Demographic Change.** *Human Biology* 81(2-3):211-235.

**ABSTRACT:** Demography plays a large role in cultural evolution through its effects on the effective rate of innovation. If we assume that useful inventions are rare, then small isolated societies will have low rates of invention. In small populations, complex technology will tend to be lost as a result of random loss or incomplete transmission (the Tasmanian effect). Large populations have more inventors and are more resistant to loss by chance. If human populations can grow freely, then a population-technology-population positive feedback should occur such that human societies reach a stable growth path on which the rate of growth of technology is

limited by the rate of invention. This scenario fits the Holocene to a first approximation, but the late Pleistocene is a great puzzle. Large-brained hominins existed in Africa and west Eurasia for perhaps 150,000 years with, at best, slow rates of technical innovation. The most sophisticated societies of the last glacial period appear after 50,000 years ago and were apparently restricted to west and north-central Eurasia and North Africa. These patterns have no simple, commonly accepted explanation. We argue that increased high-frequency climate change around 70,000–50,000 years ago may have tipped the balance between humans and their competitor-predators, such as lions and wolves, in favor of humans. At the same time, technically sophisticated hunters would tend to overharvest their prey. Perhaps the ephemeral appearance of complex tools and symbolic artifacts in Africa after 100,000 years ago resulted from hunting inventions that allowed human populations to expand temporarily before prey over exploitation led to human population and technology collapse. Sustained human populations of moderate size using distinctively advanced Upper Paleolithic artifacts may have existed in west Eurasia because cold, continental northeastern Eurasia–Beringia acted as a protected reserve for prey populations.

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**1993 Technology, world view, and adaptive strategy in a northern hunting society.** Canadian Review of Sociology 30(4):469-481.

**ABSTRACT:****KEYWORDS:****NOTES:**

Riedlinger, Dyanna, and Fikret Berkes

**2001 Contributions of traditional knowledge to understanding climate change in the Canadian Arctic.** Polar Record 37(203):315-328.

**ABSTRACT:** Despite much scientific research, a considerable amount of uncertainty exists concerning the rate and extent of climate change in the Arctic, and how change will affect regional climatic processes and northern ecosystems. Can an expanded scope of knowledge and inquiry augment understandings of climate change in the north? The extensive use of the land and the coastal ocean in Inuit communities provides a unique source of local environmental expertise that is guided by generations of experience. Environmental change associated with variations in weather and climate has not gone unnoticed by communities that are experiencing change firsthand. Little research has been done to explore the contributions of traditional knowledge to climate-change research. Based in part on a collaborative research project in Sachs Harbour, western Canadian Arctic, this paper discusses five areas in which traditional knowledge may complement scientific approaches to understanding climate change in the Canadian Arctic. These are the use of traditional knowledge as local-scale expertise; as a source of climate history and baseline data; in formulating research questions and hypotheses; as insight into impacts and adaptation in Arctic communities; and for long-term, communitybased monitoring. These five areas of potential convergence provide a conceptual framework for bridging the gap between traditional knowledge and western science, in the context of climate-change research.

**KEYWORDS:****NOTES:**

Rieser, Alison

**1999 Prescriptions for the commons: Environmental scholarship and the fishing quotas debate.** Harvard Environmental Law Review 23:393.

**ABSTRACT:****KEYWORDS:**

**NOTES:**

Riewe, R., L. Gamble, and Manitoba Winnipeg

**1986 The Inuit and wildlife management today.** Traditional Knowledge and Renewable Resource Management in Northern Regions:31-37.

**ABSTRACT:****KEYWORDS:****NOTES:**

Riget, Frank, Derek Muir, Michael Kwan, Tatiana Savinova, Madeleine Nyman, Victoria Woshner, and Todd O'Hara

**2005 Circumpolar pattern of mercury and cadmium in ringed seals.** Science of The Total Environment 351-352:312-322.

**ABSTRACT:** Mercury (Hg) and cadmium (Cd) concentrations in ringed seal liver and kidney were compared from 11 locations across the Arctic, from Alaska, Canada, Greenland, Svalbard to the White Sea. Adult and sub adult seals were evaluated separately to account for age accumulations of Hg and Cd. Only recently (1995-2001) collected samples were included to minimize influence of changes over time. The Hg and Cd concentrations in ringed seal liver and kidney differed significantly among the studied locations. The Hg concentrations in liver of ringed seals was highest in the western Canadian Arctic locations, while Cd in liver was highest in the eastern Canadian and West Greenland locations. In general, Hg and Cd concentrations in liver and kidney were significantly higher in adult ringed seals than in sub adults and the circumpolar patterns were most pronounced in adult ringed seals. The Hg and Cd concentrations in kidney of ringed seals in general supported the geographical pattern found in livers although the coverage was more limited. The most likely explanation for the observed circumpolar pattern appears mainly to be related to natural geological differences in mineral (Hg and Cd) among regions.

**KEYWORDS:** Arctic

Canadian Arctic

Alaska

Russia

Mercury

Cadmium

Ringed seals

**NOTES:**

Riolo, R. L., M. D. Cohen, and Robert Axelrod

**2001 Evolution of cooperation without reciprocity.** Nature 414(6862):441-443.

**ABSTRACT:****KEYWORDS:****NOTES:**

Robards, M., and L. Alessa

**2004 Timescapes of community resilience and vulnerability in the circumpolar north.** Arctic 57(4):415-427.

**ABSTRACT:** Historical relationships between people and a changing Arctic environment (which constitute a social-ecological system, or SES) can offer insights for management that promote both social and ecological resilience. The continued existence of healthy renewable resources around communities is particularly important, as subsistence and commercial use of local resources are often the only practical avenues to healthy, long-term security for those communities. Our research draws on the position that SESs exist in an environment that is explicitly temporal: frequently cyclic, changing, contextual, and contingent. Therefore, the causes and effect of disturbances to SESs are rarely temporally linear; instead, they are characterized by a complex array of hysteretic effects and alternate (possibly repeating) states. The term

'timescapes' describes the time-space context element and its fundamental importance to sustainable practices. We investigate social-ecological timescapes of the circumpolar North in relation to four primary provisioning practices (hunting/gathering, pastoralism, agriculture, and market-based economy). Broadly, we identify distinct social-ecological states, interspersed with periods of change. For specific communities that have maintained their existence through a series of periods of profound change, we propose that elements of social and ecological resilience have been neither incrementally lost nor gained through time; rather, they have waxed and waned in accordance with specific, and sometimes repeating, conditions. To maintain their existence, we believe, communities have had to maintain their ability to recognize gradual or rapid changes in social, ecological, or economic conditions and reorganize themselves to adapt to those changes, rather than to any specific outcomes of a change. That is, they have adapted to a dynamic environment, not a preferred state. However, centralized Western management, despite fundamental flaws in accounting for local linkages between culture, economics, and the environment, is increasingly circumscribing local practices. We believe that the significant challenge of maintaining equity and resilience of remote communities, within and outside the Arctic, will necessitate incorporating localized cultural values and decision-making processes that fostered prior community existence with (data from) Western interdisciplinary research.

**KEYWORDS:**

**NOTES:** Times Cited: 14

Robards, Martin D., John J. Burns, Chanda L. Meek, and Annette Watson

**2009 Limitations of an optimum sustainable population or potential biological removal approach for conserving marine mammals: Pacific walrus case study.** *Journal of Environmental Management* 91(1):57-66.

**ABSTRACT:** Decision rules are the agreed-upon points at which specific management interventions are initiated. For marine mammal management under the U.S. Marine Mammal Protection Act (MMPA), decision rules are usually based on either a numeric population or biological-removal approach. **However, for walrus and other ice-associated pinnipeds, the inability to reliably assess population numbers or biological removals highlights a significant gap in the MMPA, particularly when the Arctic environment is rapidly changing.** We describe the MMPA's ecosystem-based management goals, and why managers have bypassed these goals in favor of an approach that depends upon numerical population assessment. We then revisit the statute's primary goals in light of current knowledge about the Pacific walrus ecosystem and new developments in environmental governance. **We argue that to monitor and respond to changes in the walrus ecosystem, decision rules should be based on scientific criteria that depend less on the currently-impractical goal of accurately enumerating population size and trends, or removals from that population. Rather, managers should base decisions on ecological needs and observed ecological changes. To implement this approach would require an amendment to the MMPA that supports filling the gap in management with achievable decision rules. Alternatively, walrus and other ice-associated pinnipeds will remain largely unmanaged during a period of profound environmental change.**

**KEYWORDS:** climate change, decision rule, ecosystem, governance, *Odobenus rosmarus* divergens, population, resilience

**NOTES:**

Robards, Martin D., John J. Burns, Chanda L. Meek, and Annette Watson

**2009 Limitations of an optimum sustainable population or potential biological removal approach for conserving marine mammals: Pacific walrus case study.** *Journal of Environmental Management* 91(1):57-66.

**ABSTRACT:** Decision rules are the agreed-upon points at which specific management interventions are initiated. For marine mammal management under the U.S. Marine Mammal Protection Act (MMPA), decision rules are usually based on either a numeric population or biological-removal approach. **However, for walrus and other ice-associated pinnipeds, the inability to reliably assess population numbers or biological removals highlights a significant gap in the MMPA, particularly when the Arctic environment is rapidly changing.** We describe the MMPA's ecosystem-based management goals, and why managers have bypassed these goals in favor of an approach that depends upon numerical population assessment. We then revisit the statute's primary goals in light of current knowledge about the Pacific walrus ecosystem and new developments in environmental governance. **We argue that to monitor and respond to changes in the walrus ecosystem, decision rules should be based on scientific criteria that depend less on the currently-impractical goal of accurately enumerating population size and trends, or removals from that population. Rather, managers should base decisions on ecological needs and observed ecological changes. To implement this approach would require an amendment to the MMPA that supports filling the gap in management with achievable decision rules. Alternatively, walrus and other ice-associated pinnipeds will remain largely unmanaged during a period of profound environmental change.**

**KEYWORDS:** climate change, decision rule, ecosystem, governance, *Odobenus rosmarus* divergens, population, resilience

**NOTES:**

Robards, Martin D., and Joshua A. Greenberg

**2007 Global constraints on rural fishing communities: whose resilience is it anyway?** Fish and Fisheries 8(1):14-30.

**ABSTRACT:** Sustaining natural resources is regarded as an important component of ecological resilience and commonly assumed to be of similar importance to social and economic vitality for resource-dependent communities. However, communities may be prevented from benefiting from healthy local resources due to constrained economic or political opportunities. In the case of Alaskan wild salmon, the fisheries are in crisis due to declining economic revenues driven by the proliferation of reliable and increasingly high-quality products from fish farms around the world. This stands in contrast with many of the world's wild-capture fisheries where diminished biological abundance has led to fishery collapse. Furthermore, increasing efficiency of salmon farm production, globalization, and dynamic consumer preferences, suggests that the wild salmon industry will continue to be challenged by the adaptability, price and quality of farmed salmon. Conventional responses to reduced revenues by the wild-capture industry have been to increase economic efficiency through implementing a range of entry entitlement and quota allocation schemes. However, while these mechanisms may improve economic efficiency at a broad scale, they may not benefit local community interests, and in Alaska have precipitated declines in local ownership of the fishery. To be viable, economic efficiency remains a relevant consideration, but in a directionally changing environment (biological, social or economic), communities unable to procure livelihoods from their local resources (through access or value) are likely to seek alternative economic opportunities. The adopted strategies, although logical for communities seeking viability through transformation in a changing world, may not be conducive to resilience of a 'fishing community' or the sustainability of their wild fish resources. We use a theoretically grounded systems approach and data from Alaska's Bristol Bay salmon fishery to demonstrate feedbacks between global preferences towards salmon and the trade-offs inherent when managing for the resilience of wild salmon populations and human communities at different scales.

**KEYWORDS:** fish farming, globalization, interdisciplinary, resilience, sustainability, wild salmon

**NOTES:**

Robards, Martin D., John F. Piatt, and Kenton D. Wohl

**1995 Increasing frequency of plastic particles ingested by seabirds in the subarctic North Pacific.** Marine Pollution Bulletin 30(2):151-157.

**ABSTRACT:** We examined gut contents of 1799 seabirds comprising 24 species collected in 1988-1990 to assess the types and quantities of plastic particles ingested by seabirds in the subarctic waters of Alaska. Of the 15 species found to ingest plastic, most were surface-feeders (shearwaters, petrels, gulls) or plankton-feeding divers (auklets, puffins). Of 4417 plastic particles examined, 76% were industrial pellets and 21% were fragments of 'user' plastic. Ingestion rates varied geographically, but no trends were evident and rates of plastic ingestion varied far more among species within areas than within species among areas. Comparison with similar data from 1968 seabirds comprising 37 species collected in 1969-1977 revealed that plastic ingestion by seabirds has increased significantly during the 10-15-year interval between studies. This was demonstrated by: (i) an increase in the total number of species ingesting plastic; (ii) an increase in the frequency of occurrence of plastic particles within species that ingested plastic; and, (iii) an increase in the mean number of plastic particles ingested by individuals of those species.

**KEYWORDS:**

**NOTES:**

Robbins, Lynn A., and Ronald L. Little

**1988 Subsistence hunting and natural resource extraction: St. Lawrence island, Alaska.** Society & Natural Resources 1(1):17-29.

**ABSTRACT:** Abstract Even though modern technology has eased the burden and reduced some of the risks associated with marine mammal hunting in the Bering Sea, the Yupik-speaking Eskimos of St. Lawrence Island, Alaska, confront the harsh and threatening Arctic environment in much the same way as their ancestors did 20 centuries ago. These Eskimo hunters still obtain more than two-thirds of their foodstuffs and a portion of their clothing and tools from naturally occurring species. This article examines the manner in which these Eskimos have organized to capture, distribute, and conserve local natural resources and discusses four potential threats to their social organization: (1) technology and the cash economy, (2) natural population growth, (3) the development of oil and natural gas, and (4) the Alaska Native Claims Settlement Act.

**KEYWORDS:** culture change, subsistence, hunting, technology, economic change, natural resources, Alaska Native Claims Settlement Act, St. Lawrence Island

**NOTES:**

Robert, Michelle

**1984 Trapping patterns in the vicinity of the Kaiyuh Flats, West Central Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report documents the use, for trapping, of the Innoko National Wildlife Refuge by residents of Nulato, Kaltag, Koyukuk, and Galena; and provides details on the methods of harvest, the areas used for trapping, the fur animals harvested, access and trails, the sociocultural and economic aspects of trapping, and the uses made by trappers of the furbearing animals.

**KEYWORDS:**

**NOTES:**

Robillard, S., G. Beauchamp, G. Paillard, and D. Belanger

**2002 Levels of cadmium, lead, mercury and (137)caesium in caribou (Rangifer tarandus) tissues from northern Quebec.** Arctic 55(1):1-9.

**ABSTRACT:** Levels of cadmium (Cd), lead (Pb) and total mercury (Hg) were assessed in samples of muscle, kidney, and liver from caribou (*Rangifer tarandus*; n = 317) harvested in two regions of northern Quebec between 1994 and 1996. Levels of (137)caesium (Cs-131) were also examined in muscle samples. Log concentration of the three metals varied significantly among tissues and was lowest in diaphragm muscle and highest in kidneys and liver. Mean Cd (wet weight, w.w.) concentration was 0.01  $\mu\text{g}(\cdot)\text{g}(-1)$  in muscle, 7.69  $\mu\text{g}(\cdot)\text{g}(-1)$  in kidneys and 1.13  $\mu\text{g}(\cdot)\text{g}(-1)$  in liver. Levels of Cd exceeded tolerance thresholds for human consumption in nearly all kidney samples and in nearly half the liver samples. Mean Pb concentration (w.w.) was 0.05  $\mu\text{g}(\cdot)\text{g}(-1)$  in muscle, 0.26  $\mu\text{g}(\cdot)\text{g}(-1)$  in kidneys and 0.95  $\mu\text{g}(\cdot)\text{g}(-1)$  in liver, with few samples exceeding consumption thresholds. Mean total Hg concentration (w.w.) in muscle was 0.03  $\mu\text{g}(\cdot)\text{g}(-1)$ , 1.26  $\mu\text{g}(\cdot)\text{g}(-1)$  in kidneys and 0.67  $\mu\text{g}(\cdot)\text{g}(-1)$  in liver, with concentrations exceeding consumption thresholds in most kidney samples and nearly half the liver samples. Regional differences occurred in log concentration of the three metals for most tissues, with the western region consistently showing higher values. Mean log Cd and Pb concentrations increased with age in kidneys, but log Pb decreased with age in muscle samples. Interactions between month of collection and sex and region also occurred for some metals in some tissues. Mean level of Cs-137 in muscle samples was 94.7 Bq( $\cdot$ )kg(-1), **never exceeding the acceptable limit for human consumption.**

**KEYWORDS:**

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Robinson, J. G., and E. L. Bennett, eds.

**2000 Hunting for sustainability in tropical forests:** Columbia University Press

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Robinson, M., and E. Ghostkeeper

**1987 Native and local economics: a consideration of economic evolution and the next economy.** Arctic 40(2):138-144.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Rodahl, Kaare

**1954 Nutritional Requirements in Cold Climates.** Journal of Nutrition 53(4):575-588.

**ABSTRACT:** A series of nutritional surveys has been carried out among two groups of Whites (airmen and Infantry soldiers) in Alaska during the 4 seasons of the year from 1950 to 1952. Simultaneously, similar studies were made among 4 groups of Eskimos for comparison. Individual food weighings showed an average daily calorie consumption per man of 3,000 in the Air Force group and 3,200 in the Infantry group. The average calorie expenditure for the 4 seasons was estimated to be about 2,800 calories per man per day on the basis of time activity data. Under these conditions no appreciable weight change occurred, and the subjects remained in excellent health throughout the period of the study. It is concluded that the calorie requirements of the average man engaged in activities of similar magnitude and under similar climatic conditions as those of the subjects studied, would be in the order of approximately 3,000 to 3,500 calories per man per day at any season of the year. In adult male Eskimos at 4 different locations in Alaska, an average daily consumption of approximately 3,100 calories was sufficient to maintain the body weight with an estimated daily energy expenditure of roughly 2,700 calories throughout the year. These findings are in agreement with previous findings among Eskimos and trappers in Greenland (Hoygaard, '41; Rodahl, '49). The percentage of calories furnished by protein, fat and carbohydrate in the United States troops living in Alaska is not significantly different from that reported for United States troops eating a garrison ration in temperate or tropic climates. In the Air Force group, however, there was an increased consumption of fat in

the winter. The consumption of minerals was higher than the recommended allowances for temperate climates. The data presented do not indicate that the human vitamin requirements are significantly higher in arctic or subarctic environments than in temperate climates. In the case of vitamin C, arctic travellers, trappers and Eskimos may subsist on ascorbic acid intakes of less than 15 mg daily without showing clinical evidence of vitamin C deficiency.

**KEYWORDS:**

**NOTES:**

Rodahl, Kaare, and James Edwards, Jr.

**1952 Basal Metabolism of the Eskimo.** *Journal of Nutrition* 48(3):359-368.

**ABSTRACT:** Three hundred and forty basal metabolism tests have been made on 73 healthy Eskimos from 4 different locations in Alaska, together with environmental observations, body surface area measurements, and determination of protein intake and nitrogen elimination. In agreement with previous workers, the basal metabolism of Eskimos examined for the first time in their native habitat was significantly higher than in the Whites. Approximately 9% of this higher basal metabolism may be accounted for by apprehension, and the high protein Eskimo diet accounts for approximately 15%. When these two factors were eliminated, the metabolism was almost exactly the same as in the White controls. From these studies it is therefore concluded that there are no racial differences between the Eskimos and the Whites in basal heat production.

**KEYWORDS:**

**NOTES:**

Rodionov, S. N., N. A. Bond, and J. E. Overland

**2007 The Aleutian Low, storm tracks, and winter climate variability in the Bering Sea.** *Deep Sea Research Part II: Topical Studies in Oceanography* 54(23-26):2560-2577.

**ABSTRACT:** Previous studies have found inconsistent results regarding how wintertime conditions in the Bering Sea relate to variations in the North Pacific climate system. This problem is addressed through analysis of data from the NCEP/NCAR Reanalysis for the period 1950-2003. Composite patterns of sea-level pressure, 500 hPa geopotential heights, storm tracks and surface air temperature are presented for four situations: periods of strong Aleutian Low, weak Aleutian Low, warm Bering Sea air temperatures, and cold Bering Sea air temperatures. Winter temperatures in the Bering Sea are only marginally related to the strength of the Aleutian Low, and are much more sensitive to the position of the Aleutian Low and to variations in storm tracks. In particular, relatively warm temperatures are associated with either an enhanced storm track off the coast of Siberia, and hence anomalous southerly low-level flow, or an enhanced storm track entering the eastern Bering Sea from the southeast. These latter storms do not systematically affect the mean meridional winds, but rather serve to transport mild air of maritime origin over the Bering Sea. The leading indices for the North Pacific, such as the NP and PNA, are more representative of the patterns of tropospheric circulation and storm track anomalies associated with the strength of the Aleutian Low than patterns associated with warm and cold wintertime conditions in the Bering Sea.

**KEYWORDS:** Aleutian low, Bering Sea, climate variability, North Pacific, storm tracks, winds

**NOTES:**

Roess, Amira A., Anjela Galan, Edward Kitces, Yu Li, Hui Zhao, Christopher D. Paddock, Patricia Adem, Cynthia S. Goldsmith, Debra Miller, Mary G. Reynolds, Sherif R. Zaki, and Inger K. Damon

**2010 Novel Deer-Associated Parapoxvirus Infection in Deer Hunters.** *New England Journal of Medicine* 363(27):2621-2627.

**ABSTRACT:** Parapoxviruses are a genus of the double-stranded DNA family of poxviruses that infect ruminants, and zoonotic transmission to humans often results from occupational exposures. Parapoxvirus infection in humans begins with an incubation period of 3 to 7 days,



followed by the development of one or more erythematous maculopapular lesions that evolve over the course of several weeks into nodules. In 2009, parapoxvirus infection was diagnosed in two deer hunters in the eastern United States after the hunters had field-dressed white-tailed deer. We describe the clinical and pathological features of these infections and the phylogenetic relationship of a unique strain of parapoxvirus to other parapoxviruses. Deer populations continue to increase, leading to the possibility that there will be more deer-associated parapoxvirus infections.

**KEYWORDS:**

**NOTES:** Kimberlee Beckman comments: "Currently, our website says that people can't get moose warts. It is still true that no cases from moose have been documented. However, since these recent cases involving hunters and deer have been proven, we probably shouldn't be so definitive about moose or caribou warts any longer, since it is theoretically possible although likely to be extremely rare. Consider that these two deer hunters are the first documented cases and there are over 10 million deer hunters in the USA. So to reiterate, if the animal has warts, the meat is still salvageable, but people should wear gloves (rubber dishwashing glove, latex or nitrile exam gloves), avoid cutting into warts and wash out any nicks or cuts they make to themselves during butchering as an additional precaution." (e-mail 1/4/2011)

Rogers, Everett M.

**1991 The 'Critical Mass' in the diffusion of interactive technologies in organizations.** *In* The Information Systems Research Challenge: Survey Research Methods. K.L. Kraemer, ed. Pp. 245-271, Vol. 3. Boston: Harvard Business School Research Colloquium.

**ABSTRACT:**

**KEYWORDS:** diffusion

**NOTES:**

Rogers, Everett M.

**1995 Diffusion of Innovations.** New York, NY: The Free Press.

**ABSTRACT:**

**KEYWORDS:** Diffusion; Innovation

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Rogers, Everett M., and F.F. Shoemaker

**1971 Communication of Innovations: A Cross-Cultural Approach.** New York, NY: Free Press.

**ABSTRACT:**

**KEYWORDS:** Diffusion; Innovation

**NOTES:**

Rogers, George W.

**Alaska development and change: 1950-1980.** Pp. 1-17. Juneau, Alaska: Institute of Social, Economic and Government Research.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** Alaska's development over the past two decades and the prospects for the 1970's have been accompanied by great change both in the levels of gross regional product and population and in their nature and composition. The rapid pace of this process and its geographic separation from the rest of the United States and its political separation from other northern territories affords an opportunity to study it in depth and in broad context. Such analysis is timely for Alaska as it enters yet another transition stage in its history and has some relevance to

understanding the process in other northern territories and even the general phenomena of development and change. The present analysis, however, can only be limited to an introductory overview in terms of easily identifiable key forces and the end results of the process. This will be applied to speculation as to the immediate future of the 1970' s.

Rogers, George W.

**1961 The role of politics in the expanding utilization of the Arctic** *In* Man Living in the Arctic. Pp. 134-141: National Academy of Sciences National Research Council.

**ABSTRACT:**

**KEYWORDS:**

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Rogers, George W.

**1965 Alaska's Native population and poverty.** Pp. 1-9: University of Alaska.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** Comments and discussion on census and income statistics

Rogers, George W.

**1965 Economics aspects of Alaska's community mental health manpower.** 1-77.

**ABSTRACT:**

**KEYWORDS:**

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Rogers, George W.

**1965 Major social and economic characteristics of Alaska's regions.** 154-156.

**ABSTRACT:**

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Rogers, George W.

**1966 Implications of Arctic exploration.** *In* The Arctic Frontier. R.S.J. MacDonald, ed. Pp. 292-311: University of Toronto Press.

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Rogers, George W.

**1967 Eskimo administration in Alaska.** Arctic 20(4):269-270.

**ABSTRACT:**

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Rogers, George W.

**1969 The Cross-Cultural Economic Situation in the North: The Alaska Case.** 1-40.

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Rogers, George W.

**1973 Alaskan attitudes toward nature.** *In* American Studies Association Fourth Biennial Convention. Pp. 1-10. San Francisco, California.

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Rogers, George W.

**1973 Alaska's development: The role of the Native People in the future.** *In* 56th Annual Convention, Alaska Native Brotherhood. Juneau, Alaska.

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Rogers, George W.

**1974 Man in the Arctic program: Economic and environmental policies -- further notes on MAP and the Policy Alternative Project.** *In* ISEGR Workshop. Pp. 1-43. Juneau, Alaska.

**ABSTRACT:****KEYWORDS:****NOTES:**

Rogers, George W.

**1976 Alaskan fishing community, and the socio-economic history of the Alaska Salmon Fishery.** *In* Salmon Aquaculture Conference. Pp. 1-20. Cordova, Alaska.

**ABSTRACT:****KEYWORDS:****NOTES:**

Rogers, George W.

**1976 Alaskan fishing community, and the socio-economic history of the Alaska Salmon Fishery.** *In* Salmon Aquaculture Conference. Pp. 1-20. Cordova, Alaska.

**ABSTRACT:****KEYWORDS:****NOTES:**

Rogers, George W.

**1979 The sound of one hand clapping: Economics without humanities.** Humanities Forum:1-14.

**ABSTRACT:****KEYWORDS:****NOTES:**

Root, Terry L., Jeff T. Price, Kimberly R. Hall, Stephen H. Schneider, Cynthia Rosenzweig, and J. Alan Pounds

**2003 Fingerprints of global warming on wild animals and plants.** *Nature* 421(6918):57-60.

**ABSTRACT:** Over the past 100 years, the global average temperature has increased by approximately 0.6 °C and is projected to continue to rise at a rapid rate. Although species have responded to climatic changes throughout their evolutionary history, a primary concern for wild species and their ecosystems is this rapid rate of change<sup>3</sup>. We gathered information on species and global warming from 143 studies for our meta-analyses. These analyses reveal a consistent temperature-related shift, or 'fingerprint', in species ranging from molluscs to mammals and from grasses to trees. Indeed, more than 80% of the species that show changes are shifting in the direction expected on the basis of known physiological constraints of species. Consequently, the balance of evidence from these studies strongly suggests that a significant impact of global warming is already discernible in animal and plant populations. The synergism of rapid temperature rise and other stresses, in particular habitat destruction, could easily disrupt the connectedness among species and lead to a reformulation of species communities, reflecting differential changes in species, and to numerous extirpations and possibly extinctions.

**KEYWORDS:****NOTES:** 10.1038/nature01333

Rosa, C., J. E. Blake, G. R. Bratton, L. A. Dehn, M. J. Gray, and T. M. O'Hara

**2008 Heavy metal and mineral concentrations and their relationship to histopathological findings in the bowhead whale (*Balaena mysticetus*).** Science of The Total Environment 399(1-3):165-178.

**ABSTRACT:** The bowhead whale (*Balaena mysticetus*) is a species endangered over much of its range that is of great cultural significance and subsistence value to the Inuit of Northern Alaska. This species occupies subarctic and arctic regions presently undergoing significant ecological change and hydrocarbon development. Thus, understanding the health status of the Bering-Chukchi-Beaufort Sea (BCBS) stock of bowhead whales is of importance. In this study, we evaluated the concentrations of six essential and non-essential elements (Zn, tHg, Ag, Se, Cu and Cd) in liver and kidney of bowhead whales (n=64). These tissues were collected from the Inuit subsistence hunt in Barrow, Wainwright and Kaktovik, Alaska between 1983 and 2001. Reference ranges of these elements (including previously reported data from 1983-1997) were developed for this species as part of a health assessment effort, and interpreted using improved aging techniques (aspartic acid racemization and baleen isotopic C-13 methods) to evaluate trends over time with increased statistical power. Interactions between element concentrations and age, sex and harvest season were assessed. Age was found to be of highest significance. Sex and harvest season did not effect the concentrations of these elements, with the exception of renal Se levels, which were significantly higher in fall seasons. In addition, histological evaluation of tissues from whales collected between 1998-2001 was performed. Associations between concentrations of Cd in kidney and liver and scored histopathological changes were evaluated. Liver Cd concentration was strongly associated with the degree of lung fibromuscular hyperplasia ( $P=0.001$ ) and moderately associated with the degree of renal fibrosis ( $P=0.03$ ). Renal Cd concentration influenced the degree of lung fibromuscular hyperplasia and renal fibrosis ( $P=0.01$ ). A significant age effect was found for both pulmonary fibromuscular hyperplasia and renal fibrosis, indicating age may be a causative factor. Improvements in aging techniques and the addition of histological indices help clarify the relationships between elements and the influence of life history parameters on concentrations of these elements and potential impacts on health. These data provide essential baseline input useful for monitoring the effects of arctic ecosystem change as it relates to global climate change and industrial development, as well as help inform epidemiological studies examining the public health implications of heavy metals in subsistence foods. (C) 2008 Elsevier B.V. All rights reserved.

**KEYWORDS:****NOTES:** Times Cited: 2

Rosa, Cheryl, John E. Blake, Gerald R. Bratton, Larissa- A. Dehn, Matthew J. Gray, and Todd M. O'Hara

**2008 Heavy metal and mineral concentrations and their relationship to histopathological findings in the bowhead whale (*Balaena mysticetus*).** Science of The Total Environment 399(1-3):165-178.

**ABSTRACT:** The bowhead whale (*Balaena mysticetus*) is a species endangered over much of its range that is of great cultural significance and subsistence value to the Inuit of Northern Alaska. This species occupies subarctic and arctic regions presently undergoing significant ecological change and hydrocarbon development. Thus, understanding the health status of the Bering-Chukchi-Beaufort Sea (BCBS) stock of bowhead whales is of importance. In this study, we evaluated the concentrations of six essential and non-essential elements (Zn, tHg, Ag, Se, Cu and Cd) in liver and kidney of bowhead whales (n = 64). These tissues were collected from the Inuit subsistence hunt in Barrow, Wainwright and Kaktovik, Alaska between 1983 and 2001. Reference ranges of these elements (including previously reported data from 1983-1997) were developed for this species as part of a health assessment effort, and interpreted using improved

aging techniques (aspartic acid racemization and baleen isotopic  $^{13}\text{C}$  methods) to evaluate trends over time with increased statistical power. Interactions between element concentrations and age, sex and harvest season were assessed. Age was found to be of highest significance. Sex and harvest season did not effect the concentrations of these elements, with the exception of renal Se levels, which were significantly higher in fall seasons. In addition, histological evaluation of tissues from whales collected between 1998-2001 was performed. Associations between concentrations of Cd in kidney and liver and scored histopathological changes were evaluated. Liver Cd concentration was strongly associated with the degree of lung fibromuscular hyperplasia ( $P = 0.001$ ) and moderately associated with the degree of renal fibrosis ( $P = 0.03$ ). Renal Cd concentration influenced the degree of lung fibromuscular hyperplasia and renal fibrosis ( $P = 0.01$ ). A significant age effect was found for both pulmonary fibromuscular hyperplasia and renal fibrosis, indicating age may be a causative factor. Improvements in aging techniques and the addition of histological indices help clarify the relationships between elements and the influence of life history parameters on concentrations of these elements and potential impacts on health. These data provide essential baseline input useful for monitoring the effects of arctic ecosystem change as it relates to global climate change and industrial development, as well as help inform epidemiological studies examining the public health implications of heavy metals in subsistence foods.

**KEYWORDS:** Balaena mysticetus

Bowhead whale  
Cadmium  
Histology  
Marine mammals  
Toxicology

**NOTES:**

Ross, H. Laurence

**1973 Folk crime revisited.** Criminology 11(1):71-86.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Ross, Pamela Johnson

**1997 The intergenerational transmission of Kuuvanmiut women's subsistence knowledge,** University of Iowa.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Rothschild, R. F.

**2003 American Society for Circumpolar Health. Comparison of mercury in selected subsistence foods from western Alaska.** International Journal of Circumpolar Health 62(4):448.

**ABSTRACT:**

**KEYWORDS:** Alaska

Female  
Fish Products/analysis  
\*Food Analysis  
Food Contamination/\*analysis  
Health Education  
Humans  
Mercury/\*analysis  
Multilingualism

Pregnancy  
Rural Population  
Teaching Materials

**NOTES:** Rothschild, Roger F N

Finland  
International journal of circumpolar health  
Int J Circumpolar Health. 2003 Dec;62(4):448.

Rothschild, R. F., and L. K. Duffy

**2002 Methylmercury in the hair of subsistence food users in a rural Alaskan village.**  
Alaska Medicine 44(1):2-7.

**ABSTRACT:** The level of methylmercury in the hair of 16 rural Alaskan subsistence food users from Napakiak, a small Yup'ik Eskimo village on the Kuskokwim River in southwest Alaska, was assessed. A non-subsistence population of 20 non-Yup'ik adults from the urban interior city of Fairbanks was used as a comparison group. The Napakiak Yup'ik had a mean methylmercury concentration in hair of 1.45 ppm with a range of 0.32-4.00 ppm, while the Fairbanks population had a mean concentration of 0.19 ppm with a range of 0.03 to 0.43 ppm in their hair. Comparison with an earlier study by Galster (1976) from this region, suggests that no increase in exposure to mercury has occurred in subsistence food users. **The methylmercury levels in hair in the rural village population, although higher than the urban group, are well below the World Health Organization (WHO) safety limit of 10 ppm.**

**KEYWORDS:** Adult

Alaska/epidemiology  
Female  
Food Contamination  
Hair/\*chemistry  
Humans  
Inuits  
Male  
Mercury Poisoning/\*epidemiology  
Methylmercury Compounds/\*analysis  
Middle Aged  
Rural Population

**NOTES:** Rothschild, Roger F N

Duffy, Lawrence K  
Comparative Study  
Research Support, Non-U.S. Gov't  
Research Support, U.S. Gov't, P.H.S.  
United States  
Alaska medicine  
Alaska Med. 2002 Jan-Mar;44(1):2-7.

Rothschild, R. F., and L. K. Duffy

**2002 Preliminary study on total mercury in the common prepared subsistence foods of a rural Alaskan village.** Alaska Medicine 44(4):89-93, 103.

**ABSTRACT:** Total mercury (THg), which includes neurotoxic methylmercury (MeHg), poses a health risk to subsistence food users in the circumpolar north. Low levels of THg, usually below 200 ng/g, have been reported in fish muscle from both returning salmon and freshwater species samples on the Kuskokwim River in southwest Alaska. Alaska subsistence users use fish all year long, with both salmon and freshwater species stored for winter usage. A recent study

showed low mercury levels in the hair of villagers and suggested that in the last 25 years, MeHg exposure has remained the same or slightly decreased in the Bethel region of Alaska. Although several previous studies have measured THg in hair of Alaskan subsistence food users, few studies have looked at the THg levels in the prepared foods of rural Alaskans. Several types of subsistence foods from Napakiak, a small Yup'ik Eskimo village on the Kuskokwim River, were assessed for total mercury content. The THg levels were low, ranging from 1 ng/g to 443.8 ng/g. A trend for the dried fish to have higher concentrations than the unprocessed fish was observed. Plants, as well as reindeer and moose meats, are low in THg and not associated with dietary exposure. **Our data for Napakiak show that THg levels are low enough that mercury does not pose a significant health risk; however, more detailed consumption data in western Alaska is needed.**

**KEYWORDS:** Alaska

Animals  
Food Analysis/methods  
Food Contamination/\*analysis  
Humans  
Meat/analysis  
Mercury/\*analysis  
Reference Values  
\*Rural Population  
Vegetables/chemistry

**NOTES:** Rothschild, Roger F N

Duffy, Lawrence K  
Research Support, Non-U.S. Gov't  
Research Support, U.S. Gov't, P.H.S.  
United States  
Alaska medicine  
Alaska Med. 2002 Oct-Dec;44(4):89-93, 103.

Rothschild, Roger F. N., and Lawrence K. Duffy

**2005 Mercury concentrations in muscle, brain and bone of Western Alaskan waterfowl.**  
Science of The Total Environment 349(1-3):277-283.

**ABSTRACT:** Total mercury (THg), which includes both inorganic (Hg<sup>2+</sup>) and methylmercury (MeHg) species, has been reported for seabirds in the North Pacific and Alaska. For the Yup'ik and Aleut people of Alaska, waterfowl are a small but important seasonal component of the diet, but many Alaskan species have not been studied extensively for the presence of mercury. Birds are good subjects for examination of mercury concentrations because they feed at different trophic levels, they can be long-lived, and many are both abundant and widely distributed. In this study, we present the levels of mercury in muscle, brain, and bone tissue of 140 birds taken by subsistence food users across Western Alaska. THg wet weight mean concentrations in the 18 species of waterfowl surveyed ranged from 0.8 to 268.6 ng/g in muscle, from 0.4 to 197.7 ng/g in brain and from 0.7 to 422.9 ng/g in bone. The null hypothesis that there are no interspecific differences in the level of total mercury in the 18 species of Alaska birds surveyed was not supported. We found interspecific differences with the Lesser Scaup (*Aythya affinis*), and the Black Scoter (*Melanitta nigra*), having the highest muscle tissue levels of THg. In general, THg mean levels were higher in muscle than in brain with the exceptions of the Bar-tailed Godwit and Northern Shoveler. Bone THg were highest in the Black Scoter. The mean values for THg in the species studied are unlikely to cause adverse reproductive or behavioral effects in the birds.

**KEYWORDS:** Alaska; Birds; Mercury; Muscle; Brain; Bone; Bioaccumulation

**NOTES:**

Rothschild, Roger F. N., and Lawrence K. Duffy

**2005 Mercury concentrations in muscle, brain and bone of Western Alaskan waterfowl.** Science of The Total Environment 349(1-3):277-283.

**ABSTRACT:** Total mercury (THg), which includes both inorganic ( $\text{Hg}^{2+}$ ) and methylmercury (MeHg) species, has been reported for seabirds in the North Pacific and Alaska. For the Yup'ik and Aleut people of Alaska, waterfowl are a small but important seasonal component of the diet, but many Alaskan species have not been studied extensively for the presence of mercury. Birds are good subjects for examination of mercury concentrations because they feed at different trophic levels, they can be long-lived, and many are both abundant and widely distributed. In this study, we present the levels of mercury in muscle, brain, and bone tissue of 140 birds taken by subsistence food users across Western Alaska. THg wet weight mean concentrations in the 18 species of waterfowl surveyed ranged from 0.8 to 268.6 ng/g in muscle, from 0.4 to 197.7 ng/g in brain and from 0.7 to 422.9 ng/g in bone. The null hypothesis that there are no interspecific differences in the level of total mercury in the 18 species of Alaska birds surveyed was not supported. We found interspecific differences with the Lesser Scaup (*Aythya affinis*), and the Black Scoter (*Melanitta nigra*), having the highest muscle tissue levels of THg. In general, THg mean levels were higher in muscle than in brain with the exceptions of the Bar-tailed Godwit and Northern Shoveler. Bone THg were highest in the Black Scoter. The mean values for THg in the species studied are unlikely to cause adverse reproductive or behavioral effects in the birds.

**KEYWORDS:** Alaska; Birds; Mercury; Muscle; Brain; Bone; Bioaccumulation

**NOTES:**

Rubin, C. H., A. Lanier, S. Kieszak, J. W. Brock, K. R. Koller, H. Strosnider, L. Needham, S. Zahm, and A. Harpster

**2006 Breast cancer among Alaska Native women potentially exposed to environmental organochlorine chemicals.** International Journal of Circumpolar Health 65(1):18-27.

**ABSTRACT:** Objectives. To determine if an increased rate of breast cancer in Alaska Native women is related to their consumption of a subsistence diet that may contain p,p'-dichlorodiphenylethylene (DDE) and polychlorinated biphenyls (PCBs). Study Design. A retrospective case control design. Methods. We analyzed banked serum collected between 1981 and 1987 from 126 Alaska Native women, including 63 case women who subsequently developed breast cancer and 63 age-matched control women who remained cancer-free. Serum was analyzed for DDT, DDE, 13 other chlorinated pesticides, and 28 PCB congeners. Results. The geometric mean for p,p'-DDE levels among case women was 8.67 ppb (95% Confidence Interval 7.48, 10.04); among control women, the geometric mean was 7.36 ppb (6.53, 8.30). The geometric mean for total PCB levels among case women was 4.55 ppb (3.61, 5.74) and for control women, the geometric mean was 6.10 ppb (4.73, 7.86). Cancer status and total PCB levels varied across ethnicity (i.e., Eskimo, Aleut, and Indian) but DDE levels were uniform among these ethnic groups. Using conditional logistic regression analysis to adjust for potential confounders (e.g., ethnicity, family history of breast cancer, parity), we found an odds ratio of 1.43 (0.46, 4.47) for the highest tertile of DDE exposure and 0.42 (0.07, 2.38) for the highest tertile of total PCB exposure. Conclusions. Although the results are limited by small sample size and restricted risk factor information, our findings of higher DDE levels, but lower PCB levels among women with breast cancer are consistent with previous research. Our results confirm exposure to organochlorines among Alaska Native women but do not identify these exposures as a significant risk factor for breast cancer.

**KEYWORDS:**

**NOTES:** Times Cited: 6

Ruel, Marie T., James L. Garrett, Corinna Hawkes, and Marc J. Cohen



**2010 The Food, Fuel, and Financial Crises Affect the Urban and Rural Poor Disproportionately: A Review of the Evidence.** *Journal of Nutrition* 140(1):170S-176.

**ABSTRACT:** The vulnerability of the urban poor to the recent food and fuel price crisis has been widely acknowledged. The unfolding global financial crisis, which brings higher unemployment and underemployment, is likely to further intensify this vulnerability. This paper reviews the evidence concerning the disproportionate vulnerability of the urban compared with the rural poor to these types of shocks. It reviews some of the unique characteristics of urban life that could make the urban poor particularly susceptible to price and financial shocks and summarizes the evidence regarding the disproportionate vulnerability of the urban poor. The focus is on impacts on poverty, food insecurity, and malnutrition. The review shows that although the urban poor are clearly one of the population groups most affected by the current (and previous) crises, the rural poor, landless, and net buyers are in no better position to confront the crisis without significant suffering. The poorest of the poor are the ones who will be most affected, irrespective of the continent, country, or urban or rural area where they live. The magnitude and severity of their suffering depends on their ability to adapt and on the specific nature, extent, and duration of the coping strategies they adopt. A better understanding of how these coping strategies are used and staggered is critical to help design triggers for action that can prevent households from moving to more desperate measures. Using these early coping strategies as early warning indicators could help prevent dramatic losses in welfare.

**KEYWORDS:**

**NOTES:**

Ruggerone, G. T., J. L. Nielsen, and J. Bumgarner

**2007 Linkages between Alaskan sockeye salmon abundance, growth at sea, and climate, 1955-2002.** *Deep Sea Research Part II: Topical Studies in Oceanography* 54(23-26):2776-2793.

**ABSTRACT:** We tested the hypothesis that increased growth of salmon during early marine life contributed to greater survival and abundance of salmon following the 1976/1977 climate regime shift and that this, in turn, led to density-dependent reductions in growth during late marine stages. Annual measurements of Bristol Bay (Bering Sea) and Chignik (Gulf of Alaska) sockeye salmon scale growth from 1955 to 2002 were used as indices of body growth. During the first and second years at sea, growth of both stocks tended to be higher after the 1976-1977 climate shift, whereas growth during the third year and homeward migration was often below average. Multiple regression models indicated that return per spawner of Bristol Bay sockeye salmon and adult abundance of western and central Alaska sockeye salmon were positively correlated with growth during the first 2 years at sea and negatively correlated with growth during later life stages. After accounting for competition between Bristol Bay sockeye and Asian pink salmon, age-specific adult length of Bristol Bay salmon increased after the 1976-1977 regime shift, then decreased after the 1989 climate shift. Late marine growth and age-specific adult length of Bristol Bay salmon was exceptionally low after 1989, possibly reducing their reproductive potential. These findings support the hypothesis that greater marine growth during the first 2 years at sea contributed to greater salmon survival and abundance, which in turn led to density-dependent growth during later life stages when size-related mortality was likely lower. Our findings provide new evidence supporting the importance of bottom-up control in marine ecosystems and highlight the complex dynamics of species interactions that continually change as salmon grow and mature in the ocean.

**KEYWORDS:** salmon, growth, survival, competition, climate change, North Pacific Ocean

**NOTES:**

Ruggerone, G. T., J. L. Nielsen, and J. Bumgarner

**2007 Linkages between Alaskan sockeye salmon abundance, growth at sea, and climate, 1955-2002.** Deep Sea Research Part II: Topical Studies in Oceanography 54(23-26):2776-2793.

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**KEYWORDS:** salmon, growth, survival, competition, climate change, North Pacific Ocean

**NOTES:**

Ruggerone, Gregory T., Randall M. Peterman, Brigitte Dorner, and Katherine W. Myers

**2010 Magnitude and Trends in Abundance of Hatchery and Wild Pink Salmon, Chum Salmon, and Sockeye Salmon in the North Pacific Ocean.** Marine and Coastal Fisheries: Dynamics, Management, and Ecosystem Science:306-328.

**ABSTRACT:** Abundance estimates of wild and hatchery Pacific salmon *Oncorhynchus* spp. are important for evaluation of stock status and density-dependent interactions at sea. We assembled available salmon catch and spawning abundance data for both Asia and North America and reconstructed total abundances of pink salmon *O. gorbuscha*, chum salmon *O. keta*, and sockeye salmon *O. nerka* during 1952–2005. Abundance trends were evaluated with respect to species, regional stock groups, and climatic regimes. Wild adult pink salmon were the most numerous salmon species (average =  $268 \times 10^6$  fish/year, or 70% of the total abundance of the three species), followed by sockeye salmon ( $63 \times 10^6$  fish/year, or 17%) and chum salmon ( $48 \times 10^6$  fish/year, or 13%). After the 1976–1977 ocean regime shift, abundances of wild pink salmon and sockeye salmon increased by more than 65% on average, whereas abundance of wild chum salmon was lower in recent decades. Although wild salmon abundances in most regions of North America increased in the late 1970s, abundances in Asia typically did not increase until the 1990s. Annual releases of juvenile salmon from hatcheries increased rapidly during the 1970s and 1980s and reached approximately  $4.5 \times 10^9$  juveniles year during the 1990s and early 2000s. During 1990–2005, annual production of hatchery-origin adult salmon averaged  $78 \times 10^6$  chum salmon,  $54 \times 10^6$  pink salmon, and  $3.2 \times 10^6$  sockeye salmon, or approximately 62, 13, and 4%, respectively, of the combined total wild and hatchery salmon abundance. The combined abundance of adult wild and hatchery salmon during 1990–2005 averaged  $634 \times 10^6$  salmon/year ( $498 \times 10^6$  wild salmon/year), or approximately twice as many as during 1952–1975. The large and increasing abundances of hatchery salmon have important management implications in terms of density-dependent processes and

conservation of wild salmon populations; management agencies should improve estimates of hatchery salmon abundance in harvests and on the spawning grounds.

**KEYWORDS:**

**NOTES:**

Ruggerone, Gregory T., Randall M. Peterman, Brigitte Dorner, and Katherine W. Myers

**2010 Magnitude and Trends in Abundance of Hatchery and Wild Pink Salmon, Chum Salmon, and Sockeye Salmon in the North Pacific Ocean.** Marine and Coastal Fisheries: Dynamics, Management, and Ecosystem Science:306-328.

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**KEYWORDS:**

**NOTES:**

Rupp, Susan P., Warren B. Ballard, and Mark C. Wallace

**2000 A nationwide evaluation of deer hunter harvest survey techniques.** Wildlife Society Bulletin 28(3):570-578.

**ABSTRACT:** Estimating annual harvests of deer (*Odocoileus* spp.) is an objective for all wildlife agencies. Sound management requires frequent evaluation of these methods. We conducted a nationwide survey of state agencies to evaluate the efficiency of hunt harvest survey techniques. State agencies (96%, n=48) reported that they used check stations (56%, n=27), mail questionnaires (54%, n=26), report cards (19%, n=9), telephone surveys (13%, n=6), and toll-free telephone services (2%, n=1) to estimate annual deer harvests. Agencies have attempted to increase response rates by increasing sample size, offering incentives, adding additional reporting options, redesigning forms, and increasing public relations efforts. Eighty-one percent (n=39) of state respondents used hunter survey data to estimate annual harvests, 40–44% of respondents used such data to track deer population trends, and >70% of respondents used survey data to establish hunting regulations. Each hunter harvest survey technique appeared to serve a specific function for each state. Annually, a minimum of \$3.5 million was spent assessing deer harvests. Interpretation and application of survey results should incorporate knowledge of biases, advantages, and disadvantages inherent in each technique.

**KEYWORDS:** hunting, survey, methodology, deer, reporting

**NOTES:**

Rupp, T. S., M. Olson, L. G. Adams, B. W. Dale, K. Joly, J. Henkelman, W. B. Collins, and A. M. Starfield  
**2006 Simulating the influences of various fire regimes on caribou winter habitat.**  
 Ecological Applications 16(5):1730-1743.

**ABSTRACT:** Caribou are an integral component of high-latitude ecosystems and represent a major subsistence food source for many northern people. The availability and quality of winter habitat is critical to sustain these caribou populations. Caribou commonly use older spruce woodlands with adequate terrestrial lichen, a preferred winter forage, in the understory. Changes in climate and fire regime pose a significant threat to the long-term sustainability of this important winter habitat. Computer simulations performed with a spatially explicit vegetation succession model (ALFRESCO) indicate that changes in the frequency and extent of fire in interior Alaska may substantially impact the abundance and quality of winter habitat for caribou. We modeled four different fire scenarios and tracked the frequency, extent, and spatial distribution of the simulated fires and associated changes to vegetation composition and distribution. Our results suggest that shorter fire frequencies (i.e., less time between recurring fires) on the winter range of the Nelchina caribou herd in eastern interior Alaska will result in large decreases of available winter habitat, relative to that currently available, in both the short and long term. A 30% shortening of the fire frequency resulted in a 3.5-fold increase in the area burned annually and an associated 41% decrease in the amount of spruce-lichen forest found on the landscape. More importantly, simulations with more frequent fires produced a relatively immature forest age structure, compared to that which currently exists; with few stands older than 100 years. This age structure is at the lower limits of stand age classes preferred by caribou from the Nelchina herd. Projected changes in fire regime due to climate warming and/or additional prescribed burning could substantially alter the winter habitat of caribou in interior Alaska and lead to changes in winter range use and/or population dynamics.

**KEYWORDS:**

**NOTES:** Times Cited: 13

Sacks, J.D.

**1995 Culture, Cash or Calories: Interpreting Alaska Native Subsistence Rights.** Alaska Law Review 12:247.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Sahlins, Marshall

**1965 On the sociology of primitive exchange.** *In* The relevance of models for social anthropology. M. Gluckman and F. Eggan, eds. Pp. 139-236. London: Routledge.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Sahlins, Marshall

**1972 Stone age economics.** London: Routledge.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Sahlins, Marshall

**2000 On the anthropology of modernity, or, some triumphs of culture over despondency theory.** *In* Culture and sustainable development in the Pacific. A. Hooper, ed. Pp. 44-61. Canberra, ACT, Australia: ANU Press.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** Culture and sustainable development in the Pacific

Sahlins, M.

**2011 What kinship is (part one).** *Journal of the Royal Anthropological Institute* 17(1):2-19.

**ABSTRACT:** A modest proposal for solving the 150-year-old problem of what kinship is, its specific quality, viz. mutuality of being: persons who are members of one another, who participate intrinsically in each other's existence. 'Mutuality of being' applies as well to the constitution of kinship by social construction as by procreation, even as it accounts for "the mysterious effectiveness of relationality" (Viveiros de Castro), how it is that relatives live each other's lives and die each other's deaths. Involving such transpersonal relations of being and experience, kinship takes its place in the same ontological regime as magic, gift exchange, sorcery, and witchcraft.

**KEYWORDS:** personhood

melanesia

pacific

**NOTES:** ISI Document Delivery No.: 716PU

Times Cited: 0

Cited Reference Count: 80

Sahlins, Marshall

Wiley-blackwell

Malden

Sahlins, Marshall

**2011 What kinship is (part two).** *Journal of the Royal Anthropological Institute* 17(2):227-242.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** Times Cited: 0

Saint-Amour, Dave, Marie-Sylvie Roy, Célyne Bastien, Pierre Ayotte, Éric Dewailly, Christine Després, Suzanne Gingras, and Gina Muckle

**2006 Alterations of visual evoked potentials in preschool Inuit children exposed to methylmercury and polychlorinated biphenyls from a marine diet.** *NeuroToxicology* 27(4):567-578.

**ABSTRACT:** The aim of the present study was to assess the impact of chronic exposure to polychlorinated biphenyls (PCBs) and methylmercury on visual brain processing in Inuit children from Nunavik (Northern Québec, Canada). Concentrations of total mercury in blood and PCB 153 in plasma had been measured at birth and they were again measured at the time of testing in 102 preschool aged children. Relationships between contaminants and pattern-reversal visual evoked potentials (VEPs) were assessed by multivariate regression analyses, taking into account several potential confounding variables. The possible protective effects of selenium and omega-3 polyunsaturated fatty acids against methylmercury and PCB toxicity were also investigated. Results indicate that exposure to methylmercury and PCBs resulting from fish and sea mammal consumption were associated with alterations of VEP responses, especially for the latency of the N75 and of the P100 components. In contrast, the concomitant intake of omega-3

polyunsaturated fatty acids was associated with a shorter latency of the P100. However, no significant interactions between nutrients and contaminants were found, contradicting the notion that these nutrients could afford protection against environmental neurotoxicants. Interestingly, significant associations were found with concentrations of neurotoxicants in blood samples collected at the time of testing, i.e. at the preschool age. Our findings suggest that VEP can be used as a valuable tool to assess the developmental neurotoxicity of environmental contaminants in fish-eating populations.

**KEYWORDS:** Visual evoked potentials

Mercury  
Polychlorinated biphenyls  
Omega-3 polyunsaturated fatty acids  
Selenium  
Developmental neurotoxicity  
Inuit  
Nunavik  
Canada

**NOTES:**

Salick, Jan, and Nanci Ross

**2009 Traditional peoples and climate change.** Global Environmental Change 19(2):137-139.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** doi: DOI: 10.1016/j.gloenvcha.2009.01.004

Samms, Robert

**1915 Letter to W.C. Shields.**

**ABSTRACT:**

**KEYWORDS:** subsistence; hunting; enforcement; Kiana; Selawik

**NOTES:** "There has been some trouble between our natives and the Comissioner at Kiana over caribou killed the past winter. I think the last part of February or the first of March. Four natives were taken by the Marshal to Kiana on May 8th. Two more were imprisoned and two given their liberty. One, Jimmie Tongoruk, sold his caribou meat at Candle and was justly punished. The other, Charlie Iyugak, was imprisoned 30 days for killing caribou during the closed season, although all were equally guilty of this charge. But it seems from the plain reading of the law that he, with the others, was clearly within his rights granted by that provision wich allows anyone to kill at any season if in need of food, which they cannot secure otherwise. Now it is a fact very generally known that the past winter was a hard one for the natives, the Selawiks being no exception...." (p. 1)

Sanford, Marian H

**1951 Sevoonga -- Eskimo village.** American Indian Culture and Research Journal 6(2):37-40.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Sarlio-Lahteenkorva, Sirpa, and Eero Lahelma

**2001 Food Insecurity Is Associated with Past and Present Economic Disadvantage and Body Mass Index.** Journal of Nutrition 131(11):2880-2884.

**ABSTRACT:** Fears and experiences of food restriction influence eating behavior but the association between past and present economic disadvantage, food insecurity and body size is

poorly understood. Therefore, we examined these associations in a nationwide, representative sample of 25- to 64-y-old Finnish men and women (n = 6506). The respondents were classified by their body mass index (BMI) into four groups: thin, normal, overweight and obese. Economic disadvantage was assessed by three indicators including low household income, unemployment during past 5 y and long-term economic problems in childhood. Food insecurity was assessed by five separate items concerning economic fears and experiences related to sufficient supply of food during the past 12 mo, and a combined scale in which those with affirmative responses to four to five items were classified as hungry. Multivariable logistic regression analyses were conducted using both the BMI grouping and indicators of economic disadvantage as independent variables to predict food insecurity, controlling simultaneously for age, educational attainment and sex. The results showed that low household income, recent unemployment and economic problems in childhood were all predictors of food insecurity. Thin people were most likely to be hungry and showed most food insecurity in five separate items. In addition, obese people reported more buying cheaper food due to economic problems and fears or experiences of running out of money to buy food than did normal weight subjects. In conclusion, both past and present economic disadvantage is associated with various aspects of food insecurity. The association between food insecurity and BMI is curvilinear.

**KEYWORDS:****NOTES:**

Sauberlich, HE, W Goad, YF Herman, F Milan, and P Jamison

**1972 Biochemical assessment of the nutritional status of the Eskimos of Wainwright, Alaska.** American Journal of Clinical Nutrition 25(4):437-445.

**ABSTRACT:****KEYWORDS:****NOTES:**

Savishinsky, Joel

**1971 Mobility as an aspect of stress in an Arctic community.** American Anthropologist 73(3):604-618.

**ABSTRACT:** Environmental sources of stress, in terms of scarce fur and food resources, the need for adequate shelter, and the physical hardships involved in obtaining these necessities, persist as features of life in some contemporary sub-arctic communities. In a small, isolated village of Hare Indians in the boreal forest of Canada's Northwest Territories, a variety of social sources of stress has also been found to affect the people. These include acculturative influences, a local feud, prolonged periods of bush isolation and population concentration, and expectations and obligations for generosity and reciprocity. Given the people's strong emphasis upon emotional restraint, aggression as a means of relieving stress is almost entirely restricted to periods of heavy drinking. Population mobility is a major factor in the control and release of stress. The annual cycle consists of several phases of band dispersal and ingathering; each phase has its characteristic tensions. Successive periods of population redistribution relieve many stresses which have been generated in previous phases. Each new phase, in its turn, creates other stresses which find release in the next part of the cycle. Mobility is also high within each cycle phase, and movements are connected with tensions of isolation, boredom, interpersonal friction, and drinking. High mobility thus serves both to generate and relieve stress within a social and ecological framework.

**KEYWORDS:****NOTES:**

Schaefer, Kevin, Tingjun Zhang, Lori Bruhwiler, and Andrew P. Barrett

**2011 Amount and timing of permafrost carbon release in response to climate warming.** Tellus B:no-no.

**ABSTRACT:** The thaw and release of carbon currently frozen in permafrost will increase atmospheric CO<sub>2</sub> concentrations and amplify surface warming to initiate a positive permafrost carbon feedback (PCF) on climate. We use surface weather from three global climate models based on the moderate warming, A1B Intergovernmental Panel on Climate Change emissions scenario and the SiBCASA land surface model to estimate the strength and timing of the PCF and associated uncertainty. By 2200, we predict a 29–59% decrease in permafrost area and a 53–97 cm increase in active layer thickness. By 2200, the PCF strength in terms of cumulative permafrost carbon flux to the atmosphere is  $190 \pm 64$  Gt C. This estimate may be low because it does not account for amplified surface warming due to the PCF itself and excludes some discontinuous permafrost regions where SiBCASA did not simulate permafrost. **We predict that the PCF will change the arctic from a carbon sink to a source after the mid-2020s and is strong enough to cancel 42–88% of the total global land sink. The thaw and decay of permafrost carbon is irreversible and accounting for the PCF will require larger reductions in fossil fuel emissions to reach a target atmospheric CO<sub>2</sub> concentration.**

**KEYWORDS:**

**NOTES:** ScienceDaily (Feb. 17, 2011) — Up to two-thirds of Earth's permafrost likely will disappear by 2200 as a result of warming temperatures, unleashing vast quantities of carbon into the atmosphere, says a new study by the University of Colorado Boulder's Cooperative Institute for Research in Environmental Sciences. The carbon resides in permanently frozen ground that is beginning to thaw in high latitudes from warming temperatures, which will impact not only the climate but also international strategies to reduce fossil fuel emissions, said CU-Boulder's Kevin Schaefer, lead study author. "If we want to hit a target carbon dioxide concentration, then we have to reduce fossil fuel emissions that much lower than previously thought to account for this additional carbon from the permafrost," he said. "Otherwise we will end up with a warmer Earth than we want."

Schindler, Daniel E., Ray Hilborn, Brandon Chasco, Christopher P. Boatright, Thomas P. Quinn, Lauren A. Rogers, and Michael S. Webster

**2010 Population diversity and the portfolio effect in an exploited species.** *Nature* 465(7298):609-612.

**ABSTRACT:** One of the most pervasive themes in ecology is that biological diversity stabilizes ecosystem processes and the services they provide to society, a concept that has become a common argument for biodiversity conservation. Species-rich communities are thought to produce more temporally stable ecosystem services because of the complementary or independent dynamics among species that perform similar ecosystem functions. Such variance dampening within communities is referred to as a portfolio effect and is analogous to the effects of asset diversity on the stability of financial portfolios<sup>8</sup>. In ecology, these arguments have focused on the effects of species diversity on ecosystem stability but have not considered the importance of biologically relevant diversity within individual species. Current rates of population extirpation are probably at least three orders of magnitude higher than species extinction rates, so there is a pressing need to clarify how population and life history diversity affect the performance of individual species in providing important ecosystem services. Here we use five decades of data from *Oncorhynchus nerka* (sockeye salmon) in Bristol Bay, Alaska, to provide the first quantification of portfolio effects that derive from population and life history diversity in an important and heavily exploited species. Variability in annual Bristol Bay salmon returns is 2.2 times lower than it would be if the system consisted of a single homogenous population rather than the several hundred discrete populations it currently consists of. Furthermore, if it were a single homogeneous population, such increased variability would lead to ten times more frequent fisheries closures. Portfolio effects are also evident in watershed food webs, where they stabilize and extend predator access to salmon resources. Our results demonstrate the critical importance of maintaining population diversity for stabilizing ecosystem services and securing



the economies and livelihoods that depend on them. The reliability of ecosystem services will erode faster than indicated by species loss alone.

**KEYWORDS:** salmon, conservation, Bristol Bay, portfolio effect

**NOTES:**

Schindler, Daniel E., Ray Hilborn, Brandon Chasco, Christopher P. Boatright, Thomas P. Quinn, Lauren A. Rogers, and Michael S. Webster

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**ABSTRACT:** One of the most pervasive themes in ecology is that biological diversity stabilizes ecosystem processes and the services they provide to society, a concept that has become a common argument for biodiversity conservation. Species-rich communities are thought to produce more temporally stable ecosystem services because of the complementary or independent dynamics among species that perform similar ecosystem functions. Such variance dampening within communities is referred to as a portfolio effect and is analogous to the effects of asset diversity on the stability of financial portfolios<sup>8</sup>. In ecology, these arguments have focused on the effects of species diversity on ecosystem stability but have not considered the importance of biologically relevant diversity within individual species. Current rates of population extirpation are probably at least three orders of magnitude higher than species extinction rates, so there is a pressing need to clarify how population and life history diversity affect the performance of individual species in providing important ecosystem services. Here we use five decades of data from *Oncorhynchus nerka* (sockeye salmon) in Bristol Bay, Alaska, to provide the first quantification of portfolio effects that derive from population and life history diversity in an important and heavily exploited species. Variability in annual Bristol Bay salmon returns is 2.2 times lower than it would be if the system consisted of a single homogenous population rather than the several hundred discrete populations it currently consists of. Furthermore, if it were a single homogeneous population, such increased variability would lead to ten times more frequent fisheries closures. Portfolio effects are also evident in watershed food webs, where they stabilize and extend predator access to salmon resources. Our results demonstrate the critical importance of maintaining population diversity for stabilizing ecosystem services and securing the economies and livelihoods that depend on them. The reliability of ecosystem services will erode faster than indicated by species loss alone.

**KEYWORDS:** salmon, conservation, Bristol Bay, portfolio effect

**NOTES:**

Schindler, Daniel E., Donald E. Rogers, Mark D. Scheuerell, and Caryn A. Abrey

**2005 Effects of changing climate on zooplankton and juvenile sockeye salmon growth in southwestern Alaska.** *Ecology* 86(1):198-209.

**ABSTRACT:** Detecting and forecasting the effects of changing climate on natural and exploited populations represent a major challenge to ecologists and resource managers. These efforts are complicated by underlying density-dependent processes and the differential responses of predators and their prey to changing climate. We explored the effects of density-dependence and changing climate on growth of juvenile sockeye salmon and the densities of their zooplankton prey in the Wood River system of southwestern Alaska. We fit dynamic time-series models to data collected between 1962 and 2002 describing growth of juvenile sockeye, timing of spring ice breakup, and summer zooplankton densities. The timing of spring breakup has moved about seven days earlier now than it was in the early 1960s. Our analyses suggest that most of this shift has been a response to the warm phase of the Pacific Decadal Oscillation that persisted from the mid-1970s to the late 1990s. This progression toward earlier spring breakup dates was associated with warmer summer water temperatures and increased zooplankton (especially *Daphnia*) densities, which translated into increased sockeye growth during their first

year of life. The number of spawning adults that produced each year class of sockeye had a strong negative effect on juvenile sockeye growth rates, so that the size of the density-dependent effect was, on average, twice as large as the effect of spring breakup date. These results highlight the complexity of ecological responses to changing climate and suggest that climate warming may enhance growing conditions for juvenile salmonids in large lakes of Alaska.

**KEYWORDS:** Bristol Bay, southwest Alaska, climate change, cryophenology, fish, global change, global warming, ice phenology, Pacific Decadal Oscillation, sockeye salmon, Wood River, southwest Alaska, zooplankton

**NOTES:**

Schindler, Daniel E., Donald E. Rogers, Mark D. Scheuerell, and Caryn A. Abrey

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**KEYWORDS:** Bristol Bay, southwest Alaska, climate change, cryophenology, fish, global change, global warming, ice phenology, Pacific Decadal Oscillation, sockeye salmon, Wood River, southwest Alaska, zooplankton

**NOTES:**

Schindler, D. W., and P. G. Lee

**2010 Comprehensive conservation planning to protect biodiversity and ecosystem services in Canadian boreal regions under a warming climate and increasing exploitation.** *Biological Conservation* 143(7):1571-1586.

**ABSTRACT:** Boreal regions contain more than half of the carbon in forested regions of the world and over 60% of the world's surface freshwater. Carbon storage and the flood control and water filtration provided by freshwaters and wetlands have recently been identified as the most important ecosystem services provided by boreal regions, with a value many times greater than current resource exploitation. Ecosystem services and sensitive ways of detecting their impairment have so far not been fully included in boreal conservation planning. Climate warming, via its effect on permafrost melting, insect damage, and forest fire, threatens to trigger large positive carbon feedbacks that may enhance the concentrations of greenhouse gases in the atmosphere, further amplifying climate warming. In a water-scarce world, there is increasing

pressure to divert and exploit boreal freshwaters, and devising conservation plans to protect boreal freshwaters and their catchments is urgent. We propose a catchment-based approach that includes water and chemical mass-balances as a sensitive means of detecting early degradation of many ecosystem services in both catchments and freshwaters, and give some examples of where this has been advantageous in the past. The necessary modifications to current conservation planning are simple ones, and the advantages are great.

**KEYWORDS:** carbon fluxes, permafrost melting, oil sands, watershed biogeochemistry, forest fire, cumulative effects, boreal conservation

**NOTES:**

Schneider, William, Knut Kielland, and Gregory Finstad

**2005 Factors in the Adaptation of Reindeer Herders to Caribou on the Seward Peninsula, Alaska.** Arctic anthropology 42(2):36-49.

**ABSTRACT:** Over the last century, reindeer herding has provided a major economic base in Eskimo villages on the Seward Peninsula, Alaska, and has come to represent an important dimension of Native cultural identity. As a result of the current population explosion of caribou from the Western Arctic Caribou Herd, along with a shift in the herd's migratory patterns, reindeer ranges that were free of caribou for generations are now being flooded by tens of thousands. Reindeer join these migrating caribou and leave their ranges. As individual herders lose reindeer to the caribou, the impact is felt at the individual, community, and regional level. This paper describes some of the factors that influence modern-day Eskimo herders' ability to cope with this devastating situation. The herders' descriptions of the crisis lead us to a larger and more comprehensive picture of how they understand and respond to the environmental conditions, technology, and economic conditions that they face.

**KEYWORDS:**

**NOTES:**

Schneider, William, Knut Kielland, and Gregory Finstad

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**KEYWORDS:**

**NOTES:**

Schneider, William S.

**Observations of Inupiat land use patterns: Comments prepared for the NPR-A planning team.**

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Schneider, William S.

**1979 Continuity and change.****ABSTRACT:****KEYWORDS:****NOTES:** Comments prepared for the Manager of Alaska Lands

Schneider, William S.

**1980 Trapping furbearers in Alaska: a legacy and, perhaps a destiny.** Alaska in Perspective 3(1):1-23.**ABSTRACT:****KEYWORDS:****NOTES:**

Schneider, William S., and R Bennett

**1978 Point Lay synopsis: Native livelihood and dependence, a study of land use values through time.** Pp. 107-109. Anchorage, AK: North Slope Borough.**ABSTRACT:****KEYWORDS:****NOTES:**

Schneider, William S., Sverre Pedersen, and D Libbey

**1980 The Barrow-Atkasuk Report: A Study of Land Use Through Time.** In Occasional Paper, Vol. 24. Fairbanks, AK: Cooperative Park Studies Unit, University of Alaska.**ABSTRACT:****KEYWORDS:****NOTES:**

Schroeder, Robert F., David B. Andersen, Robert G. Bosworth, Judith Morris, M., and John M. Wright

**1987 Subsistence in Alaska: Arctic, Interior, Southcentral, Southwest, and Western regional summaries.** Juneau, Alaska: ADF&G Division of Subsistence.**ABSTRACT:** This report presents summaries of available subsistence data for the Arctic, Interior, Southcentral, Southwestern, and Western regions. ADF&G Division of Subsistence technical reports and unpublished data; ethnographic documents; and planning and impact assessment documents written for other government agencies were the main sources for these summaries. Regional ADF&G staff provided information not available from other sources. Sections of this report were previously-published in the 1985 and 1986 Alaska Habitat Management guides. Historical background, lists of species harvested, seasonal rounds of resource use, harvest and use levels, use area descriptions, and other baseline data are presented on a regional or community basis according to data availability.**KEYWORDS:****NOTES:**

Schroeder, Robert F., David B. Andersen, and Grant Hildreth

**1987 Subsistence Use Area Map Atlas for Ten Kotzebue Sound Communities:** ADF&G, Division of Subsistence and Maniilaq Association.**ABSTRACT:****KEYWORDS:****NOTES:**

Schroeder, Robert F., David B. Andersen, and Grant Hildreth

**1987 Subsistence use area mapping in ten Kotzebue Sound communities.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes the research methodology used to map subsistence resource use areas in 10 Kotzebue Sound communities, Northwest Alaska, in 1985 and 1986. Mapping was undertaken as a joint project between the Maniilaq Association and the ADF&G Division of Subsistence. All maps were approved by formal resolutions of community city councils and/or Indian Reorganization Act councils before final release. These maps depict the areas used for subsistence by community and by species or resource category. Both group mapping sessions and interviews with individuals were used to collect mapped data, with about 275 individuals participating. Mapping was done at 1:250,000 scale using standard USGS quadrant maps. Areas shown are those used by residents while they lived in the mapped community. The set of maps may be examined at Maniilaq offices in Kotzebue and at Division of Subsistence offices in Anchorage, Juneau, and Nome.

**KEYWORDS:** Arctic Region, Northwest Alaska, subsistence use mapping, Kotzebue Sound, Maniilaq Association, Kotzebue, Indian Reorganization Act council

**NOTES:**

Schroeder, Robert F., and Matthew A. Kookesh

**1990 Subsistence harvest and use of fish and wildlife resources and the effects of forest management in Hoonah, Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** Field research conducted in Hoonah in 1986 and 1987 collected ethnographic data through interviews with Hoonah elders and other residents, and harvest and socioeconomic data through a random sample survey of 71 of Hoonah's 255 households. Mapped data showing locations of subsistence harvests and intensity of land use were collected through key respondent interviews, survey questions, and public meetings. Hoonah residents were found to continue to rely on subsistence harvests for much of the food they use and to continue to utilize traditional clan and community harvesting areas. This report also outlines recent changes in Hoonah Tlingits' customary and traditional subsistence use resulting from the closure of Glacier Bay National Park to subsistence and the potential effect on subsistence of widespread logging and road building on private and U.S. Forest Service lands on Chichagof Island.

**KEYWORDS:**

**NOTES:**

Schroeder, Robert F., and Matthew A. Kookesh

**1990 Subsistence harvest of herring eggs in Sitka Sound, 1989.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report documents the non-commercial harvest of Pacific herring eggs on Western hemlock branches, on hair seaweed, and on *Macrosystis* kelp that took place in the Sitka area in April and May 1989. Field observations of the harvest and interviews with elders and key harvester supplied most of the information presented in this report. Additional information from historical documents describing herring roe harvest in Sitka Sound, quantitative data from ADF&G permit files and harvest data from surveys in communities that use this resource are also summarized in this report.

**KEYWORDS:**

**NOTES:**

Schumacher, C., M. Davidson, and G. Ehrsam

**2003 Cardiovascular disease among Alaska Natives: a review of the literature.** International Journal of Circumpolar Health 62(4):343-62.

**ABSTRACT:** BACKGROUND: We reviewed the literature of population-based studies regarding heart disease and stroke occurrence among Alaska Natives. The existing literature suggests that differences in cardiovascular mortality rates and risk factors exist in Alaska Natives by ethnicity and residence. However, data sources are largely limited to mortality data and small

community-based studies. **OBJECTIVES:** Because cardiovascular disease occurrence has not been well studied among Alaska Natives, it is important to avoid sweeping generalizations about the increasing or decreasing prevalences of cardiovascular disease and risk factors. **RESULTS:** Recent mortality rates from heart disease (of all types) among Alaska Natives are similar to rates for U.S. whites, and mortality rates from stroke among Alaska Natives are higher than rates for U.S. whites. Mortality rates from ischemic heart disease have been relatively constant among Alaska Natives over the past 20 years, while over the same time period, rates declined dramatically among U.S. Whites. The ischemic heart disease mortality rates among Alaska Native males are now comparable to rates among U.S. White males. **CONCLUSIONS:** Although available data indicate no increase in mortality from ischemic heart disease in Alaska Natives, the relatively constant death rates over the recent 20 years, compared with declining rates elsewhere in the U.S, and the high prevalence of risk factors for ischemic heart disease calls for increased descriptive epidemiologic studies of the incidence and prevalence of cardiovascular disease outcomes. In addition, analytic epidemiologic studies are needed to examine the relationship between lifestyle, especially subsistence and traditional lifestyles, and cardiovascular disease outcomes.

**KEYWORDS:** Alaska/epidemiology

Cardiovascular Diseases/\*epidemiology/etiology/mortality

Female

Humans

Incidence

Inuits

Life Style

Male

Motor Activity

Prevalence

Risk Factors

Smoking/epidemiology

Stroke/epidemiology/etiology

Time Factors

**NOTES:** Schumacher, Catherine

Davidson, Michael

Ehrsam, Gretchen

Review

Finland

International journal of circumpolar health

Int J Circumpolar Health. 2003 Dec;62(4):343-62.

Schumann, Sarah, and Seth Macinko

**2007 Subsistence in coastal fisheries policy: What's in a word?** Marine Policy 31(6):706-718.

**ABSTRACT:** Consideration of subsistence fishing activities seems particularly relevant to coastal fisheries policy, yet formal recognition of subsistence fishing is often absent from associated policy frameworks. A critical problem is the very meaning of the term "subsistence." A review of the literature on subsistence, dominated until recently by North American research, reveals a schism between interpretations emphasizing material aspects of subsistence and interpretations highlighting cultural aspects. The North American literature on the subject is heavily influenced by a focus on Arctic indigenous populations emphasizing cultural survival. Ultimately, subsistence can be a matter of survival in the belly, the soul, or both. International case studies suggest that different interpretations of subsistence are appropriate in different circumstances, and that appropriate policy can be fashioned only after the local context of subsistence is understood.

**KEYWORDS:** Subsistence

Subsistence fishing  
Fishery management

**NOTES:**

Schwarber, James

**1983 Subsistence: An overview.** Pp. 1-13.

**ABSTRACT:****KEYWORDS:**

**NOTES:** Prepared for Representative Mike Davis. First Session, Thirteenth Legislature

Schweitzer, Peter P., and Evgeniy V. Golovko

**2007 The "priests" of East Cape: A religious movement on the Chukchi Peninsula during the 1920s and 1930s.** *Etudes/Inuit/Studies* 31(1):39-58.

**ABSTRACT:** Les récentes possibilités de mener des travaux de terrain en Sibérie ont permis non seulement l'étude des processus sociaux et culturels actuels mais ont également facilité le réexamen des changements sociaux rapides des périodes antérieures. L'une de ces périodes était, sans aucun doute, la décennie qui a suivi la révolution russe, quand les Russes et d'autres étrangers ont accru sensiblement leur impact dans plusieurs régions de la Sibérie. Un travail de terrain mené dans les années 1990 a permis d'attester un phénomène jusque-là méconnu, à savoir l'existence d'un système syncrétique de vision du monde et de pratiques rituelles dans le village yupik sibérien de Naukan. Comparable à ce qui est appelé ailleurs «mouvements de revitalisation», il peut être interprété comme une réaction à une pression coloniale de plus en plus forte. Cet article tente de situer le mouvement de Naukan dans son contexte culturel et politique afin de donner une lecture post-coloniale des transformations du début du 20<sup>e</sup> siècle. Recently broadened fieldwork opportunities in Siberia have not only enabled the study of current social and cultural processes, but also facilitated a re-assessment of previous periods of rapid social change. One of those was, undoubtedly, the decade following the Russian Revolution, when Russians and other outsiders significantly increased their impact in many areas of Siberia. Fieldwork conducted during the 1990s has provided evidence of a previously unrecognised phenomenon, namely the existence of a syncretistic system of worldview and ritual practice in the Siberian Yupik village Naukan. Similar to so-called "revitalisation movements" elsewhere, it can be interpreted as a reaction to increasing Russian colonial pressure. The present paper attempts to situate the Naukan movement in its cultural and political contexts, in order to provide a post-colonial reading of early 20th century transformations.

**KEYWORDS:****NOTES:**

Scollon, Ron

**1981 Teachers' questions about Alaska Native education.** University of Alaska Center for Cross Cultural Studies:1-22.

**ABSTRACT:****KEYWORDS:****NOTES:**

Scott, E.M.

**1956 Nutrition of Alaskan Eskimos.** *Nutrition Reviews* 14(1):1-3.

**ABSTRACT:****KEYWORDS:****NOTES:**

Scott, Edward M., and Christine A. Heller

**1964 Iron deficiency in Alaskan Eskimos.** American Journal of Clinical Nutrition 15(5):282-286.

**ABSTRACT:** Low hemoglobin levels have been reported among Eskimos in Southwest Alaska. Hematologic data suggested that these low levels were due to iron deficiency and a second undesigned factor. The studies described herein show that iron deficiency is in fact one of the causes of low hemoglobin levels in subjects living in this area.

**KEYWORDS:**

**NOTES:**

Scott, E. M., Rita C. Wright, and Barbara T. Hanan

**1955 Anemia in Alaskan Eskimos: Three Figures.** Journal of Nutrition 55(1):137-149.

**ABSTRACT:** A moderate anemia occurs in Eskimos in a considerable area of Alaska. The anemia is often microcytic and hypochromic, but a considerable proportion of people, mostly men, have a moderate normochromic, normocytic anemia. Severe anemia was found only in women, and was definitely microcytic and hypochromic. Serum inorganic iron levels were uniformly low in mid-winter. Iron therapy over a 6-week period was effective in increasing serum iron in some cases, but was not effective in raising hemoglobin level except in one severely anemic woman. The data suggest that iron deficiency and some other factor are responsible for this condition.

**KEYWORDS:**

**NOTES:**

Seabury, Catherine Anne

**2008 The impact of federal Violence Against Women grants upon two New Hampshire cities: Case disposition and police report writing,** University of New Hampshire.

**ABSTRACT:** In 1994 the Violence Against Women Act (VAWA) was passed in the United States, and with it came a host of changes for the many cities and towns throughout the country which were granted federal funds in order to combat domestic violence. Although these structural changes appear to have been successful, little empirical research has been conducted with the goal of accurately reporting what, if any, improvements have occurred within communities as a result of VAWA funding. This research examines the impact of federal VAWA funds on two New Hampshire cities--Manchester, which has been receiving VAWA funding since 1995, the first year such funds were dispersed; and Nashua, which began receiving federal VAWA funds one and a half years ago, by comparing domestic violence case disposition rates, and by measuring whether or not police report writing style has a significant impact on domestic violence case outcomes in either Manchester or Nashua.

**KEYWORDS:** criminology, welfare

**NOTES:** Seabury is analyzing SLiCA data for her PhD research at UNH under Larry Hamilton, and doing field work in northwest Alaska.

Sease, John L., and H. Fay Francis

**1987 Walrus: species in crisis.**

**ABSTRACT:**

**KEYWORDS:** EXPLOITATION

IVORY

LIFE history

MANAGEMENT

ODOBENUS rosmarus divergens



ODOBENUS rosmarus rosmarus  
PINNIPEDIA  
POPULATION  
SOCIAL status  
WALRUSES  
ALASKA  
CANADA  
GREENLAND  
NORWAY  
SOVIET Union  
Walross  
Wasserraubtiere  
Administración  
Dirección  
Estado numérico  
Historia de vida/general  
Manejo  
Atlantic walrus  
Pacific walrus

**NOTES:**

Sease, John L., and H. Fay Francis

**1987 Walrus: species in crisis.**

**ABSTRACT:**

**KEYWORDS:** EXPLOITATION

IVORY  
LIFE history  
MANAGEMENT  
ODOBENUS rosmarus divergens  
ODOBENUS rosmarus rosmarus  
PINNIPEDIA  
POPULATION  
SOCIAL status  
WALRUSES  
ALASKA  
CANADA  
GREENLAND  
NORWAY  
SOVIET Union  
Walross  
Wasserraubtiere  
Administración  
Dirección  
Estado numérico  
Historia de vida/general  
Manejo  
Atlantic walrus  
Pacific walrus

**NOTES:** Accession Number: FZH0695197283; Sease, John L.; Francis H. Fay; Source Info: Surrey, UK: People's Trust for Endangered Species, 1987. 16pp., pp. 357-368 ; Note: This citation is in process and will be enhanced with additional descriptors currently used by Wildlife Review Abstracts; Note: Record courtesy of: WCMC Library, World Conservation Monitoring Centre, 219 Huntingdon Road, Cambridge, CB3 0DL, UK tel +44 1223 277314; fax +44 1223 277136; url: [www.wcmc.org.uk](http://www.wcmc.org.uk); Note: SWISS Accession No.: 19882921; Note: URL: Odobenus

rosmarus [Walrus]: [http://animaldiversity.ummz.umich.edu/accounts/odobenus/o.%5frosmarus\\$narrative.html](http://animaldiversity.ummz.umich.edu/accounts/odobenus/o.%5frosmarus$narrative.html); Note: URL: Odobenus rosmarus [Walrus]: [http://animaldiversity.ummz.umich.edu/accounts/odobenus/o.%5frosmarus\\$narrative.html](http://animaldiversity.ummz.umich.edu/accounts/odobenus/o.%5frosmarus$narrative.html); Subject Term: EXPLOITATION; Subject Term: IVORY; Subject Term: LIFE history; Subject Term: MANAGEMENT; Subject Term: ODOBENUS rosmarus divergens; Subject Term: ODOBENUS rosmarus rosmarus; Subject Term: PINNIPEDIA; Subject Term: POPULATION; Subject Term: SOCIAL status; Subject Term: WALRUSES; Subject Term: ALASKA; Subject Term: CANADA; Subject Term: GREENLAND; Subject Term: NORWAY; Subject Term: SOVIET Union; Author-Supplied Keyword: Walross; Author-Supplied Keyword: Wasserraubtiere; Author-Supplied Keyword: Administración; Author-Supplied Keyword: Dirección; Author-Supplied Keyword: Estado numérico; Author-Supplied Keyword: Historia de vida/general; Author-Supplied Keyword: Manejo; Language of Keywords: German; Language of Keywords: Spanish; Castilian; Number of Pages: 12p; Document Type: Book

Seitz, Jody

**1990 Subsistence salmon fishing in Nushagak Bay, Southwest Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report provides information on the socio-cultural, demographic, and environmental factors influencing subsistence fishing in the Nushagak commercial fishing district of Southwest Alaska. Field work was carried out in the fish camps of Nushagak Bay and Clark's Point June 1989-May 1990, as part of a larger study of subsistence patterns in the village of Clark's Point. Historical methods of harvesting salmon, early population patterns, and observations by early fisheries agents provide a context for the development of the commercial salmon fishery, as well as contemporary regulations and patterns of fishing for subsistence. A review of unpublished fisheries agents' annual reports and the fisheries regulations found a historical focus on the protection and regulation of the commercial fisheries, and references to earlier enforcement problems.

**KEYWORDS:**

**NOTES:**

Seitz, Jody

**1996 The use of fish and wildlife in Clark's Point, Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report documents 1 year of subsistence activity in the village of Clark's Point in Southwest Alaska. A harvest survey of all (17) of the year-round households in the village found a per capita harvest of 363 pounds. This was higher than the 1973 harvest per capita of 335 pounds found by Gasbarro and Utermohle (unpublished, 1974). Village residents harvested a range of resources which were widely-shared within the village and with other communities as well.

**KEYWORDS:**

**NOTES:**

Seiver, Daniel A., and Susan R. Fison

**1975 Alaskan population growth and movements, 1960-1973:** Institute of Social, Economic and Government Research, University of Alaska.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Sepez, Jennifer

**2002 Treaty rights and the right to culture.** Cultural dynamics 14:143-59.

**ABSTRACT:**

**KEYWORDS:** Descriptor: North American Indians  
 Treaties  
 Cultural property  
 Intellectual property rights  
 Inuit  
 Makah  
 Cultural regeneration  
 Revival  
 Whales and whaling  
 Hunting and hunters  
 CULTURAL ETHNOGRAPHY  
 AMERICAS  
 NORTH AMERICA

**NOTES:** Using Smart Source Parsing  
 no. 2 (), p. Journal Code: Cult Dynam  
 in thematic issue 'Cultural rights and indigenous identity in the Americas' Document Type: article

Sepez, Jennifer

**2005 Introduction to traditional environmental knowledge in federal natural resource management agencies.** Practicing Anthropology 27:2-5.

**ABSTRACT:** The study of traditional environmental knowledge (TEK, also expressed as traditional ecological knowledge) in applied settings is an important and growing field for environmental anthropologists who seek to put the methods and findings of anthropology to work in public and environmental policy contexts. The incredible depth and insight of indigenous environmental knowledge is well known in anthropological circles, and for better or worse, has been captured in the public consciousness. A combination of public pressure, internal counsel, political realities and genuine scientific inquisitiveness has worked to create a growing interest in TEK research on the part of many natural resource agencies, providing fertile ground for this work.

**KEYWORDS:** TEK, traditional ecological knowledge, environmental education, environmental resource management

**NOTES:**

Sepez, Jennifer, Karma Norman, Amanda Poole, and Bryan Tilt

**2006 Fish scales: scale and method in social science research for north Pacific and West Coast fishing communities.** Human Organization 65:280-93.

**ABSTRACT:**

**KEYWORDS:** fishing communities, methods in social sciences, research, cultural ethnography, Alaska

**NOTES:**

Shannon, Kerrie Ann

**2006 Everyone goes fishing: Understanding procurement for men, women and children in an arctic community.** Etudes/Inuit/Studies 30(1):9-29.

**ABSTRACT:** Cet article présente une nouvelle perspective concernant un mode d'acquisition inuit en relation avec les rôles des sexes. Un examen approfondi des tournois de pêche dans l'Arctique canadien permet de souligner l'importance de cet aspect de la vie inuit. Jusqu'ici, de nombreuses études ethnographiques et recherches sur l'utilisation du territoire ont mis l'emphase sur la chasse. Le tournoi de pêche est un nouvel exemple d'acquisition. Il s'agit d'une activité à laquelle participent femmes, hommes, enfants et aînés. Le rôle de la femme dans

l'Arctique a souvent été considéré sous l'angle de la division du travail ou bien sous celui de sa complémentarité au rôle de l'homme. Le tournoi de pêche est une occasion où les activités acquisitionnelles ne sont pas forcément organisées selon le sexe des individus et par conséquent cet aspect nous aide à comprendre de façon plus large les rôles des sexes. Le tournoi de pêche permet également de voir d'un point de vue ethnographique «la compétence» comme savoir traditionnel, éclairant la façon dont les Inuit, et par extension tous les chasseurs-cueilleurs, perçoivent le monde qui les entoure. This paper provides insight into Inuit procurement and gender roles. Through a focus on fishing derbies in the Canadian Arctic, this significant aspect of Inuit life is recognized. Many ethnographies and land use studies have previously concentrated on hunting. The fishing derby provides an alternative ethnographic example of procurement. It is an activity in which women, men, children, and elders participate. Women's roles in the Arctic have often been discussed in terms of gender division of labour or in terms of their complementarity to men's roles. The fishing derby demonstrates occasions when procurement activities are not necessarily divided along gender lines and thereby reveals a broader understanding of gender roles. The fishing derby is also an ethnographic example of skill as traditional knowledge and may inform how Inuit, and hunter-gatherers more generally, relate to the world around them.

**KEYWORDS:****NOTES:**

Shaw, JH

**1985 Diet and dental health.** American Journal of Clinical Nutrition 41(5):1117-1131.

**ABSTRACT:****KEYWORDS:****NOTES:**

Sheffield, G., F. H. Fay, H. Feder, and B. P. Kelly

**2001 Laboratory digestion of prey and interpretation of walrus stomach contents.** Marine Mammal Science 17(2):310-330.

**ABSTRACT:** A new approach for evaluating the potential biases of walrus (*Odobenus rosmarus*) diet data derived from stomach contents was examined based on the rates at which different: prey types were digested. In this study controlled digestion experiments on polychaetes, echiurid and sipunculid worms, clams, snails, and crabs demonstrated that these prey items did not remain equally identifiable during digestion. Polychaetes, echiurids, and sipunculids were the least persistent prey. All worms became unidentifiable during the six-hour digestion trials. Over 50% of the clams maintained their diagnostic tissues (i.e., foot and/or siphon). Clam viscera did not survive hour 2. Snails and crustaceans were the most persistent prey. Without a consideration of the state of digestion, a stomach sample may not accurately reflect the species composition and size of prey consumed. Volume is nor a reliable measure of a prey's relative importance, as the diagnostic fragments of invertebrate prey in a stomach vary greatly in physical composition. Walruses probably consume all of the soft tissues of clams, not solely the foot and siphon.

**KEYWORDS:**

**NOTES:** Times Cited: 15

Sheffield, G., F. H. Fay, H. Feder, and B. P. Kelly

**2001 Laboratory digestion of prey and interpretation of walrus stomach contents.** Marine Mammal Science 17(2):310-330.

**ABSTRACT:** A new approach for evaluating the potential biases of walrus (*Odobenus rosmarus*) diet data derived from stomach contents was examined based on the rates at which different: prey types were digested. In this study controlled digestion experiments on polychaetes, echiurid and sipunculid worms, clams, snails, and crabs demonstrated that these prey items did not

remain equally identifiable during digestion. Polychaetes, echiurids, and sipunculids were the least persistent prey. All worms became unidentifiable during the six-hour digestion trials. Over 50% of the clams maintained their diagnostic tissues (i.e., foot and/or siphon). Clam viscera did not survive hour 2. Snails and crustaceans were the most persistent prey. Without a consideration of the state of digestion, a stomach sample may not accurately reflect the species composition and size of prey consumed. Volume is not a reliable measure of a prey's relative importance, as the diagnostic fragments of invertebrate prey in a stomach vary greatly in physical composition. Walrus probably consume all of the soft tissues of clams, not solely the foot and siphon.

**KEYWORDS:**

**NOTES:** Times Cited: 15

Sheffield, Gay G., and Lauri Jemison

**2010 Steller sea lions near Gambell, Alaska, November-December 2010.** Pp. 19. Nome, Alaska: Alaska Department of Fish and Game.

**ABSTRACT:**

**KEYWORDS:** sea lions, St. Lawrence Island, Gambell, shark

**NOTES:**

Sherrod, George K.

**1982 Eskimo Walrus Commission's 1981 research report: the harvest and use of marine mammals in fifteen Eskimo communities.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report is a summary and initial analysis of information derived from a marine mammal subsistence harvest and utilization survey conducted during the fall and winter of 1980 and the spring of 1981 in fifteen communities of the Bering Strait and Norton Sound areas. The study provides a primary database on the contemporary role of marine mammals in the subsistence-based socioeconomic systems of the study communities and aids in the development of further research questions concerning marine mammals.

**KEYWORDS:** Arctic Region, marine mammals, Bering Strait, Norton Sound, Eskimo Walrus Commission.

**NOTES:**

Shervall, Meg

**2009 Native Alaskan engagement with social constructions of rurality.** Journal of Rural Studies 25(4):425-434.

**ABSTRACT:** There is no doubt that defining and measuring "rurality" is problematic. In states such as Alaska on the western Pacific coast of the United States, more than two-thirds of the State is classified as "remote rural." In 2000, despite only 10 per cent of the general Alaskan population living in these regions, for more than 41 per cent of Alaskan Natives, these places represent their traditional homelands. These areas generically referred to as the "Alaskan bush" are considered remote, isolated and distant by not only the rest of mainland United States, but also, by most urban Alaskans. Labelling these places thus, continues to reinforce and sustain the much recognised "rural-urban divide" and in turn, influences top-down policy decisions which in Alaska tend to stereotype and pigeonhole regional development, rather than recognise reinterpretations of it. This paper therefore, considers how rurality is defined and measured in and by the State of Alaska and more broadly by the United States government. It questions whether these definitions are adequate descriptions of the realities on the ground and whether such labelling hinders growth, and economic and cultural survival. It also suggests that current interpretations of rurality need to be reconceptualised.

**KEYWORDS:** Arctic, homelands, Alaska Native, rurality, rural spaces, remoteness, Sub-arctic, sustainability

**NOTES:**

Shichnes, Janet, and Molly B. Chythlook

**1988 Use of fish and wildlife in Manokotak, Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes the results of research conducted in Manokotak, a Yup'ik community of about 300 people on the Igushik River in the Bristol Bay region of Southwest Alaska. Research methods included participant observation at the village's fish camps at Igushik, key respondent interviews, resource use area mapping, and a systematic survey of 91.5% of the community's households. Included in the report are maps of harvest areas, estimates of levels of participation in harvest and use activities, and harvest quantities for 1985. Economic and demographic data are presented. There is also a discussion of the social organization of subsistence salmon production in the village.

**KEYWORDS:**

**NOTES:**

Shichnes, Janet, and Molly B. Chythlook

**1991 Contemporary use of fish and wildlife in Ekwok, Koliganek and New Stuyahok, Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes harvest and use patterns of wild resources for 3 Yup'ik Eskimo communities located on the Nushagak River in Southwest Alaska. Household surveys were conducted in 1988. Estimates of levels of participation in harvest, use and sharing activities for a 12-month period are reported. Harvest levels in all 3 communities were found to be high, with king salmon, red salmon, caribou, and moose of particular importance. Economic and demographic data are also presented.

**KEYWORDS:**

**NOTES:**

Shinen, Marilene

**1963 Marriage customs of the St. Lawrence Island Eskimos.** *Anthropologica* 5(2):199-208.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Shinkwin, Anne, and Martha F. Case

**1984 Modern foragers: wild resource use in Nenana Village, Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report examines the relationships between Athabaskan band organization in the past and contemporary organization of society and economy in Nenana, Alaska. The report describes and analyzes the organization of wild resource use, participation in harvests, harvest levels, and geographic areas used for harvesting fish and wildlife.

**KEYWORDS:**

**NOTES:**

Shinkwin, Anne D., and Mary C. Pete

**1982 Alaskan Villagers' views on problem drinking: Those who forget.** *Human Organization* 41(4):315-322.

**ABSTRACT:** Statewide statistics suggest that problems relating to alcohol abuse represent a major public health problem for Native Alaskans but very little is known about alcohol use on a

community level, due to deficient reporting mechanisms and a lack of relevant research. The research reported here was designed to begin to fill this stated need. Alcohol use patterns, the extent of drinking, and associated problems as perceived by residents of two Alaskan Eskimo villages are documented. The structure and effects of alcohol programs in the villages, which represent local attempts to manage alcohol, are also examined. The research demonstrates that it cannot be assumed that all Native Alaskan communities have the same scale of drinking and consequent problems. Differential response to alcohol programs, which have essentially the same structure, is demonstrated and related to the recent development of contrasting levels of community organization in the two villages, which share a common cultural tradition. The utility of a comparative case study approach in examining alcohol problems in Native American communities and the need for expanded research for informed alcohol program planning and implementation are emphasized.

**KEYWORDS:**

**NOTES:**

Shinkwin, Anne D., and Mary C. Pete

**1983 Homes in disruption: Spouse abuse in Yupik Eskimo society.** Pp. 1-111. Fairbanks: University of Alaska.

**ABSTRACT:** Research in three southwest Alaskan Eskimo villages demonstrates that severe wife abuse is a serious problem with an incidence in two communities ten times greater than that reported nationally. Village residents view the problem as recent and alcohol-related. Analysis supports these interpretations.

The study links the development of wife beating in villages with changes in this century in the traditional marriage system and systems of social control. Findings categorically demonstrate the significance of problem drinking in wife beating in these villages. The alcohol-related nature of spouse abuse distinguishes these populations from the larger society where the relationship between alcohol abuse and wife beating is not as strong. The study also argues that when wife beating occurs in one of every three couples in a community the custom must be viewed as an option by men in marriage. In this study men who abuse, compared with non-abusers, have a history of exposure to spouse abuse in their childhood home. Most victims, compared to non-victims, do not have this background. The problem may well become more widespread as children from homes with violence mature and marry unless more effective management approaches are employed.

The study reviews management attempts and illustrates that victims, like those elsewhere in American society, are primarily responsible for dealing with their abuse. The abusing male is rarely confronted about his behavior by police, clergy, or relatives. Family members, clergy, and police express concern about family violence but avoid involvement, a finding other investigators report for the larger society. The most common response of victims is temporary flight from home. Analysis of data from the Tundra Women's Coalition, the Bethel shelter, exhibits a recent increase in use of the shelter by village women; nearly one-third of abused women in the study used a shelter. The history of a new shelter in one of the study villages, the only functioning village shelter in the state, is presented and discussed as a management approach in villages.

Research findings recommend increased application of already existing legal means of managing family violence, such as arrest or injunctive relief orders. Public involvement of clergy and an educational program informing women, especially young women, of legal and personal rights would also contribute to long-range solutions. Clergy, in particular, are urged to play a more active role in advocacy and counseling of victims and abusers. The study concludes the most immediate and effective shortterm societal response is support of shelters. However, the success of shelters on a village, rather than regional, level cannot be assessed at this time. Shelters will remain the only alternative for women and children in crisis in the absence of effective sanctions against domestic violence from other institutions in American society.

**KEYWORDS:**

**NOTES:**

Shively, John

**1978 Testimony.** *In* Energy and Natural Resources Committee. United States Senate. Washington, DC.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Sillitoe, Paul, Ali A. Alshawi, and Abdul K. Al-Amir Hassan

**2010 Challenges to conservation: land use change and local participation in the Al Reem Biosphere Reserve, West Qatar.** *Journal of Ethnobiology and Ethnomedicine* 6.

**ABSTRACT:** One response to humanity's unsustainable use of natural resources and consequent degradation, even destruction of the environment, is to establish conservation areas to protect Nature and preserve biodiversity at least in selected regions. In Qatar, the government has shown strong support for this approach, confronted by the environmental consequences of oil and gas extraction and rapid urban development, by designating about one-tenth of the country a conservation area. Located in the west of the peninsula, it comprises the Al Reem Reserve, subsequently declared a UNESCO Biosphere Reserve. Several approaches have figured in conservation, currently popular is co-management featuring participation of the local population, which recognises that people's activities often contribute to today's environment, with the promotion of bio-cultural diversity. However, these assumptions may not hold where rapid social and cultural change occurs, as in Qatar. We explore the implications of such change, notably in land use. We detail changes resulting with the move from nomadic to sedentary lifestyles: in land access, which now features tribal-state control, and herding strategies, which now feature migrant labour and depend on imported fodder and water, underwritten by the country's large gas and oil revenues. Current stocking arrangements - animals herded in much smaller areas than previously - are thought responsible for the degradation of natural resources. The place of animals, notably camels, in Qatari life, has also changed greatly, possibly further promoting overstocking. Many local people disagree. What are the implications of such changes for the participatory co-management of conservation areas? Do they imply turning the clock back to centrally managed approaches that seek to control access and local activities?

**KEYWORDS:**

**NOTES:** Times Cited: 0

Simeone, William E.

**2002 Wild resource harvests and uses by residents of Cantwell, Alaska, 2000.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report summarizes the results of research by the ADF&G Division of Subsistence on the patterns of fish and wildlife harvest and uses in the community of Cantwell, located on the George Parks Highway corridor east of Denali Park and Preserve. Research for this project was conducted in April 2000 and covers April 1999-March 2000.

**KEYWORDS:** Cantwell, Denali Park and Preserve, moose, *Alces alces*, caribou, *Rangifer tarandus*, Pacific salmon

**NOTES:**

Simeone, William E.

**2008 Subsistence harvests and uses of black bears and mountain goats in Prince William Sound.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report updates information on the subsistence harvests and use of black bears *Ursus americanus* and mountain goats *Oreamnos americanus* in Prince William Sound. Key respondent interviews were conducted in the communities of Chenega Bay, Cordova, and Valdez. A single resident of Tatitlek was interviewed in Anchorage. Data on black bear and



mountain goat harvests were also compiled using the Alaska Department of Fish and Game, Division of Subsistence's Community Subsistence Information System and the Division of Wildlife Conservation's harvest database WinfoNet. Based on information gathered in interviews as well as quantitative data, it appears that black bears are no longer an important source of subsistence food in Prince William Sound communities, having been replaced by Sitka black-tailed deer *Odocoileus columbianus sitkensis*. Although black bears have declined in importance, mountain goats continue to be a highly-esteemed source of subsistence food, according to these same sources. The primary factors identified by respondents as shaping their contemporary subsistence harvests are the publicity focused on Prince William Sound after the Exxon Valdez oil spill, and the improvements in transportation that have made the Sound more accessible to tourists as well as sport hunters and fishers.

**KEYWORDS:** black bears, *Ursus americanus*, mountain goats, *Oreamnos americanus*, Sitka black-tailed deer, *Odocoileus columbianus sitkensis*, Prince William Sound subsistence, Chenega Bay, Cordova, Tatitlek, Valdez.

**NOTES:**

Simeone, William E., and James Kari

**2002 Traditional knowledge and fishing practices of the Ahtna of the Copper River, Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** For over 1,000 years, the Ahtna Athabascan people have fished for Pacific salmon in the Copper River and its tributaries. During that time they have gained a considerable knowledge of salmon. This report provides an overview of that knowledge, including information on the Ahtna taxonomy of salmon and other fish, salmon life history, factors influencing the movement of salmon, harvesting devices and the preparation of fish, the traditional management system, and legends and stories about salmon.

**KEYWORDS:** Traditional knowledge, subsistence salmon fishing, Ahtna, Athabascan, Copper River, Pacific salmon

**NOTES:**

Simeone, William E., and James Kari

**2004 The harvest and use of non-salmon fish species in the Copper River Basin, Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report documents Ahtna traditional knowledge of nonsalmon fish species and provides quantitative data on the current harvest of nonsalmon species by residents of the Copper River Basin. This information adds insight to the general scientific knowledge of nonsalmon species in the Copper River Basin.

**KEYWORDS:** Copper River Basin, nonsalmon fish, whitefish, *Coregonus* spp., burbot, *Lota lota*, rainbow trout, *Oncorhynchus mykiss*, steelhead, Arctic grayling, *Thymallus arcticus*, Ahtna.

**NOTES:**

Simeone, William E., and Erica McCall Valentine

**2007 Ahntna knowledge of long-term changes in salmon runs in the Upper Copper River drainage, Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report combines Ahtna environmental knowledge with data from the biological and social sciences to document changes in the Upper Copper River Pacific salmon fishery. Information in this report covers 1989-2004. This project was the first of its kind to document the history of the Upper Copper River salmon fishery using written historical and scientific documents and Ahtna oral accounts. It provides insights for further research on the long-term effects of human use and environmental changes on these fisheries.

**KEYWORDS:** Ahtna, Upper Copper River, sockeye salmon, *Oncorhynchus nerka*, Chinook salmon, *Oncorhynchus tshawytscha*, king salmon, Athabaskan, Tanada Creek, Indian River, Gulkana River, Tonsina River

**NOTES:**

Simon, James J., Tracie Krauthoefer, David S. Koster, and David Caylor

**2007 Subsistence salmon harvest monitoring report, Kuskokwim Fisheries Management Area, Alaska, 2004.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This final report documents subsistence harvest estimates for Pacific salmon in the Kuskokwim Fisheries Management Area for 2004, on the basis of surveys in 30 communities along the Kuskokwim River and Kuskokwim Bay, including Nelson Island. Compared to 2003 harvest estimates, harvests increased, with the exception of sockeye salmon *Oncorhynchus nerka*, demonstrating again the importance of salmon for subsistence in this area. In Bethel, nonsalmon fish comprised about 18% of total fish harvested for subsistence. This salmon harvest monitoring research continues to be critical for fisheries managers for their use in planning for adequate salmon escapement and providing continued uses of salmon for subsistence purposes.

**KEYWORDS:** Kuskokwim River, Kuskokwim Bay, Yukon-Kuskokwim Delta, Bethel, subsistence fishing, Chinook salmon, *Oncorhynchus tshawytscha*, coho salmon, *Oncorhynchus kisutch*, pink salmon, *Oncorhynchus gorbuscha*, chum salmon, *Oncorhynchus keta*, sockeye salmon, *Oncorhynchus*

**NOTES:**

Simon, James J., Tracie Krauthoefer, David S. Koster, Michael Coffing, and David Caylor

**2007 Bethel subsistence fishing harvest monitoring report, Kuskokwim Fisheries Management Area, Alaska, 2001-2003.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This final report documents subsistence fish (salmon and nonsalmon) harvest estimates for the community of Bethel for the years 2001, 2002, and 2003. This salmon harvest monitoring research continues to be a critical tool in Kuskokwim subsistence fisheries management.

**KEYWORDS:** Bethel, Kuskokwim River, Yukon-Kuskokwim Delta, subsistence fishing, Chinook salmon, *Oncorhynchus tshawytscha*, chum salmon, *Oncorhynchus keta*, sockeye salmon, *Oncorhynchus nerka*, pink salmon, *Oncorhynchus gorbuscha*, coho salmon, *Oncorhynchus kisutch*, no

**NOTES:**

Simpkins, Michael A., Lisa M. Hiruki-Raring, Gay Sheffield, Jacqueline M. Grebmeier, and John L. Bengtson

**2003 Habitat selection by ice-associated pinnipeds near St. Lawrence Island, Alaska in March 2001.** *Polar Biology* 26(9):577-586.

**ABSTRACT:** Aerial surveys of ice-associated pinnipeds were conducted south of St. Lawrence Island in March 2001. The observed distributions of bearded seals (*Erignathus barbatus*), ribbon seals (*Phoca fasciata*), ringed seals (*P. hispida*), spotted seals (*P. largha*), and walruses (*Odobenus rosmarus*) were compared to the distributions of ice habitat types and benthic communities. Randomization tests were used to investigate habitat selection for each species. Both ringed seals and walruses preferred large ice floes (>48 m in diameter) that were common in the interior ice pack. Spotted seals favored smaller ice floes (<20 m in diameter) common near the ice edge, and bearded seals avoided large floes and preferred transitional habitat between small and large floes. Ringed seals also seemed to prefer areas with greater than 90% sea ice coverage, and bearded seals preferred 70–90% sea ice coverage while

avoiding areas with greater than 90% coverage. All species, except spotted seals, were seen most frequently in a region of high benthic biomass, and randomization tests suggested that bearded seals actively selected that region.

**KEYWORDS:** bearded seal, ringed seal, ribbon seal, spotted seal, walrus, St. Lawrence Island, habitat

**NOTES:**

Simpkins, Michael A., Lisa M. Hiruki-Raring, Gay Sheffield, Jacqueline M. Grebmeier, and John L. Bengtson

**2003 Habitat selection by ice-associated pinnipeds near St. Lawrence Island, Alaska in March 2001.** Polar Biology 26(9):577-586.

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**KEYWORDS:** bearded seal, ringed seal, ribbon seal, spotted seal, walrus, St. Lawrence Island, habitat

**NOTES:**

Skoog, Ronald O

**1978 Sale of roe from subsistence caught salmon in the Arctic-Yukon-Kuskokwim region 1974-1977:** Alaska Legislature.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Skoog, Ronald O

**1978 Sale of roe from subsistence caught salmon in the Arctic-Yukon-Kuskokwim region 1974-1977:** Alaska Legislature.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Slocombe, Scott

**2000 Conservation Through Cultural Survival: Indigenous Peoples and Protected Areas.** Mountain Research and Development 20(2):200-201.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Smit, Barry, and Johanna Wandel

**2006 Adaptation, adaptive capacity and vulnerability.** Global Environmental Change 16(3):282-292.

**ABSTRACT:** This paper reviews the concept of adaptation of human communities to global changes, especially climate change, in the context of adaptive capacity and vulnerability. It focuses on scholarship that contributes to practical implementation of adaptations at the community scale. In numerous social science fields, adaptations are considered as responses to risks associated with the interaction of environmental hazards and human vulnerability or adaptive capacity. In the climate change field, adaptation analyses have been undertaken for several distinct purposes. Impact assessments assume adaptations to estimate damages to longer term climate scenarios with and without adjustments. Evaluations of specified adaptation options aim to identify preferred measures. Vulnerability indices seek to provide relative vulnerability scores for countries, regions or communities. The main purpose of participatory vulnerability assessments is to identify adaptation strategies that are feasible and practical in communities. The distinctive features of adaptation analyses with this purpose are outlined, and common elements of this approach are described. Practical adaptation initiatives tend to focus on risks that are already problematic, climate is considered together with other environmental and social stresses, and adaptations are mostly integrated or mainstreamed into other resource management, disaster preparedness and sustainable development programs.

**KEYWORDS:** Adaptation; Adaptive capacity; Vulnerability; Applications; Community; Participatory; Bottom-up; Implementation; Mainstreaming

**NOTES:** doi: DOI: 10.1016/j.gloenvcha.2006.03.008

Smith, Eric

**1984 Conservationists, protection of habitat, and subsistence.** Alaska Native News 2:16-18.

**ABSTRACT:**

**KEYWORDS:** Descriptor: Alaska -- Ecology.

Alaska -- Economic anthropology -- Development.

Alaska -- Economic anthropology -- Subsistence.

**NOTES:** Using Smart Source Parsing

no. 7, p. ill. Additional Info: Anchorage

Source of data: Anthropological Literature, Harvard University.

by Eric Smith.

Smith, Eric Alden

**1979 The application of optimal foraging theory to the analysis of hunter-gatherer group size.** Hunter-Gatherer Foraging Strategies: Ethnographic and Archaeological Analyses:1-42.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Smith, Eric Alden

**1983 Anthropological applications of optimal foraging theory: A critical review.** Current Anthropology 24(5):625-651.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Smith, Eric A., Monique Borgerhoff Mulder, and Kim Hill

**2001 Controversies in the evolutionary social sciences: a guide for the perplexed.** Trends in Ecology & Evolution 16(3):128-135.

**ABSTRACT:** It is 25 years since modern evolutionary ideas were first applied extensively to human behavior, jump-starting a field of study once known as [']sociobiology'. Over the years, distinct styles of evolutionary analysis have emerged within the social sciences. Although there is considerable complementarity between approaches that emphasize the study of psychological mechanisms and those that focus on adaptive fit to environments, there are also substantial theoretical and methodological differences. These differences have generated a recurrent debate that is now exacerbated by growing popular media attention to evolutionary human behavioral studies. Here, we provide a guide to current controversies surrounding evolutionary studies of human social behavior, emphasizing theoretical and methodological issues. We conclude that a greater use of formal models, measures of current fitness costs and benefits, and attention to adaptive tradeoffs, will enhance the power and reliability of evolutionary analyses of human social behavior.

**KEYWORDS:** Adaption  
Behavioural ecology  
Evolutionary psychology  
Social science

**NOTES:**  
Smith, Eric Alden, and Mark Wishnie

**2000 Conservation and subsistence in small-scale societies.** Annual Review of Anthropology 29:493-524.

**ABSTRACT:** Some scholars have championed the view that small-scale societies are conservers or even creators of biodiversity. Others have argued that human populations have always modified their environments, often in ways that enhance short-term gains at the expense of environmental stability and biodiversity conservation. Recent ethnographic studies as well as theory from several disciplines allow a less polarized assessment. We review this body of data and theory and assess various predictions regarding sustainable environmental utilization. The meaning of the term conservation is itself controversial. We propose that to qualify as conservation, any action or practice must not only prevent or mitigate resource overharvesting or environmental damage, it must also be designed to do so. The conditions under which conservation will be adaptive are stringent, involving temporal discounting, economic demand, information feedback, and collective action. Theory thus predicts, and evidence suggests, that voluntary conservation is rare. However, sustainable use and management of resources and habitats by small-scale societies is widespread and may often indirectly result in biodiversity preservation or even enhancement via creation of habitat mosaics.

**KEYWORDS:** collective action, sustainability, common property resources, biodiversity

**NOTES:**  
Smith, Janell

**2007 Food customs of rural and urban Inupiaq elders and their relationships to select nutrition parameters, food insecurity, health, and physical and mental functioning,** Florida International University.

**ABSTRACT:** The Inupiaq Tribe resides north of the Arctic Circle in northwestern Alaska. The people are characterized by their continued dependence on harvested fish, game and plants, known as a subsistence lifestyle (Lee 2000:35-45). Many are suggesting that they leave their historical home and move to urban communities, places believed to be more comfortable as they age. Tribal Elders disagree and have stated, "Elders need to be near the river where they were raised" (Branch 2005:1).

The research questions focused on differences that location had on four groups of variables: nutrition parameters, community support, physical functioning and health. A total of 101 Inupiaq Elders > 50 years were surveyed: 52 from two rural villages, and 49 in Anchorage. Location did

not influence energy intake or intake of protein; levels of nutrition risk and food insecurity; all had similar rates between the two groups. Both rural and urban Elders reported few limitations of ADLs and IADLs. Self-reported general health scores (SF-12.v2 GH) were also similar by location. Differences were found with rural Elders reporting higher physical functioning summary scores (SF-12.v2 PCS), higher mental health scores (SF-12.v2 MH), higher vitality and less pain even though the rural mean ages were five years older than the urban Elders.

Traditional food customs appear to support the overall health and well being of the rural Inupiaq Elders as demonstrated by higher intakes of Native foods, stronger food sharing networks and higher family activity scores than did urban Elders. The rural community appeared to foster continued physical activity. It has been said that when Elders are in the rural setting they are near "people they know" and it is a place "where they can get their Native food" (NRC 2005). These factors appear to be important as Inupiaq Elders age, as rural Inupiaq Elders fared as well or better than Inupiaq Elders in terms of diet, mental and physical health.

**KEYWORDS:** diet; nutrition; Inupiat; Alaska; urban; rural; health; traditional foods network

**NOTES:** "Severe limitations in available assessment tools preclude us from making conclusions relative to adequacy of nutrient intake or diet quality in Inupiaq elders. Specifically, the method for determining usual nutrient intake that is recommended by the Institute of Medicine (IOM) was not practical for use in a population with tremendous seasonal variation and unpredictable and variable harvests of game, fish, and plants. Further, even if accurate intake data are gathered, the exact nutrient content of many of these foods is unknown at this time. Existing approaches to evaluate overall diet quality also are of limited validity in this population. For example, dietary fat content is a major determinant of Healthy Eating Index scores, yet much of the fat in the diet of Native Alaskans is from sea mammals and fish, which contain no trans-fat and little saturated fat but are high in omega-3 fatty acids. We can say that, as a group, elders appear to be healthy and active and report very few physical limitations. But at this point we don't have the data to attribute this good health to diet quality" (p227-288)

"Traditional food customs, which are practiced more in rural communities than in an urban setting, support the health and well being of Inupiaq Elders. Rural Inupiaq Elders reported higher intakes of Native foods, had stronger food sharing networks, and had higher family activity scores than did urban Elders. These factors seem to influence the overall well being of the rural Inupiaq Elders as demonstrated by higher physical functioning scores. Rural Elders also reported higher vitality scores and less pain, even though their mean ages were five years older than the urban Elders. Further, presence of a rural community support network provides harvested food regardless of the physical and mental abilities of the older Native individual. It has been said that when Elders are in the rural setting they are near 'people they know,' and it is a place 'where they can get their Native foods' (NRC 2005). (p.288)

Smith, Janell, Penelope Easton, Brian L. Saylor, Dennis Wiedman, and Jim LaBelle, Sr.

**2009 Harvested food customs and their influences on valuable functioning of Alaska Native elders.** Alaska Journal of Anthropology 7(1):99-119.

**ABSTRACT:** Valuable functioning, an empowered quality of life evident in Alaska Native communities, is influenced at least in part by a lifestyle dependent on fish, game, and plants harvested by the consumer. Elders play important roles in the transmission of knowledge and skills necessary for continuation of food harvesting customs, and through this process, elders feel valued and obtain quality of life. This paper examines how elders view their roles. Communities based on harvested foods have similar food cultural experiences even though land, location, language and tribal entities are different. The proposed model of food culture illustrates eight key constructs. Traditional Native foods are central and appear to be predicated on continued use, access, and participation in the procurement. The communities' continued inclusion of older adults is viewed as an indication of respect for elders and links villages to experiences of the past and provides a vehicle for the elders' achievement of valuable functioning, a component of quality of life.

**KEYWORDS:** Alaska Native; older adults; elders; health; diet; subsistence; food customs; elder

**NOTES:** "Consistently in testimony from all locations, be it rural or urban, the elders wanted greater access to Native foods and reported that they did not feel as well when they did not have it. The narrative data suggests that universally across all groups was the sense of purpose (and thus wellbeing) that came from the elders' involvement in being part of the harvested food culture. It was not only the act of eating fish, but also the planning prior to harvest, the actual harvest, and the processing and distribution of the harvest." (p.115)

Smith, Janell, Penelope S. Easton, and Brian L. Saylor

**2009 Inupiaq elders study: aspects of aging among male and female elders.** International Journal of Circumpolar Health 68(2):182-196.

**ABSTRACT:** Objectives. To determine if age and gender subsets of Inupiaq Elders living in urban and rural locations present different characteristics of self-reported health, physical and mental functioning, functioning of daily activities, body mass index, nutrient intake and food insecurity. Study design. Quantitative, comparative survey of 100 Inupiaq Elders, 52 living in 2 north-western Alaska communities, and 48 living in Anchorage. All participants were community-dwelling, non-institutionalized individuals. Methods. Surveys were one-to-one in an oral conversational format using tested instruments. Results. For all age groups, mean fat intake was 37%. Rural groups reported higher vitality scores. The most commonly reported physical limitation was walking. Rural males of 50–59 years reported the highest level of food insecurity, calorie intake and rates of smoking but also the highest SF-12 Mental Functioning Composite Scores (MCS) and Physical Functioning Scores (PCS). Of urban males 50–59, half reported hypertension, the highest percentage of all groups, and 41% reported eating less than 2 meals per day. Urban males >60 years reported the highest number of Activities of Daily Living (ADLs). Females 50–59 reported the highest self-reported health status and the lowest depression scores. Older rural women >60 years reported higher SF-12 MCS and SF-12 PCS than their urban cohorts, but reported the most Instrumental Activities of Daily Living (IADLs). Older urban women >60 years had the lowest mean calorie intake. Conclusions. Rural Inupiaq villages provide positive environments for aging well. Reinforcing and enhancing services to assist Native Elders in rural locations might enhance their quality of aging more so than moving them to urban communities.

**KEYWORDS:** Quality of aging; nutrition; food insecurity; Inupiaq; Alaska

**NOTES:** "In general, data indicate that Alaskan Inupiaq Elders are aging well and reporting few physical and mental problems. The data also suggest that Elders living in rural villages appear to be more satisfied with their lifestyles than their urban counterparts" (p.193). "Continued involvement in village activities that include the eating of protein-rich wild game and involvement in tribal government leadership roles may have resulted in higher life satisfaction scores for rural younger males and for older women. Cultural roles filled in rural Native communities may not be the same when individuals live in the urban setting of Anchorage. Elders living in urban communities may find themselves in a social structure with different goals; goals that may not be as supportive of Elders as those found in rural villages. The social relationships in urban communities are not well understood and should be examined in future studies" (p.193).

Smith, Janell, Paulette Johnson, Penelope Easton, Dennis Wiedman, and Emma G. Widmark

**2008 Food Customs of Alaska Women of Childbearing Age: The Alaska WIC Healthy Moms Survey.** Ecology of Food and Nutrition 47(6):485 - 517.

**ABSTRACT:** A survey of 60 rural, 62 urban Alaska women (64% Alaska Native) indicated positive dietary and lifestyle habits. Diets were characterized by boiled meats, high intakes of omega-3 fish, sea mammals and few desserts. Food insecurity reported by 39% rural and 7% of urban. Hunger was reported by 16% of rural and 5% of urban women. Traditional activities were

walking, harvesting fish and picking berries. One third of calories came from non-traditional sugared and fruit juice beverages. Few respondents reported chronic diseases. Nutrition and health educational interventions in Alaska Native communities should reinforce existing positive lifestyle habits, involve Elders and tribal leaders, and incorporate Native values, customs and traditions.

**KEYWORDS:**

**NOTES:**

Smith, Melanie A., Quinn Smith, Julie Morse, Alan Baldivieso, and Doug Tosa

**2010 Arctic marine synthesis: Atlas of the Chukchi and Beaufort Seas:** Audubon Alaska in cooperation with Oceana.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Smith, Thomas G., and Harold Wright

**1989 Economic status and role of hunters in a modern Inuit village.** Polar Record 25(153):93-98.

**ABSTRACT:** The cash revenues and imputed incomes from country food harvests were calculated from interviews with eight full-time hunting and ten wage-earning Inuit for 1984 at Holman, Northwest Territories. Using a substitution value of Can\$10.56/kg (\$4.79/lb) for country food harvests, the combined income (cash + imputed food value) of the two groups was very similar. Full-time hunters produced country food at \$1.01/kg (\$0.46/lb). while wage earners spent \$5.7 l/kg (\$2.59/lb) on their harvest. Full-time hunters harvested surpluses of food which would feed another four people outside their immediate family. Wage earners ended the year with almost twice the cash balance of full-time hunters, whose main monetary revenue comes from guiding trophy hunters. The precarious cash economy of the full-time hunters who provide a significant part of the food for the village should be a subject of concern and attention when considering the future well-being of the northern economy.

**KEYWORDS:** cash, mixed economy, Holman, Northwest Territories

**NOTES:**

Smith, Valene L.

**Intercontinental aboriginal trade in the Bering Straits area.** Economic Studies:236-23.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Smith, Valene L.

**1964 Kotzebue: A Modern Eskimo Community,** University of Utah.

**ABSTRACT:** Kotzebue; Eskimo; kinship;

**KEYWORDS:**

**NOTES:**

Smith, Valene L.

**1989 Hosts and guests: The anthropology of tourism:** University of Pennsylvania Press.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Smythe, Charles W.



**1988 Harvest and use of fish and wildlife resources by residents of Petersburg, Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes and analyzes the hunting and fishing activities of Petersburg residents, employing a formal survey, focused discussions with selected individuals from the community, and secondary data resources. The report provides a summary of community history and historical patterns of resource uses, recent publication trends, a profile of the local economy, and a description of resource harvest activities based on harvest participation rates and annual harvest rates for all resources shared and acquired during a 1-year period 1986-1987. Maps of harvest areas are included.

**KEYWORDS:**

**NOTES:**

Smythe, Charles W., Rosita Worl, Steven J. Langdon, Thomas D. Lonner, and Taylor Brelsford

**1985 Monitoring Methodology and Analysis of North Slope Institutional Response and Change, 1979-1983.** Anchorage: U.S. Department of the Interior, Minerals Management Service, Alaska OCS Region.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** The purpose of this project is to analyze institutional development and change within the North Slope region from 1979 to 1983 and to design a methodology for monitoring sociocultural change on the North Slope. Implicit in both components is the examination of recent culture change and institutional development in response to the effects of federal oil and gas leasing on the Outer Continental Shelf (OCS). This project was designed as the first phase of an ongoing sociocultural monitoring research project. The objective of the sociocultural monitoring methodology is to develop a standardized approach to track OCS effects for use by the leasing agency, Minerals Management Service (MMS).

Sobelman, Sandra S.

**1984 Background paper on subsistence salmon fishery, Inmachuk River, Deering.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** The northern Seward Peninsula community of Deering (pop. 150) requested a study of the feasibility of a commercial Pacific salmon fishery in 1982. An experimental commercial fishery in 1974-1975 found that insufficient local salmon stocks existed to create a permanent fishery. Research in 1983 found that households used 10-20 chum salmon, 10-100 coho salmon, and 5-40 pink salmon for subsistence annually. Set gillnets, and occasionally seines, were used to harvest fish. Preservation methods included drying, salting, smoking, freezing, canning, and fermenting.

**KEYWORDS:** Arctic Region, subsistence salmon fishery, Inmachuk River, Seward Peninsula, Deering, commercial salmon fishery, chum salmon, *Oncorhynchus keta*, coho salmon, silver salmon, *Oncorhynchus kisutch*, pink salmon, *Oncorhynchus gorbuscha*, set gillnets, seines,

**NOTES:**

Sobelman, Sandra S.

**1985 The economics of wild resource use in Shishmaref, Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** The relationship between subsistence and wage labor was examined at Shishmaref (pop. 425) in 1982 and 1983. Over 35 varieties of fish, wildlife, and plants were found to be harvested at regular times throughout the year. A structured interview with a 55% sample of community households found that marine mammals, especially bearded seal, were highly sought after. People balanced employment opportunities with subsistence hunting when

local jobs were available. Maps of subsistence land and sea use areas revealed that, in 1982, people utilized the Northern Seward Peninsula area inland up to 40 miles, and offshore up to 50 miles, to harvest wild resources. Achieving and maintaining economic security was accomplished through community-wide sharing networks, flexibility in resource activities, transmission of knowledge about geographic areas, and efficiency in patterns of resource procurement and processing.

**KEYWORDS:** Arctic Region, Shishmaref, marine mammals, bearded seal, *Erignathus barbatus*, Seward Peninsula, subsistence sharing networks, transmission of traditional knowledge, traditional patterns of resource procurement, subsistence wage labor.

**NOTES:**

Soja, Amber J., Nadezda M. Tchebakova, Nancy H. F. French, Michael D. Flannigan, Herman H. Shugart, Brian J. Stocks, Anatoly I. Sukhinin, E. I. Parfenova, F. Stuart Chapin Iii, and Jr Paul W. Stackhouse

**2007 Climate-induced boreal forest change: Predictions versus current observations.** Global and Planetary Change 56(3-4):274-296.

**ABSTRACT:**

**KEYWORDS:** climate change evidence; fire; infestation disturbance; treeline progression; boreal; montane

**NOTES:** doi: DOI: 10.1016/j.gloplacha.2006.07.028

Sonnenfeld, Joseph

**2002 Social dimensions of geographic disorientation in Arctic Alaska.** Etudes/Inuit Studies 26(2):157-173.

**ABSTRACT:** Une récente étude sur les techniques d'orientation utilisées par les Inupiat résidant dans les communautés de Barrow, Wainwright et Anaktuvuk Pass, suggère que les épisodes de désorientation se sont accrus depuis les récentes décennies et ce, malgré l'accès aux cartes, compas, et autres aides pour la navigation et l'orientation. Un modèle général centré sur l'environnement et les sources cognitives de désorientation est présenté afin de comprendre cette apparente détérioration des compétences des Inupiat en matière de voyage. Certaines des conséquences sociales de la désorientation sont aussi discutées, incluant: a) la réaction de la communauté vis-à-vis des individus qui se perdent et b) la résolution de conflits ayant rapport à l'espace durant les voyages en groupe. Finalement, des questions sont soulevées concernant la nature des «savoirs traditionnels» et de leur rôle dans le système d'orientation des Inupiat. A recent study of the wayfinding techniques employed by Inupiat residing in the communities of Barrow, Wainwright, and Anaktuvuk Pass, suggests that the incidence of disorientation episodes has increased in recent decades, despite easier access to maps and compasses and other aids to navigation and wayfinding. A general model, which focuses on the environmental and cognitive sources of disorientation, is introduced to help understand this apparent deterioration in Inupiat travel skills. Some social consequences of disorientation are also discussed, including: (a) the community reaction to individuals who get lost; and (b) resolution of spatial conflicts during group travel. Finally, questions are raised concerning the nature of "traditional knowledge," and its role in the Inupiat wayfinding system.

**KEYWORDS:**

**NOTES:**

Soong, Joyce, Scott Kent, and Jim Menard

**2008 2006 annual management report: Norton Sound, Port Clarence, and Kotzebue.** Pp. 199. Anchorage: Alaska Department of Fish and Game, Fishery Management Report No. 08-32.

**ABSTRACT:**

**KEYWORDS:****NOTES:**

Spray, Zona

**2002** **Alaska's Vanishing Arctic Cuisine.** Gastronomica 2(1):30-40.

**ABSTRACT:****KEYWORDS:****NOTES:**

Springer, Alan M.

**1984** **Report of a trip to St. Lawrence Island, 22-24 August 1984.** Pp. 1-4. Anchorage, Alaska: U.S. Fish and Wildlife Service, Office of Biological Service.

**ABSTRACT:****KEYWORDS:****NOTES:**

Sprott, JE

**2002** **Raising young children in an Alaskan Iñupiaq village: the family, cultural, and village environment of rearing:** Praeger Pub Text.

**ABSTRACT:****KEYWORDS:****NOTES:**

Sprott, Julie E.

**1994** **One person's "spoiling" is another's freedom to become: Overcoming ethnocentric views about parental control.** Social Science & Medicine 38(8):1111-1124.

**ABSTRACT:** Gaining cultural self-awareness by health and human services professionals in areas that are bastions of conservatism like childrearing is particularly difficult to achieve. It is argued that polarized ideas about parental control dominate the Anglo Dominant Culture's value orientations, reflected in both popular and scientific literature. Parental permissiveness is cast into an opposing category of "noncontrol," imbuing it with negativism. Prejudice against Eskimo childrearing is examined in that context and a method is offered to "loosen" the grip of Anglo beliefs about parenting.

**KEYWORDS:** culture; childrearing; Eskimos; ethnocentrism

**NOTES:**

Sprott, Julie E.

**1994** **"Symbolic Ethnicity" and Alaska Natives of mixed ancestry living in Anchorage: Enduring group or a sign of impending assimilation?** Human Organization 53(4):311-322.

**ABSTRACT:** Although significant intermingling of Alaska Natives with "outsiders" has occurred since Russian colonization from the mid-1700s, relatively little literature addresses the effect of population admixture on ethnic identity of Alaska's indigenous people. The straight-line theory of assimilation purports that intermarriage and loss of mother tongue herald the demise of a distinct socio-cultural group. Loss of usage of most of Alaska's Native languages and the high rate of Native-non-Native intermarriage, particularly following World War 11, conform to conditions suggestive of assimilation. The dearth of research on this subject in urban Alaska seems to point to tacit agreement with the straight-line theory by social scientists. This article juxtaposes content areas for inquiry from two recent studies of ethnicity with data from a pilot study of 12 Alaska Natives in Anchorage to provide a broader context for the study's results and as a means to ponder more fruitful areas for future research. The Anchorage data revealed scant content on specific Native traditions or customs, but indicated the presence of many aspects of "symbolic" culture and social affiliation, resonant with Keefe's (1992) view that such features reflect the tenacity of ethnic groups rather than signaling their end.

**KEYWORDS:** Alaska Natives, ethnicity, population admixture

**NOTES:**

Sprott, Julie E.

**1999 Institutionalizing Love: The Nuniaq-ing Custom among Alaskan Iñupiat.** Arctic 52(2):152-159.

**ABSTRACT:** Nuniaq-ing young children is a distinctive Iñupiaq childrearing custom that survives to this day. It concerns a kind of stereotyped cooing and singsong phrases directed by adults to infants and young children, and it appears to cement ties of particular kin to particular children. For example, parents use terms denoting the possessive form, paniin "my daughter" and igñiin "my son," to mark a special closeness to one child or another. Naming practices also have significant bearing on applications of the custom. Though seemingly trivial and largely playful on the surface, nuniaq-ing serves to lay the foundation for forging affectionate relationships throughout the life span.

**KEYWORDS:**

**NOTES:**

SPSS Inc.

**2008 SPSS for Windows.** Chicago: SPSS Inc.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Ståhlberg, Sabira, and Ingvar Svanberg

**2010 Gathering Food from Rodent Nests in Siberia.** Journal of Ethnobiology 30(2):184-202.

**ABSTRACT:**

**KEYWORDS:** root, vole

**NOTES:**

Ståhlberg, Sabira, and Ingvar Svanberg

**2010 Gathering Food from Rodent Nests in Siberia.** Journal of Ethnobiology 30(2):184-202.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Staley, D. P.

**1993 St. Lawrence island's subsistence diggers: a new perspective on human effects on archaeological sites.** Journal of field archaeology 20:347-55.

**ABSTRACT:**

**KEYWORDS:** Descriptor: Yupik

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Cultural resource management

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Stanek, Ronald T.

**1981 Nelchina Caribou user group assessment.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report presents an analysis of data from postal surveys and household interviews concerning the harvest and uses of caribou in the Copper River Basin area. Data on the characteristics of user groups and their hunting patterns are presented.

**KEYWORDS:**

**NOTES:**

Stanek, Ronald T.

**1981 Preliminary harvest data: Port Graham/English Bay subsistence set net fishery.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report presents an analysis of data from 1981 subsistence catch calendars from English Bay and Port Graham. Five Pacific salmon species were the focus, but other species used as subsistence foods were also recorded.

**KEYWORDS:**

**NOTES:**

Stanek, Ronald T.

**1981 Subsistence fishery permit survey Cook Inlet–1980.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report provides information on the characteristics of Cook Inlet subsistence fishery permit holders. Various demographic and socioeconomic data are discussed, along with information on harvests and uses.

**KEYWORDS:**

**NOTES:**

Stanek, Ronald T.

**1981 Supplemental notes: Copper River subsistence fisheries 1979 and 1980.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report contains graphs and tables displaying social and economic conditions of the users of the Copper River Basin fish and game resources. Included are data about the place of residence of permit holders, gross annual income, number of people in the household, and number of salmon used per household.

**KEYWORDS:**

**NOTES:**

Stanek, Ronald T.

**1982 Natural resource harvests at Port Graham and English Bay, 1982: an interim report.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes the annual round of resource uses in the communities of Port Graham and English Bay, and presents 37 species or resource categories harvested for subsistence purposes. The subsistence harvest and uses of Pacific salmon, and the differences in harvest levels between the communities and over time, are discussed.

**KEYWORDS:**

**NOTES:**

Stanek, Ronald T.

**1982 Subsistence shellfish use in three Cook Inlet villages, 1981: a preliminary report.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This preliminary report summarizes the currently-available information on historical and contemporary noncommercial uses of shellfish by the residents of the communities of Tyonek, English Bay, and Port Graham. Harvest methods, quantities, uses, and distribution information are also included.

**KEYWORDS:**

**NOTES:**

Stanek, Ronald T.

**1985 Patterns of wild resource use in English Bay and Port Graham, Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** The report provides detailed information on subsistence fishing, hunting, and gathering in the Lower Cook Inlet communities of English Bay and Port Graham. It is based on research conducted from 1980-1985. Included are discussions of the seasonal round of resource harvests, harvest quantities, harvest methods, processing techniques, and resource distribution and exchange. The report contains maps of areas currently used by the two communities for subsistence harvests. In addition to describing contemporary wild resource uses, the report surveys historical hunting and fishing technologies in the two communities.

**KEYWORDS:**

**NOTES:**

Stanek, Ronald T.

**1986 Historical and contemporary trapping in the Western Susitna Basin.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** The report describes harvest patterns of wild resource uses by the residents of the Alexander Creek and Yentna River areas of Southcentral Alaska. It traces the historical development of fur trapping in this region, and discusses the role of trapping in the economy of these areas in the 1980s. Included are maps of harvest areas, harvest estimates, and a detailed view of the activities of 28 trapping households.

**KEYWORDS:**

**NOTES:**

Stanek, Ronald T.

**1994 The subsistence use of beluga whale in Cook Inlet by Alaska Natives, 1993.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes the subsistence uses of beluga whales by Alaska Natives in the Cook Inlet area of Southcentral Alaska. Information derives from interviews with beluga whale hunters by the ADF&G Division of Subsistence in 1987-1990 and 1993. The report was done in consultation with the Alaska and Inuvialuit Beluga Whale Committee, with 1993 funding from the National Marine Fisheries Service. As described in the report, beluga have been hunted for subsistence uses in Cook Inlet since before historical contact and continuing into the contemporary period.

**KEYWORDS:**

**NOTES:**

Stanek, Ronald T., and Daniel J. Foster

**1980 Tyonek king salmon subsistence fishery: 1980 activities report.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This reports studies the newly-opened Tyonek subsistence fishery. Harvest methods and quantities, as well as resource processing, uses, and distribution networks are discussed.

**KEYWORDS:**

**NOTES:**

Stanek, Ronald T., Dan J. Foster, and James A. Fall

**1988 The harvest and use of fish, game, and plant resources by the residents of Chase, Gold Creek-Chulitna, and Hurricane-Broad Pass, Southcentral Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report summarizes the results of the 1987 ADF&G Division of Subsistence research in 3 study areas in the Matanuska-Susitna Borough: Chase, Gold Creek-Chulitna, and Hurricane-Broad Pass. The report also contains information on species used, seasonal round of harvest activities, harvest areas, harvest quantities, and levels of participation in harvest and use of wild fish, game, and plants for the 1986 study year. Also reported is information on wage employment and other monetary incomes. The research documented similar resource harvest and use patterns in the 3 study areas.

**KEYWORDS:**

**NOTES:**

Stanek, Ronald T., Davin L. Holen, and Crystal Wassillie

**2007 Harvests and uses of wild resources in Tyonek and Beluga, Alaska, 2005-2006.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** The report describes patterns in the harvest and uses of fish, land and marine mammals, birds, and wild plants by the residents of Tyonek and Beluga, 2 communities on the western shore of Cook Inlet in Southcentral Alaska. It updates baseline information first documented in the 1980s. ADF&G Division of Subsistence conducted the research under contract to Stephen R. Braund and Associates. The information will be used in future National Environmental Policy Act permitting evaluations, among other processes, related to the potential development of the PacRim Coal Chulitna Coal Project. The primary data gathering methods were systematic household harvest surveys, which included a mapping component for the study years' harvest and use areas. Seventy-one percent of all year-round households were interviewed in Tyonek, as were 93% in Beluga.

**KEYWORDS:** Tyonek, Beluga, subsistence fishing, subsistence hunting, subsistence gathering, marine mammals, PacRim Coal, Chulitna coal project

**NOTES:**

Stankowich, Theodore

**2008 Ungulate flight responses to human disturbance: A review and meta-analysis.** Biological Conservation 141(9):2159-2173.

**ABSTRACT:** As human recreation in natural areas increases, so does the potential for disturbance to wildlife, and many factors (environmental, disturbance type, experience with humans) influence the impact of disturbance. However, there exists no comprehensive examination of the effects of human disturbance on ungulate escape responses. I conducted a comprehensive review of studies measuring Artiodactyl escape responses (e.g., flight initiation distance, distance moved) to experimental harassment by humans and vehicles, and meta-analyses aimed at predictive questions about the impact of human disturbance on ungulate behavior under an optimization framework. I found evidence across studies that ungulates pay attention to approacher behavior, have greater perceptions of risk when disturbed in open habitats, and females or groups with young offspring show greater flight responses than adult groups. Increased group size and the presence of hunting showed weak but positive

heterogeneous effects on flight behavior both between and within species. Humans on foot were more evocative than other stimuli (vehicles, noises). Populations in areas with higher levels of human traffic showed reduced wariness but a lack of alternative sites to move to may explain some of this effect. Hunted populations showed significantly greater flight responses than non-hunted populations. Finally, I suggest five factors to consider when forming predictive models of ungulate flight behavior: (1) how seasonal variation in reproductive status and body condition effects wariness, (2) the relative impacts of lethal and non-lethal human contact, and (3) unique natural history traits that may cause differences in flight behavior between populations, (4) the availability of alternative sites, and (5) shorter distances between feeding sites and refugia can reduce the impact of other factors on flight responses.

**KEYWORDS:** Flight initiation distance

Escape behavior  
Artiodactyla  
Group size  
Hunting  
Habituation  
Management

**NOTES:**

Starkey, L. J., K. Gray-Donald, and H. V. Kuhnlein

**1999 Nutrient intake of food bank users is related to frequency of food bank use, household size, smoking, education and country of birth.** *Journal of Nutrition* 129(4):883-889.

**ABSTRACT:** The number of individuals and families accessing food assistance programs has continued to grow throughout the 1990s. Despite the increased health risk among low-income people, few studies have addressed nutrient intake throughout the month or at the end of the month when food and financial resources are thought to be compromised, and no study has described dietary status of a random sample of food bank users. Nutrient intakes of adult female and male food bank users in metropolitan Montreal, Quebec, Canada, were monitored week-by-week over a month by dietitian-administered 24-h recall interviews. A total of 428 participants from a stratified random sample of 57 urban area food banks completed all four interviews. Mean energy intake, as an indicator of diet quantity, was similar to other adult populations (10.2 +/- 4.8 and 7.9 +/- 3.6 MJ for men and women, respectively, age 18-49 y) and not related to sociodemographic variables except the expected biological variation of age and sex. Macronutrient intake was stable throughout the month. Overall median intakes of calcium, vitamin A, and zinc were below recommended levels for all age and sex groups. Intakes of several micronutrients were related to frequency of food bank use, household size, smoking, education, and country of birth. High nutrient intake variability characterized these adult food bank users.

**KEYWORDS:**

**NOTES:** Times Cited: 16

Starks, Zona Spray

**2007 Arctic foodways and contemporary cuisine.** *Gastronomica* 7(1):41-49.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Starratt, Patricia

**1986 How IWC sets Alaska whaling quotas.** *In Tundra Times*. Pp. 8-11.

**ABSTRACT:**

**KEYWORDS:**



**NOTES:**

Steele, Melita Z., and Charlie M. Shackleton

**2010 Using local experts as benchmarks for household local ecological knowledge: Scoring in South African savannas.** *Journal of Environmental Management* 91(8):1641-1646.

**ABSTRACT:** It is well recognised that local ecological knowledge is an important facet of natural resource management in rural regions of the developing world. However, techniques to assess levels and to integrate it into formal or informal management approaches require further development. In particular, quantitative tools are missing, which would allow more robust analysis of the factors that positively or negatively affect local ecological knowledge and vice versa. This paper reports on a quick assessment approach that provides a quantitative score of generalist local ecological knowledge at the household level. It does so by comparing responses to the knowledge of local people identified as experts within the community. In this way it is both locally constructed and contextualized, and thereby avoids pitfalls of trying to score local ecological knowledge relative to conventional scientific knowledge which frequently cannot account for local constructs. The approach is applied at eight villages throughout the savanna biome in South Africa.

**KEYWORDS:** experts, local ecological knowledge, savanna, scoring, South Africa

**NOTES:**

Stefansson, Vilhjalmur

**1958 Eskimo Longevity in Northern Alaska.** *Science* 127(3288):16-19.

**ABSTRACT:****KEYWORDS:****NOTES:**

Stekoll, Michael S., William W. Smoker, Barbi J. Failor-Rounds, Ivan A. Wang, and Valerie J. Joyce

**2009 Response of the early developmental stages of hatchery reared salmonids to major ions in a simulated mine effluent.** *Aquaculture* 298(1-2):172-181.

**ABSTRACT:** In response to a potential revision by the state of Alaska to increase discharge limits for total dissolved solids (TDS) in the mining industry, we studied various life stages of hatchery reared salmonids exposed to the major ions in a simulated mine effluent at concentrations of salts up to 2500 mg l<sup>-1</sup>. Effects depended on the developmental stage and the exposure period. For short term (24- to 96-h) exposures the fertilization stage was most sensitive. Fertilization success was reduced with TDS as low as 250 mg l<sup>-1</sup>. A two-minute exposure to elevated TDS during fertilization was long enough to have deleterious effects on both fertilization success and later development. Embryos exposed to the simulated mine effluent continuously from just after fertilization through to swim-up had high post-hatch mortalities. Thus there may be at least two separate mechanisms of toxicity: an acute response at the moment of fertilization, resulting in low fertilization success, and a response to long-term exposure through swim-up, manifested by mortalities at the alevin stage. Sensitivity to dissolved salts with respect to fertilization success varied among different species of salmonids. Chinook, pink, and coho salmon were most sensitive, and Arctic charr were least sensitive to elevated salts. Specific ion tests indicated that Ca<sup>2+</sup> was a major contributor to decreased fertilization. We suggest that the current Alaska water quality standards of 1000 mg l<sup>-1</sup> for TDS should not be increased and may be too high for some species. In addition, salmonid fertilization trials may be an appropriate, relatively quick, assay for setting site-specific TDS contamination discharge limits.

**KEYWORDS:** Alaska

Calcium  
Potassium  
Salmonid

Site-specific assay  
Total dissolved solids

**NOTES:**

Stephen R. Braund & Associates, and Institute of Social & Economic Research

**1993 North Slope Subsistence Study: Barrow 1987, 1988, 1989.** Anchorage, Alaska: U.S. Department of the Interior, Minerals Management Service.

**ABSTRACT:** The report presents the findings from a three-year study to investigate the subsistence harvest, use and geographic base of the community of Barrow over time.

**KEYWORDS:**

**NOTES:**

Stephen R. Braund & Associates, and Institute of Social & Economic Research

**1993 North Slope Subsistence Study: Wainwright 1988 and 1989.** Anchorage, Alaska: U.S. Department of the Interior, Minerals Management Service.

**ABSTRACT:** The report presents the findings from a two-year study to investigate the subsistence harvest, use and geographic base of the community of Wainwright over time.

**KEYWORDS:**

**NOTES:**

Stern, Pamela

**2005 Wage Labor, Housing Policy, and the Nucleation of Inuit Households.** Arctic anthropology 42(2):66-81.

**ABSTRACT:** Public policy practices in the Canadian North, particularly those connected to housing and employment, are encouraging a reorganization of Inuit social organization to more closely resemble the insular and independent nuclear family household idealized by Eurocanadians. This has wide-ranging implications for the social stability of northern communities without sufficient employment opportunities. The paper examines the symbolic and structural effects of housing policies and employment on culturally valued social practices such as sharing in Holman, a community in the Inuvialuit Settlement Region of the Northwest Territories of Canada.

**KEYWORDS:** social organization, household, nuclear family, housing policy, sharing

**NOTES:** "It is my contention that for Inuit, historically and still today, even for those maintaining nuclear family households, the contours of household and kinship are distinct. The distinction between household and kinship persists despite Inuit acceptance of a cash and wage-based economy and other institutions of the modern nation state. Yet, a number of alien institutions of modernity work against the persistence of Inuit social relations. Two in particular, wage labor and subsidized housing, favor a Eurocanadian model of the nuclear family household as self-sufficient and isolated." (p. 66-67)

"There is a large ethnographic literature that documents Inuit exchanges of game (Bodenhorn 1989; Collings et al. 1998; Condon et al. 1995; Dahl 2000; Damas 1972; Hovelrud-Broda 2000; Kishigami 2000; Nuttall 2000; Remie 1984; Wenzel 1981, 1995, 2000, for example); yet **none of the authors** in the preceding list address **exchanges unrelated to subsistence hunting**. This bias in the literature fixing Inuit sharing to subsistence activities strikes me as an error of omission rather than one of commission. (p. 67)

"The transition to a cash-based wage labor and state welfare economy has complicated sharing and placed the cultural values for sharing in tension with modernist desires for individual accumulation and self-determination. The source of this tension is not solely the penetration of

cash into the economy. Rather, I believe the source is to be found in the way that administrative practices, especially those surrounding housing and employment, have favored nuclear family households and have, at the same time, made disparity between households appear to be the natural consequences of individual actions." (p.70)

**"The transition to wage labor has been accompanied by policies and practices that encourage Inuit households to think of themselves as socially and economically independent units. This is where I see the biggest threat to sharing and to the social stability of northern communities.** Wage-earning, home-owning nuclear family households may not have to cut themselves off from traditional sharing networks, but for some it becomes easier to do so than to accede to constant requests for assistance from needy kin. In the past, sharing was structurally accommodated by living arrangements that enabled people to keep tabs on the fortunes and misfortunes of others. This is no longer the case; not only because modern houses afford more privacy to occupants, but also because information about earnings, expenses, and obligations is not public information." (p 78)

Stern, Richard O.

**Kotzebue streets and Northwest Alaska overview.** 119-185.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** The Kotzebue Streets project involves the widening and resurfacing of several streets in Kotzebue, Alaska. Kotzebue and Nome are the two largest communities in northwest Alaska, serving as transportation hubs, and service and supply centers for the surrounding rural areas. The detailed plans for the Kotzebue Streets projects have not been completed; preliminary plans call for work to be done on Shore Avenue (locally referred to as Front Street) between the old Drift Inn and Minerva Street, on Minerva Street, Whittier Street, and Ptarmigan Way. In addition, upgrading of Third Avenue is planned. No material sources had been identified for use, and no rights-of-way acquisitions done at the time of the field survey.

Stetson, Marguerite

**1981 Comparison of eating habits of various socio-economic groups in Alaska.** *In* Alaska Science Conference 1981. Pp. 1-11.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Stevens, Stan

**2010 Mark Dowie: Conservation Refugees: the Hundred- Year Conflict Between Global Conservation and Native Peoples.** *Human Ecology* 38(3):459-461.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** Times Cited: 0

Stewart, Robert Laird

**1908 Sheldon Jackson: Pathfinder and prospector of the missionary vanguard in the Rocky Mountains and Alaska.** 7-415.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Stickney, Alice A.

**1980 Middle Kuskokwim food resources survey: status report.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report contains a proposal for continued research into the availability and uses of subsistence food resources in eight villages situated along the Middle Kuskokwim River between Stony River and Lower Kalskag. Changes in methodologies from previous studies are recommended and outlined.

**KEYWORDS:**

**NOTES:**

Stickney, Alice A.

**1980 Report on the survey conducted in Tyonek 1980.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** To assess the need for a permitted subsistence fishery in Upper Cook Inlet, a survey was conducted in Tyonek during the winter of 1980-1981. Results of the survey are presented, as are socioeconomic and demographic data and resource harvest and use information.

**KEYWORDS:**

**NOTES:**

Stickney, Alice A.

**1980 Subsistence resource utilization: Nikolai and Telida—interim report.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report summarizes preliminary research efforts on subsistence activities in the Upper Kuskokwim villages of Nikolai and Telida. Brief community profiles are followed by an overview of fishing, hunting, trapping, and gathering activities in each village. General village land use maps of subsistence activities are included.

**KEYWORDS:**

**NOTES:**

Stickney, Alice A.

**1981 Middle Kuskokwim food survey—II.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report presents an analysis of a food resource use survey conducted in eight villages situated along the Middle Kuskokwim River between Stony River and Lower Kalskag. Information on harvest, distribution, and use of resources is provided.

**KEYWORDS:**

**NOTES:**

Stickney, Alice A.

**1981 Subsistence resource utilization: Nikolai and Telida—interim report II.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report examines subsistence activities in the Upper Kuskokwim River communities of Nikolai and Telida. Moose and salmon utilization are highlighted. Moose hunting regulations for the area are reviewed and recommendations for regulatory changes are presented.

**KEYWORDS:**

**NOTES:**

Stickney, Alice A.

**1983 Coastal ecology and wild resource use in the Central Bering Sea Area—Hooper Bay and Kwigillingok.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report provides subsistence information for two coastal communities in the Yukon-Kuskokwim Delta: Hooper Bay and Kwigillingok. Information about the range and extent of subsistence activities, knowledge of the local environment, limitations posed by that environment, and ecological adaptations are presented. Demographic and socioeconomic descriptions of each community are provided.

**KEYWORDS:**

**NOTES:**

Stickney, Alice A., and Paul Cunningham

**1980 Report on the survey of permitholders in the Copper River subsistence fishery, 1979.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** A survey of all permit holders in the Copper River subsistence fishery was conducted in 1979. This report summarizes survey data on household characteristics of participants in the fishery. This information was used to delineate user group populations.

**KEYWORDS:**

**NOTES:**

Stokes, Jeff W.

**1982 Subsistence salmon fishing in the Upper Kuskokwim River system, 1981 and 1982.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report provides information on the Upper Kuskokwim River subsistence fishery, specifically examining the current subsistence salmon harvest by the residents of Nikolai and Telida. Data on salmon harvests by species, locations of harvest, and gear types are presented.

**KEYWORDS:**

**NOTES:**

Stokes, Jeff W.

**1983 Winter moose season in the Upper Kuskokwim Controlled Use Area, 1982 - 1983.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes the moose hunting and harvest levels of residents of Nikolai and Telida during the 1982-1983 winter season. Both communities are situated within the Upper Kuskokwim Controlled Use Area.

**KEYWORDS:**

**NOTES:**

Stokes, Jeff W.

**1985 Natural resource utilization of four Upper Kuskokwim communities.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report provides detailed information on subsistence activities by residents of Nikolai, Telida, Takotna, McGrath, and Lake Minchumina, primarily for the time period from statehood (1959) to the present. Economic, social, and cultural aspects of resource utilization are examined.

**KEYWORDS:**

**NOTES:**

Stokes, Jeff W., and Elizabeth F. Andrews

**1982 Subsistence hunting of moose in the Upper Kuskokwim Controlled Use Area, 1981.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** The Division of Subsistence was directed to monitor subsistence hunting of moose in the newly-established Upper Kuskokwim Controlled Use Area. This report describes local subsistence hunting effort, harvest, and use of moose by residents of Nikolai and Telida. Implications for hunting regulations are discussed.

**KEYWORDS:**

**NOTES:**

Stoney, George M.

**1900 Naval explorations in Alaska.** US Naval Institute Proceedings, September and December 1899 91:533-584.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Stottlemeyer, R.

**2001 Biogeochemistry of a treeline watershed, northwestern Alaska.** Journal of Environmental Quality 30(6):1990-1998.

**ABSTRACT:** Since 1950, mean annual temperatures in northwestern Alaska have increased. Change in forest floor and soil temperature or moisture could alter N mineralization rates, production of dissolved organic carbon (DOC) and organic nitrogen (DON), and their export to the aquatic ecosystem. In 1990, we began study of nutrient cycles in the 800-ha Asik watershed, located at treeline in the Noatak National Preserve, northwestern Alaska. This paper summarizes relationships between topographic aspect, soil temperature and moisture, inorganic and organic N pools, C pools, CO<sub>2</sub> efflux, growing season net N mineralization rates, and stream water chemistry. Forest floor (O<sub>2</sub>) C/N ratios, C pools, temperature, and moisture were greater on south aspects. More rapid melt of the soil active layer (zone of annual freeze-thaw) and permafrost accounted for the higher moisture. The O<sub>2</sub> C and N content were correlated with moisture, inorganic N pools, CO<sub>2</sub> efflux, and inversely with temperature. Inorganic N pools were correlated with temperature and CO<sub>2</sub> efflux. Net N mineralization rates were positive in early summer, and correlated with O<sub>2</sub> moisture, temperature, and C and N pools. Net nitrification rates were inversely correlated with moisture, total C and N. The CO<sub>2</sub> efflux increased with temperature and moisture, and was greater on south aspects. Stream ion concentrations declined and DOC increased with discharge. Stream inorganic nitrogen (DIN) output exceeded input by 70%. Alpine stream water nitrate (NO<sub>3</sub><sup>-</sup>) and DOC concentrations indicated substantial contributions to the watershed DIN and DOC budgets.

**KEYWORDS:**

**NOTES:** Times Cited: 11

Stout, Jordan H., Kimberly A. Trust, Jean F. Cochrane, Robert S. Suydam, and Lori T. Quakenbush

**2002 Environmental contaminants in four eider species from Alaska and arctic Russia.** Environmental Pollution 119(2):215-226.

**ABSTRACT:** Population declines in four species of eider; common (*Somateria mollissima*), king (*Somateria spectabilis*), spectacled (*Somateria fischeri*) and Steller's (*Polysticta stelleri*), have raised concerns about exposure to contaminants. Livers and kidney tissues were collected from eiders in Alaska and Russia for organic and elemental analyses. Results showed that organochlorine and many elemental levels were below toxic thresholds; however, in many cases, cadmium, copper, lead and selenium appeared high relative to other waterfowl and may warrant concern. With the exception of lead, local anthropogenic sources for these elements are not known. Although adverse physiological responses have not been documented in eiders, these four elements cannot be ruled out as contaminants of potential concern for some eider species.

**KEYWORDS:** Alaska

Contaminants  
Eider  
Heavy metals  
Seaducks

**NOTES:**

Stout, Jordan H., Kimberly A. Trust, Jean F. Cochrane, Robert S. Suydam, and Lori T. Quakenbush  
**2002 Environmental contaminants in four eider species from Alaska and arctic Russia.** Environmental Pollution 119(2):215-226.

**ABSTRACT:** Population declines in four species of eider; common (*Somateria mollissima*), king (*Somateria spectabilis*), spectacled (*Somateria fischeri*) and Steller's (*Polysticta stelleri*), have raised concerns about exposure to contaminants. Livers and kidney tissues were collected from eiders in Alaska and Russia for organic and elemental analyses. Results showed that organochlorine and many elemental levels were below toxic thresholds; however, in many cases, cadmium, copper, lead and selenium appeared high relative to other waterfowl and may warrant concern. With the exception of lead, local anthropogenic sources for these elements are not known. Although adverse physiological responses have not been documented in eiders, these four elements cannot be ruled out as contaminants of potential concern for some eider species.

**KEYWORDS:** Alaska

Contaminants  
Eider  
Heavy metals  
Seaducks

**NOTES:**

Stratton, Lee  
**1982 The dipnet and fishwheel fisheries of the Copper River, 1982.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report on the dip net and fishwheel fisheries on the Copper River describes the differing characteristics between local and nonlocal participants. Case histories of selected participants are included, which include harvest activities and various socioeconomic data. Descriptions of harvest and processing methods, areas used, and other related activities are documented.

**KEYWORDS:****NOTES:**

Stratton, Lee  
**1982 Patterns of use of the Nelchina Caribou Herd.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** In this report, the past and present uses of the Nelchina Caribou Herd are compared. An analysis of user groups and other factors related to caribou harvest are included.

**KEYWORDS:****NOTES:**

Stratton, Lee  
**1983 Copper Basin caribou use: a research update.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report presents demographic and socioeconomic information about participants in the three caribou permit hunts during 1982. This report is an update of a continuing study of the patterns of use of wild, renewable resources within the Copper River Basin.

**KEYWORDS:**

**NOTES:**

Stratton, Lee

**1989 Resource uses in Cordova, a coastal community of Southcentral Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** The use of resources by this Prince William Sound commercial fishing community of about 2,000 people is documented and described. Research conducted June 1984-April 1986 included a household survey of 24% of Cordova's households, as well as key respondent interviews. Household participation in resource harvesting, levels of harvest and use, sharing patterns, and harvesting activities are reported. Factors associated with high rates of household resource harvest included household heads residing in Cordova 5 or more years; involvement in commercial fisheries; and the use of airboats, airplanes, or boats equipped with outboard motors. The role that commercial fishing plays in the harvest and uses of resources for noncommercial consumption is also addressed.

**KEYWORDS:**

**NOTES:**

Stratton, Lee

**1990 Resource harvest and use in Tatitlek, Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report provides baseline subsistence information for the Prince William Sound village of Tatitlek, population 100. The results of 2 annual harvest surveys, conducted in April 1988 for the April 1987-March 1988 study year (1987) and in April 1989 for the April 1988-March 1990 study year (1988), are presented. Nineteen of 31 households participated the first year, reporting a per capita resource harvest of about 352 lbs. In the second year, 22 of 29 households were surveyed and harvested an estimated 644 lbs of resources per capita. The report also includes descriptions of past and present resource harvesting activities, derived from interviews with knowledgeable hunters and fishers.

**KEYWORDS:**

**NOTES:**

Stratton, Lee

**1992 Cordova: a 1988 update on resource harvests and uses.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** A survey was administered to approximately 100 households in Cordova in February 1989, covering the calendar year of 1988. This report updates the baseline data presented in Stratton 1989 (Technical Paper 153; Resource uses in Cordova: a coastal community of Southcentral Alaska).

**KEYWORDS:**

**NOTES:**

Stratton, Lee, and Evelyn B. Chisum

**1986 Resource use patterns in Chenega, Western Prince William Sound: Chenega in the 1960s and Chenega Bay 1984-1986.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** The village of Chenega in Western Prince William Sound was destroyed following the Great Alaska Earthquake of 1964, and was reestablished as Chenega Bay at a new site on



Evans Island in 1984. The report describes patterns of resource use in the early 1960s at Chenega, and compares these with harvest patterns of the newly-resettled population at Chenega Bay. It is based on data collected with former residents of the old village, as well as interviews with most Chenega Bay households. Estimates of harvest quantities, descriptions of seasonal rounds, and maps of harvest areas are included.

**KEYWORDS:**

**NOTES:**

Stratton, Lee, and Susan E. Georgette

**1984 Use of fish and game by communities in the Copper River Basin, Alaska: a report on a 1983 household survey.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes the results of a resource use survey conducted in 1983 with a sample of 431 households in 22 communities and sample areas in and adjacent to the Copper River Basin and Wrangell mountains. The data quantify wild resource harvests for each sample for a 12-month study period. Also included are descriptions of the region's history, demography, and economy. Several factors were found to shape community resource use patterns, including geographic location, hunting and fishing regulations, type and length of available wage employment, and the composition (number, ages, and genders) of households.

**KEYWORDS:**

**NOTES:**

Stratton, Lee, and Susan E. Georgette

**1985 Copper Basin resource use map index and methodology.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report summarizes the methodology used to map community resource use areas in the Copper River Basin, Southcentral Alaska, in 1983 and 1984. It also includes an index to the maps. These maps depict areas used between 1964-1984 for hunting, fishing, trapping, and gathering by 20 communities. Over 200 local hunters and fishers were interviewed during mapping sessions. The set of 113 maps are published at 1:250,000 scale and are available at offices of the Alaska Department of Fish and Game as part of the Southcentral Regional Habitat Management Guide.

**KEYWORDS:**

**NOTES:**

Streever, Bill

**2002 Science and Emotion, on Ice: The Role of Science on Alaska's North Slope.** Bioscience 52(2):179-184.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Strommer, Geoffrey D., and Stephen D. Osborne

**2005 Indian Country and the Nature and Scope of Tribal Self-Government in Alaska.** Alaska Law Review 22(1):1-34.

**ABSTRACT:** Today Alaska Native tribes face one of their most difficult challenges since the days of the Alaska Native Claims Settlement Act (ANCSA). Ever since the United States Supreme Court ruled in *Alaska v. Native Village of Venetie Tribal Government*, 522 U.S. 520 (1998), that ANCSA largely extinguished "Indian country" in Alaska, and thus the tribes' territorial jurisdiction, the extent of Alaska tribal sovereignty and authority has been shrouded in uncertainty. In the context of a vigorous debate in which the extent and perhaps the very survival of Alaska tribal sovereignty is at stake, this Article offers: (1) an analysis of Alaska tribes' current jurisdiction, including areas of uncertainty due to their unique status as "sovereigns without

territorial reach"; and (2) a range of proposals designed to resolve those uncertainties and anomalies by at least partially restoring the "Indian country" status of, and thus tribal territorial jurisdiction over, some tribal lands in Alaska. Using rural justice and law enforcement as a central example, the authors demonstrate that restoring Indian country to Alaska would promote numerous public policy objectives, benefiting both the tribes and the State.

**KEYWORDS:**

**NOTES:**

Stuckenberg, A. Nicole

**2006 Sociality, temporality and locality in a contemporary Inuit community.** *Etudes/Inuit Studies* 30(2):95-111.

**ABSTRACT:** Mauss (1906) a suggéré qu'un des principes de la société inuit veuille que la dichotomie sociale saisonnière se traduise par des mouvements de la population, d'après la migration annuelle du gibier, soit par la concentration ou par la dispersion en petits groupes familiaux. Il supposait que ces mouvements et les différents modes sociaux ainsi créés sont indissociables quelles que soient les dimensions temporelles, spatiales, sociales, morales, légales et spirituelles dans la construction de la société nomade inuit. Au milieu du 20<sup>e</sup> siècle, la distribution de la population inuit a radicalement changé. Les groupes inuit se sont établis de façon permanente suivant le mode de vie sédentaire occidental. Est-ce que dans ces conditions sociales et physiques, le mouvement et les variations saisonnières de la composition en groupe, ainsi que les modes de vie, restent l'élément clef de la société inuit? Les données ethnographiques de Qikiqtarjuaq suggèrent que les Inuit intègrent des façons de vivre modernes à un style de vie nomade créant, comme dans le modèle de Mauss, une continuation de la variation des modes de vie et des valeurs selon les contextes. Cet article vise à justifier et élaborer l'affirmation de la continuité. Il se sert du modèle de Mauss comme moyen heuristique pour étudier le changement social concernant l'association des pratiques et des perceptions du mouvement saisonnier dans la société inuit de nos jours. Ainsi, est-ce que les modes sociaux et les valeurs associées varient saisonnièrement dans la construction de la communauté inuit aujourd'hui? Mauss (1906) suggested that, as a principle of Inuit society, the seasonal societal dichotomy takes shape in movements of population concentration and dispersal into small family groups following the annual migration of game. He argued that these movements and the various social modes thus created inseparably connect temporal, spatial, social, moral, legal, and spiritual dimensions in the construction of Inuit nomadic society. In the mid 20 century, the mass and density of Inuit settlement population changed drastically. Inuit groups moved to permanent settlements that were developed and structurally based on Western models of sedentary community life. Under these changed social and physical conditions, does movement and seasonal variations in group composition, and in ways of life, continue to be a central component of Inuit society? Ethnographic evidence from Qikiqtarjuaq (Nunavut) suggests that Inuit integrate modern ways of life into a nomadic lifestyle thus creating, in analogy to Mauss's model, a continuation of variation in lifestyles and values depending on contexts. This article aims to substantiate and elaborate on this claim of continuity. It makes use of Mauss's model as a heuristic lens for studying social change in respect to the association of practices and perceptions of seasonal movement in present day Inuit society; thus asking the question: are seasonally varying social modes and associated values part of today's Inuit community constitution?

**KEYWORDS:**

**NOTES:**

Stuff, Janice E., Patrick H. Casey, Kitty L. Szeto, Jeffrey M. Gossett, James M. Robbins, Pippa M. Simpson, Carol Connell, and Margaret L. Bogle

**2004 Household Food Insecurity Is Associated with Adult Health Status.** *Journal of Nutrition* 134(9):2330-2335.

**ABSTRACT:** The prevalence of household food security, which reflects adequacy and stability of the food supply, has been measured periodically in the United States and occasionally in high-risk groups or specific regions. Despite a plausible biological mechanism to suggest negative health outcomes of food insecurity, this relation has not been adequately evaluated. This study was conducted in the Lower Mississippi Delta region to examine the association between household food insecurity and self-reported health status in adults. A two-stage stratified cluster sample representative of the population in 36 counties in the Delta region of Arkansas, Louisiana, and Mississippi was selected using list-assisted random digit dialing telephone methodology. After households were selected and screened, a randomly selected adult was interviewed within each sampled household. Data were collected to measure food security status and self-reported mental, physical, and general health status, using the U.S. Food Security Survey Module and the Short Form 12-item Health Survey (SF-12). Data were reported on a sample of 1488 households. Adults in food-insecure households were significantly more likely to rate their health as poor/fair and scored significantly lower on the physical and mental health scales of the SF-12. In regression models controlling for income, gender, and ethnicity, the interaction between food insecurity status and race was a significant predictor of fair/poor health and lower scores on physical and mental health. Household food insecurity is associated with poorer self-reported health status of adults in this rural, high-risk sample in the Lower Mississippi Delta.

**KEYWORDS:**

**NOTES:**

Sturm, Matthew, Josh Schimel, Gary Michaelson, Jeffrey M. Welker, Steven F. Oberbauer, Glen E. Liston, Jace Fahnestock, and Vladimir E. Romanovsky

**2005 Winter biological processes could help convert Arctic tundra to shrubland.**

Bioscience 55(1):17-26.

**ABSTRACT:** In Arctic Alaska, air temperatures have warmed 0.5 degrees Celsius (°C) per decade for the past 30 years, with most of the warming coming in winter. Over the same period, shrub abundance has increased, perhaps a harbinger of a conversion of tundra to shrubland. Evidence suggests that winter biological processes are contributing to this conversion through a positive feedback that involves the snow-holding capacity of shrubs, the insulating properties of snow, a soil layer that has a high water content because it overlies nearly impermeable permafrost, and hardy microbes that can maintain metabolic activity at temperatures of -6°C or lower. Increasing shrub abundance leads to deeper snow, which promotes higher winter soil temperatures, greater microbial activity, and more plant-available nitrogen. High levels of soil nitrogen favor shrub growth the following summer. With climate models predicting continued warming, large areas of tundra could become converted to shrubland, with winter processes like those described here possibly playing a critical role.

**KEYWORDS:**

**NOTES:**

Suarez, F., D. Binkley, M. W. Kaye, and R. Stottlemeyer

**1999 Expansion of forest stands into tundra in the Noatak National Preserve, northwest Alaska.** Ecoscience 6(3):465-470.

**ABSTRACT:** Temperatures across the northern regions of North America have been increasing for 150 years, and forests have responded to this increase. In the Noatak National Preserve in Alaska, white spruce (*Picea glauca* [Moench] Voss) forests reach their northern limit, occurring primarily on well-drained sites and as gallery forests along streams. Rolling plateaus of tundra separate the white spruce forests into disjunct stands. We examined patterns of tree age, tree growth, and tree encroachment into tundra ecosystems in six stands along the Agashashok River. Warming over the past 150 years appears to have increased tree growth and resulted in forest expansion into adjacent tundra ecosystems. The forest/tundra ecotone shifted by about 80 to 100 m into the tundra in the past 200 years, as evidenced by declining maximum tree age with

distance towards the tundra. The decadal-scale pattern of tree establishment at the farthest extent of trees into the tundra (the tundra-forest ecotone) correlated with the detrended growth index for trees within the forests; climate conditions that led to higher tree growth appeared to foster tree establishment in the tundra. This recent forest expansion has occurred across topographic boundaries, from well-drained soils on slopes onto poorly drained, flatter areas of tundra. Further expansion of the forests may be limited by more severe wind exposure and poor drainage that make the majority of tundra less suitable for trees.

**KEYWORDS:** Agashashok River; climate change; *Picea glauca*; treeline progression, Noatak River, Noatak National Preserve

**NOTES:**

Suk, W. A., M. D. Avakian, D. Carpenter, J. D. Groopman, M. Scammell, and C. P. Wild

**2004 Human exposure monitoring and evaluation in the Arctic: The importance of understanding exposures to the development of public health policy.** *Environmental Health Perspectives* 112(2):113-120.

**ABSTRACT:** Arctic indigenous peoples face significant challenges resulting from the contamination of Arctic air, water, and soil by persistent organic pollutants, heavy metals, and radionuclides. International cooperative efforts among governments and research institutions are under way to collect the information needed by environmental health scientists and public health officials to address environmental contamination in the Arctic. However, the climatic, political, and cultural conditions of the land and its native populations combine to present a unique set of scientific and logistic challenges to addressing this important public health issue. Public health officials have the responsibility to respect the cultural traditions of indigenous communities, while simultaneously designing strategies that will reduce their exposure to environmental contaminants and rates of disease and dysfunction. Researchers can better understand the link between environmental exposures and disease through monitoring programs for both the subsistence diets and health status of the indigenous populations. We suggest that the incorporation of community-based participatory research methods into programs designed to assess biomarkers of contaminant exposure in children and adults may be a valuable addition to ongoing and newly developed research programs. This approach could serve as a model for international environmental health initiatives, because it involves the participation of the local communities and seeks to build trust between all stakeholders.

**KEYWORDS:**

**NOTES:** Times Cited: 6

Sumida, Valerie A.

**1988 Land and resource use patterns in Stevens Village, Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes the contemporary harvest and uses of fish and wildlife resources in the community of Stevens Village. An overview of the history of the area, the local environment, and socioeconomic characteristics of the community is presented. The harvesting, processing, and distribution of resources is described, including contemporary information on geographic areas used by Stevens Village residents.

**KEYWORDS:**

**NOTES:**

Sumida, Valerie A.

**1989 Patterns of fish and wildlife harvest and use in Beaver, Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes contemporary patterns of the harvest and uses of fish and wildlife in Beaver, a community in the Yukon Flats. The findings of a survey of 31 community households are presented along with information on community characteristics and areas used for harvesting activities.

**KEYWORDS:**

**NOTES:**

Sumida, Valerie A., and Clarence L. Alexander

**1985 Moose hunting by residents of Beaver, Birch Creek, Fort Yukon, and Stevens Village in the Western GMU 25(D) permit moose hunt area, 1984-85.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes the general moose hunting patterns of residents of 4 communities in the Yukon Flats, in northeastern Interior Alaska. Information is presented on socioeconomic characteristics of the communities, harvest methods and hunting strategies, geographic use areas, the regulatory histories, and harvests during the 1984-1985 season.

**KEYWORDS:**

**NOTES:**

Sumida, Valerie A., and David B. Andersen

**1990 Patterns of fish and wildlife use for subsistence in Fort Yukon, Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report examines subsistence harvest activities and the mixed economy of Fort Yukon, Alaska. Data collection took place August 1987-October 1988. While Fort Yukon is relatively large (population 584) and functions as a regional supply and administrative center for the Yukon Flats region, its harvest patterns indicate a substantial reliance on subsistence foods more typical of smaller communities. The estimated total edible weight of resources harvested by Fort Yukon residents during the survey year was 625,725 pounds. This provided an average household harvest of 2,951 pounds and an average per capita harvest of 1,071 pounds.

**KEYWORDS:**

**NOTES:**

Summit, B.

**1997 Alaska Native Claims Settlement Act (ANCSA): Friend or Foe in the Struggle to Recover Alaska Native Heritage, The.** TM Cooley L. Rev. 14:607.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Suydam, R, JC George, C Rosa, B Person, C Hanns, G Sheffield, and J Bacon

**2007 Subsistence harvest of bowhead whales (*Balaena mysticetus*) by Alaskan Eskimos during 2006:** paper SC/59/BRG4. Paper submitted to the International Whaling Commission Scientific Committee.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Swerdfager, Trevor M.

**1990 Cooperative wildlife management: A discussion paper.** 1-109.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Tainter, Joseph A.

**2006 Social complexity and sustainability.** *Ecological Complexity* 3(2):91-103.

**ABSTRACT:** Social complexity and sustainability emerge from successful problem solving, rather than directly from environmental conditions. Social complexity develops from problem solving at all scales from local to national and international. Complexity in problem solving is an economic function, and can both support and hinder sustainability. Sustainability outcomes may take decades or centuries to develop. Historical studies reveal three outcomes to long-term change in problem-solving institutions: collapse, resiliency through simplification, or continuity based on growing complexity and increasing energy subsidies. The slow development of complexity in problem solving makes its effects difficult to perceive, especially over short time periods. Long-term social sustainability depends on understanding and controlling complexity. New strategies to mitigate or control complexity are offered.

**KEYWORDS:** Complexity

Collapse  
Problem solving  
Resiliency  
Sustainability

**NOTES:**

Taylor, Dale, and L. Bogoslovskaja

**1993 List of the villages of the Chukotka Peninsula (2000 bp to present).** *Beringian Notes* 2(2):7.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Taylor, Peter Leigh

**2010 Conservation, community, and culture? New organizational challenges of community forest concessions in the Maya Biosphere Reserve of Guatemala.** *Journal of Rural Studies* 26(2):173-184.

**ABSTRACT:** Community-based forestry has received much recent attention as an effort to protect threatened Southern forests by linking conservation with sustainable livelihoods. Many researchers have emphasized the importance of effective organization for successful community-based forestry. While significant attention has been paid to community-level organizational design for collective action, less attention has been given to the role secondary-level grassroots associations play in supporting forest governance. The case of the Association of Forest Communities of Petén (ACOFOP) in Guatemala's Maya Biosphere Reserve is discussed, using a framework drawn from research on multipurpose agrarian federations. As it confronts ongoing problems of representation, equity and legitimacy, ACOFOP now encourages associated community forest concessions to diversify beyond commercial timber into collectively organized non-timber forest activities. Diversification, however, brings new governance issues with new participants, objectives and organizational logics that challenge ACOFOP to change while maintaining characteristics that support successful advocacy of its members' interests. ACOFOP and its members actively experiment with several organizational alternatives, each with diverse implications for the balancing of political and economic roles. To better understand and support community forestry initiatives, their associations and similar agrarian organizations should be viewed in dynamic rather than static terms, and the central role local participants play in adapting their own organizations recognized.

**KEYWORDS:** Guatemala

Community forestry  
Forest conservation  
Grassroots organizations

Protected areas  
Environmental governance

**NOTES:**

Tenenbaum, D. J.

**2005 Arctic climate: The heat is on.** Environmental Health Perspectives 113(2):A91-A91.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** Times Cited: 1

Thériault, Sophie, Ghislain Otis, Gérard Duhaime, and Christopher Furgal

**2005 The legal protection of subsistence: A prerequisite of food security for the Inuit of Alaska.** Alaska Law Review 22(1):35-87.

**ABSTRACT:** For the last twenty-five years, the legal protection of subsistence in Alaska has given rise to legal and political controversies. Subsistence is closely related to the concept of "food security," as defined by the World Food Summit. The purpose of this Article is to highlight the need to recognize and critically examine the link between food security and the efficient legal protection of the traditional hunting, fishing, and gathering activities of the Inuit people of Alaska. The Article first describes the genesis and evolution of the subsistence debate in Alaska. It then attempts to demonstrate that the legal protection of subsistence is a prerequisite to Inuit food security for nutritional, cultural, and economic reasons. Finally, the Article identifies specific features of the Alaskan legal regime that threaten Inuit subsistence and food security.

**KEYWORDS:**

**NOTES:**

Thomas, Daniel C.

**1980 Issue paper on Nome River subsistence salmon fishery.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This review of subsistence salmon fishing efforts on the Nome River was prompted by a regulatory proposal to close a portion of the Nome River to subsistence fishing. Historical and current use, gear types, and harvest figures are discussed; a map of traditional and contemporary Nome River subsistence fishing locations is presented.

**KEYWORDS:** Arctic Region, Nome River, subsistence salmon fishing.

**NOTES:**

Thomas, Daniel C.

**1980 Nome salmon subsistence research report.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes research undertaken by the Division of Subsistence in 1980 on Nome-area subsistence salmon fishing. The allocation issues within the fishery during this time are reviewed and results of a questionnaire distributed to Nome area subsistence salmon permit holders is examined.

**KEYWORDS:** Arctic Region, Nome, subsistence salmon fishing.

**NOTES:**

Thomas, Daniel C.

**1982 The role of local fish and wildlife resources in the community of Shaktoolik, Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report presents an extensive analysis of recent and contemporary subsistence production and exchange in the community of Shaktoolik. It outlines the annual subsistence cycle and details the use of subsistence resources by species. Nutritional and cultural importance of subsistence foods and food sharing; trends in harvests; and the interrelationships between subsistence and cash economies are examined.

**KEYWORDS:** Arctic Region, Shaktoolik, Alaska subsistence.

**NOTES:**

Thomas, David S. G., and Chasca Twyman

**2005 Equity and justice in climate change adaptation amongst natural-resource-dependent societies.** Global Environmental Change Part A 15(2):115-124.

**ABSTRACT:** Issues of equity and justice are high on international agendas dealing with the impacts of global climate change. But what are the implications of climate change for equity and justice amongst vulnerable groups at local and sub-national levels? We ask this question for three reasons: (a) there is a considerable literature suggesting that the poorest and most vulnerable groups will disproportionately experience the negative effects of 21st century climate change; (b) such changes are likely to impact significantly on developing world countries, where natural-resource dependency is high; and (c) international conventions increasingly recognise the need to centrally engage resource stakeholders in agendas in order to achieve their desired aims, as part of more holistic approaches to sustainable development. These issues however have implications for distributive and procedural justice, particularly when considered within the efforts of the UNFCCC. The issues are examined through an evaluation of key criteria relating to climate change scenarios and vulnerability in the developing world, and second through two southern African case studies that explore the ways in which livelihoods are differentially impacted by (i) inequitable natural-resource use policies, (ii) community-based natural-resource management programmes. Finally, we consider the placement of climate change amongst the package of factors affecting equity in natural-resource use, and whether this placement creates a case for considering climate change as 'special' amongst livelihood disturbing factors in the developing world.

**KEYWORDS:** Climate change; Adaptation; Justice

**NOTES:** doi: DOI: 10.1016/j.gloenvcha.2004.10.001

Thomas, M.E.

**1986 The Alaska Native Claims Settlement Act: conflict and controversy.** Polar Record 23(142):27-36.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Thomas, M.E.

**1988 The Alaska Native Claims Settlement Act: An Update.** Polar Record 24(151):328-329.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Thomas, Monica E.

**1988 Conflict and controversy: Land ownership in Alaska.** Land Use Policy 5(1):121-129.

**ABSTRACT:** A series of US Congressional acts have delineated land ownership patterns in Alaska, with the resultant emergence of three principal landowners, the state of Alaska, the US government, and native peoples of the region. Rather than resolving long-term land conflicts,



these ownership patterns have generated new controversies. The author presents an historical overview of land policy in Alaska, discusses current land ownership, and describes some of the resulting problems to date. The article concludes with some observations on possible future land use policy scenarios.

**KEYWORDS:**

**NOTES:**

Thomas, Wayne C., Edward L. Arobio, Larry L. Naylor, and Richard O. Stern

**1983 An alternative management system for Alaska Reindeer Herds.** *Agricultural Systems* 11(1):1-16.

**ABSTRACT:** Extensive reindeer-herd management is generally conducted in conjunction with traditional subsistence activities. Herd ownership is restricted to Alaska's indigenous people and herd output includes meat, primarily for local consumption, and velvet antlers for export. Our approach is to define the extensive management system, then model intensive herd management using a profit-maximising, linear-programming framework. This allows estimation of the economic advantage of moving from extensive to intensive management. We determined that a substantial opportunity cost exists when the major emphasis of the herd owner is placed on subsistence activities. Given a high price for velvet antlers, herd composition under the intensive-management scheme concentrates on older animals because they produce heavier antlers. With intensive management, meat production is reduced compared with extensive management; however, with the present range-carrying, numbers of animals under intensive management could be increased, thereby expanding the output of reindeer meat by 60%.

**KEYWORDS:**

**NOTES:**

Thomas, Wayne C., Edward L. Arobio, Larry L. Naylor, and Richard O. Stern

**1983 An alternative management system for Alaska Reindeer Herds.** *Agricultural Systems* 11(1):1-16.

**ABSTRACT:** Extensive reindeer-herd management is generally conducted in conjunction with traditional subsistence activities. Herd ownership is restricted to Alaska's indigenous people and herd output includes meat, primarily for local consumption, and velvet antlers for export. Our approach is to define the extensive management system, then model intensive herd management using a profit-maximising, linear-programming framework. This allows estimation of the economic advantage of moving from extensive to intensive management. We determined that a substantial opportunity cost exists when the major emphasis of the herd owner is placed on subsistence activities. Given a high price for velvet antlers, herd composition under the intensive-management scheme concentrates on older animals because they produce heavier antlers. With intensive management, meat production is reduced compared with extensive management; however, with the present range-carrying, numbers of animals under intensive management could be increased, thereby expanding the output of reindeer meat by 60%.

**KEYWORDS:**

**NOTES:**

Thompson, P.

**1993 Recognizing Sovereignty in Alaska Native Villages After the Passage of ANCSA.** *Wash. L. Rev.* 68:373.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Thompson, Peter C.

**1976 Transportation as a constraint to the utilization of marine mammals:** Fisheries and Marine service Technical Report No. 651.

**ABSTRACT:****KEYWORDS:****NOTES:**

Thornton, Thomas F.

**1992 Subsistence use of brown bear in Southeast Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes the traditional uses of brown bears by the Tlingit and Haida of Southeast Alaska. Traditional beliefs, knowledge, and ritual practices are presented, based on literature as well as interviews with key respondents. Brown bear harvest information is compiled and analyzed. Historical and contemporary practices for hunting, handling, and using brown bears are described.

**KEYWORDS:****NOTES:**

Thornton, Thomas F.

**1998 Alaska Native subsistence: a matter of cultural survival.** *In* Cultural survival quarterly. Pp. 29-34, Vol. 23.

**ABSTRACT:**

**KEYWORDS:** Descriptor: Alaska

Subsistence economy

Indigenous peoples

Survival strategies (human ecology)

CULTURAL ETHNOGRAPHY

AMERICAS

NORTH AMERICA

**NOTES:** Using Smart Source Parsing

no. 3 (), p. Journal Code: Cult Survival Q

introduction to special issue: 'Crisis in the last frontier: the Alaskan subsistence debate' Document Type: article

Thornton, Thomas F.

**2001 Subsistence in northern communities: lessons from Alaska.** The Northern Review:82-102.

**ABSTRACT:**

**KEYWORDS:** Descriptor: Alaska

Subsistence economy

Indigenous peoples

The State

Social policy

Economic policy

Cultural policy

Environmental protection

CULTURAL ETHNOGRAPHY

AMERICAS

NORTH AMERICA

**NOTES:** Using Smart Source Parsing

23, (), p. Journal Code: Nth Rev

in special issue 'Northern communities and the state' Document Type: article

Thornton, T. F.

**2010 A Tale of Three Parks: Tlingit Conservation, Representation, and Repatriation in Southeast Alaska's National Parks.** Human Organization 69(2):107-118.

**ABSTRACT:** Why have Southeast Alaska Natives enjoyed success in gaining governing authority over cultural resource economies but limited success in gaining co-management over natural resource economies in the region's national parks? This paper hypothesizes that the most successful co-management regimes in the natural resource economy will be those that are constructed according to an emerging cultural resource paradigm, which emphasizes the circulation and return of "inalienable possessions" by the federal government, rather than the extension of limited harvest rights under the current "subsistence" regime. Further, it suggests the logic of "repatriation," well used in the cultural resources realm, might be constructively applied to the natural resource realm to restore Alaska Native relations to critical fish, wildlife, and other resources in national parks and protected areas.

**KEYWORDS:**

**NOTES:** Times Cited: 0

Thornton, Thomas F., Robert F. Schroeder, and Robert G. Bosworth

**1990 Use of sockeye salmon at Sitkoh Bay, Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report documents the historical and contemporary importance of Sitkoh Bay, on Chicagof Island in Southeast Alaska, for the harvest of sockeye salmon. This area has a rich history of use by the Tlingit inhabitants of the area, descendants of whom now reside principally in Sitka and Angoon. The bay became the site of a commercial salmon fishery in the late 1800s, and a salmon cannery in 1900. Recent dramatic habitat changes in the Sitkoh Creek watershed have occurred due to clearcut timber harvest that took place 1969-1974. The continued decline in run strength over the past decade is illustrated by declining subsistence harvests at Sitkoh Bay, and has led to the closure of the area to all sockeye harvests in recent years. Immediate, concerted efforts for the restoration of this fishery appear to be warranted in order to prevent its total demise.

**KEYWORDS:**

**NOTES:**

Tilbury, Karen L., John E. Stein, Cheryl A. Krone, Robert L. Brownell, S. A. Blokhin, Jennie L. Bolton, and Don W. Ernest

**2002 Chemical contaminants in juvenile gray whales (*Eschrichtius robustus*) from a subsistence harvest in Arctic feeding grounds.** Chemosphere 47(6):555-564.

**ABSTRACT:** Gray whales are coastal migratory baleen whales that are benthic feeders. Most of their feeding takes place in the northern Pacific Ocean with opportunistic feeding taking place during their migrations and residence on the breeding grounds. The concentrations of organochlorines and trace elements were determined in tissues and stomach contents of juvenile gray whales that were taken on their Arctic feeding grounds in the western Bering Sea during a Russian subsistence harvest. These concentrations were compared to previously published data for contaminants in gray whales that stranded along the west coast of the US during their northbound migration. Feeding in coastal waters during their migrations may present a risk of exposure to toxic chemicals in some regions. The mean concentration (standard error of the mean, SEM) of  $\Sigma$ PCBs [1400 (130) ng/g, lipid weight] in the blubber of juvenile subsistence whales was significantly lower than the mean level [27 000 (11 000) ng/g, lipid weight] reported previously in juvenile gray whales that stranded in waters off the west coast of the US. Aluminum in stomach contents of the subsistence whales was high compared to other marine mammal species, which is consistent with the ingestion of sediment during feeding. Furthermore, the concentrations of potentially toxic chemicals in tissues were relatively low when compared to the

concentrations in tissues of other marine mammals feeding at higher trophic levels. These chemical contaminant data for the subsistence gray whales substantially increase the information available for presumably healthy animals.

**KEYWORDS:** Gray whale; Organochlorine; PCBs; Element; Baleen whale; Bering Sea

**NOTES:**

Titus, Kimberly, Terry L. Haynes, and Thomas F. Paragi

**2009 The importance of moose, caribou, deer and small game in the diet of Alaskans. In** Ingestion of Lead from Spent Ammunition: Implications for Wildlife and Humans. R.T. Watson, M. Fuller, M. Pokras, and W.G. Hunt, eds. Boise, ID: The Peregrine Fund.

**ABSTRACT:** With a statewide human population of about 677,000 (2006–2007 estimate) and at least 84,000 licensed resident hunters, many Alaskans rely on wild game for a significant part of their total diet. Even within Anchorage, the largest city with 283,000 residents, many families consume wild-taken fish (primarily salmon and halibut) and game (Moose, Caribou, deer) even if they did not harvest these resources themselves. We demonstrate through information from hunter harvest reports and subsistence sharing patterns that thousands of Alaskans depend on wild game. For example, some 29,000 hunters kill about 7,300 Moose annually in Alaska. Each harvested Moose and Caribou yields about 256 and 78 kg of edible meat, respectively. This meat is shared across households. In rural Alaska, reliance on ungulate meat is illustrated by communities such as Nikolai and Akiachak, where about 100 kg of Moose and Caribou meat are consumed per person annually. Small game, marine mammals, and waterfowl harvested with firearms also contribute to the local diet. The high levels of terrestrial wildlife harvest are allowed under both state and federal subsistence laws that provide a preference for Alaskan residents (under state law) and rural residents (under federal law). Specific regulations authorize long seasons and liberal bag limits for ungulates such as deer (up to six per person per season) and Caribou (five per day) in some areas. Sixty percent of the households in rural Alaska harvest game animals and 86% of these rural households consume wild game, attesting to the importance of wild foods. Alaskans consider the harvest of wild game as a healthy and cost-effective way to obtain protein as a food source. The extent to which Alaskans who harvest and consume high levels of game meat are at risk to lead exposure from spent ammunition has not been determined.

**KEYWORDS:** Alaska; Alces alces; caribou; diet; food; hunting; Odocoileus hemionus sitkensis; Rangifer tarandus; moose; Sitka black-tailed deer; wild game

**NOTES:**

Titus, Kimberly, Terry L. Haynes, and Thomas F. Paragi

**2009 The importance of moose, caribou, deer and small game in the diet of Alaskans. In** Ingestion of Lead from Spent Ammunition: Implications for Wildlife and Humans. R.T. Watson, M. Fuller, M. Pokras, and W.G. Hunt, eds. Boise, ID: The Peregrine Fund.

**ABSTRACT:** With a statewide human population of about 677,000 (2006–2007 estimate) and at least 84,000 licensed resident hunters, many Alaskans rely on wild game for a significant part of their total diet. Even within Anchorage, the largest city with 283,000 residents, many families consume wild-taken fish (primarily salmon and halibut) and game (Moose, Caribou, deer) even if they did not harvest these resources themselves. We demonstrate through information from hunter harvest reports and subsistence sharing patterns that thousands of Alaskans depend on wild game. For example, some 29,000 hunters kill about 7,300 Moose annually in Alaska. Each harvested Moose and Caribou yields about 256 and 78 kg of edible meat, respectively. This meat is shared across households. In rural Alaska, reliance on ungulate meat is illustrated by communities such as Nikolai and Akiachak, where about 100 kg of Moose and Caribou meat are consumed per person annually. Small game, marine mammals, and waterfowl harvested with firearms also contribute to the local diet. The high levels of terrestrial wildlife harvest are allowed

under both state and federal subsistence laws that provide a preference for Alaskan residents (under state law) and rural residents (under federal law). Specific regulations authorize long seasons and liberal bag limits for ungulates such as deer (up to six per person per season) and Caribou (five per day) in some areas. Sixty percent of the households in rural Alaska harvest game animals and 86% of these rural households consume wild game, attesting to the importance of wild foods. Alaskans consider the harvest of wild game as a healthy and cost-effective way to obtain protein as a food source. The extent to which Alaskans who harvest and consume high levels of game meat are at risk to lead exposure from spent ammunition has not been determined.

**KEYWORDS:** Alaska; Alces alces; caribou; diet; food; hunting; Odocoileus hemionus sitkensis; Rangifer tarandus; moose; Sitka black-tailed deer; wild game

**NOTES:**

Tobias, Terry .N.

**2000 Chief Kerry's Moose: A guidebook to land use and occupancy mapping, research design and data collection.**

. Vancouver, BC: Union of BC Indian Chiefs and Ecotrust Canada.

**ABSTRACT:**

**KEYWORDS:** land use, mapping, subsistence

**NOTES:**

Tobias, Terry .N.

**2010 Living proof: The essential data-collection guide for indigenous use-and-occupancy map surveys:** Union of BC Indian Chiefs and Ecotrust Canada.

**ABSTRACT:**

**KEYWORDS:** land use, mapping, subsistence

**NOTES:** "Living Proof is about a land use-and-occupancy research method called the map biography. It is structured as a how-to manual to help readers design and run the data-collection component of a successful map project."

"Designing an effective use-and-occupancy research project is a creative process that requires reflection, solid thinking, common sense, experience, patience and a good work ethic. Templates are provided in these pages to help readers assemble the tools needed for their map surveys, but these are not one-size-fits-all solutions. Research design is much more than simply plugging values into a formula; a map will be only as good as the critical thought brought to bear in designing and running the project. The community's own methodology will be described in a custom-written data-collection manual and the precise set of tools and conventions used will be determined by the unique context of the particular community and culture. Linda Ellanna, et al., are clear that, ' . . . [T]here is no single mapping methodology which can . . . be applied to all ecological, cultural or temporal contexts. More specifically, whereas all mapping methodologies should conform to the scientific standards described above, variations in all dimensions of the methodology are not only possible but highly desirable - that is, the methodology should be keyed to the [specific cultural context and research] problem.'

Trainor, Sarah, F. Stuart Chapin, Henry Huntington, David Natcher, and Gary Kofinas

**2007 Arctic Climate Impacts: Environmental Injustice in Canada and the United States**  
**Source.** Local Environment 12(6):627-643

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Trainor, Sarah F., Monika Calef, David Natcher, F. Stuart Chapin, A. David McGuire, Orville Huntington, Paul Duffy, T. Scott Rupp, La'Ona DeWilde, Mary Kwart, Nancy Fresco, and Amy Lauren Lovecraft  
**2009 Vulnerability and adaptation to climate-related fire impacts in rural and urban interior Alaska.** *Polar Research* 28(1):100-118.

**ABSTRACT:** This paper explores whether fundamental differences exist between urban and rural vulnerability to climate-induced changes in the fire regime of interior Alaska. We further examine how communities and fire managers have responded to these changes and what additional adaptations could be put in place. We engage a variety of social science methods, including demographic analysis, semi-structured interviews, surveys, workshops and observations of public meetings. This work is part of an interdisciplinary study of feedback and interactions between climate, vegetation, fire and human components of the Boreal forest social-ecological system of interior Alaska. We have learned that although urban and rural communities in interior Alaska face similar increased exposure to wildfire as a result of climate change, important differences exist in their sensitivity to these biophysical, climate-induced changes. **In particular, reliance on wild foods, delayed suppression response, financial resources and institutional connections vary between urban and rural communities. These differences depend largely on social, economic and institutional factors, and are not necessarily related to biophysical climate impacts per se.** Fire management and suppression action motivated by political, economic or other pressures can serve as unintentional or indirect adaptation to climate change. However, this indirect response alone may not sufficiently reduce vulnerability to a changing fire regime. More deliberate and strategic responses may be required, given the magnitude of the expected climate change and the likelihood of an intensification of the fire regime in interior Alaska.

**KEYWORDS:** Climate change, interior Alaska, rural, urban, vulnerability, wildfire

**NOTES:**

Tundra Times Staff

**1986 Frustration and anger in the village of Togiak.** *In* Tundra Times, Vol. 13.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Turcotte-Seabury, Catherine A.

**2010 Anger management and the process mediating the link between witnessing violence between parents and partner violence.** *Violence and Victims* 25(3):306-318.

**ABSTRACT:** Multinomial logistic regression was used on a sample of 14,252 students to determine the extent to which the relationship between witnessing interparental violence and the perpetration of violence is mediated by limited anger management ability, and to determine whether anger management is a mediator for women as well as men. Both males and females who witnessed interparental violence had higher levels of violence perpetration, and those who disclosed witnessing interparental violence had more limited anger management abilities. These limited anger management abilities were associated with increased levels of violence perpetration. This study is consistent with others finding a relationship between witnessing interparental violence and the perpetration of violence but also shows that the relationship between these two variables is mediated by limited anger management abilities.

**KEYWORDS:** conflict tactics scales, intergenerational transmission, abuse, aggression, domestic violence

**NOTES:** Seabury is analyzing SLiCA data for her PhD research at UNH under Larry Hamilton, and doing field work in northwest Alaska.

Turek, Michael F.

**2005 Prince of Wales Island subsistence steelhead harvest and use pattern.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** Steelhead (*Oncorhynchus mykiss*), also known as tayang, in Haida and Aasha't in Tlingit, were harvested by Alaskan Tlingits and Haidas long before European contact. Steelhead continues to be harvested for subsistence use by residents of Prince of Wales Island. The most productive steelhead systems in southeast Alaska are in the southern half of the region especially Prince of Wales Island. Most Prince of Wales Island subsistence harvesters take between two and five steelhead a year, sharing harvests with family and friends.

**KEYWORDS:** Haida, local knowledge, *Oncorhynchus mykiss*, Prince of Wales Island, southeast Alaska, steelhead, subsistence fishing, Tlingit, traditional ecological knowledge

**NOTES:**

Turek, Michael F., Nancy C. Ratner, William E. Simeone, and Davin L. Holen

**2009 Subsistence harvests and local knowledge of rockfish *Sebastes* in four Alaskan communities.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes the results of a study to estimate the subsistence harvest of rockfish *Sebastes* in 4 Alaskan communities: Sitka in Southeast Alaska, and Nanwalek, Port Graham, and Chenega Bay in Southcentral Alaska. This report also includes local traditional knowledge (LTK) about rockfish from these communities. Rockfish have been used for subsistence purposes in Alaska for centuries, but changes in federal subsistence fishery regulations for Pacific halibut *Hippoglossus stenolepis* governing the use of longlines raised concerns that the incidental catch of rockfish was increasing. Data for this study came from several sources: 1) an annual survey administered to all federal halibut certificate (SHARC) holders, 2) an additional survey specifically about rockfish catches conducted in person with fishers, 3) key respondent interviews conducted with knowledgeable fishers in each of the study communities, and 4) fishery participant observations. Most of the incidental harvest of rockfish occurred in Southeast Alaska (federal halibut regulatory area 2C), and Southcentral Alaska (federal halibut regulatory area 3A). A majority of the catches took place incidental to halibut fishing while fishers were using rod and reel, except in Chenega Bay, where rockfish were targeted under state subsistence regulations. Respondents described traditional methods for harvesting and strategies to avoid rockfish while using longlines to catch halibut. In the Southcentral Alaska communities, the most commonly-harvested rockfish were pelagic black rockfish *S. melanops*, known as black bass, and other unspecified black rockfish species. In Sitka, non-pelagic quillback rockfish *S. maliger* were the most commonly-caught.

**KEYWORDS:** Rockfish, *Sebastes*, Sitka, Nanwalek, Port Graham, Chenega Bay, federal subsistence halibut, SHARC, local and traditional knowledge, LTK, subsistence fishing, longline

**NOTES:**

Turner, B. L., R. E. Kasperson, P. A. Matson, J. J. McCarthy, R. W. Corell, L. Christensen, N. Eckley, J. X. Kasperson, A. Luers, and M. L. Martello

**2003 A framework for vulnerability analysis in sustainability science.** Proceedings of the National Academy of Sciences 100(14):8074-8079.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Turner, B L, Pamela A Matson, James J McCarthy, Robert W Corell, Lindsey Christensen, Noelle Eckley, Grete K Hovelsrud-Broda, Jeanne X. Kasperson, Rogert E Kasperson, Amy Luers, Marybeth L Martello, Svein Mathiesen, Rosamond Naylor, Colin Polsky, Alexander Pulshipher, Andrew Schiller, Henrik Selin, and Nicholas Tyler

**2003 Illustrating the coupled human-environment system for vulnerability analysis: Three case studies.** Proceedings of the National Academy of Sciences 100(14):8080-8085.

**ABSTRACT:** The vulnerability framework of the Research and Assessment Systems for Sustainability Program explicitly recognizes the coupled human–environment system and accounts for interactions in the coupling affecting the system’s responses to hazards and its vulnerability. This paper illustrates the usefulness of the vulnerability framework through three case studies: the tropical southern Yucata’n, the arid Yaqui Valley of northwest Mexico, and the pan-Arctic. Together, these examples illustrate the role of external forces in reshaping the systems in question and their vulnerability to environmental hazards, as well as the different capacities of stakeholders, based on their access to social and biophysical capital, to respond to the changes and hazards. The framework proves useful in directing attention to the interacting parts of the coupled system and helps identify gaps in information and understanding relevant to reducing vulnerability in the systems as a whole.

**KEYWORDS:**

**NOTES:**

Turner, Nancy J., and Helen Clifton

**2009 "It's so different today": Climate change and indigenous lifeways in British Columbia, Canada.** Global Environmental Change 19(2):180-190.

**ABSTRACT:** Indigenous Peoples of British Columbia have always had to accommodate and respond to environmental change. Oral histories, recollections of contemporary elders, and terms in indigenous languages all reflect peoples' responses to such change, especially since the coming of Europeans. Very recently, however, many people have noted signs of greater environmental change and challenges to their resilience than they have faced in the past: species declines and new appearances; anomalies in weather patterns; and declining health of forests and grasslands. These observations and perspectives are important to include in discussions and considerations of global climate change.

**KEYWORDS:** Climate change; Indigenous Peoples; Traditional Ecological Knowledge; British Columbia; Adaptation; Resilience

**NOTES:** doi: DOI: 10.1016/j.gloenvcha.2009.01.005

Tussing, Arlon R.

**1972 Fishery Economics.** Pp. 1-41. Rome: Indian Ocean Fishery Commission.

**ABSTRACT:** Thirty-six or more political entities in and around the Indian Ocean differ greatly in population, land area, per capita income, social institutions, and in the importance and level of development of their fisheries. Accordingly, there are few qualitative generalizations that are completely satisfactory for the whole region or even for distinct groups of countries. Moreover, as Banerji (1971) and others have shown, relevant statistics are in most instances unreliable or unavailable. Even where statistics are available, they are often anecdotal and are seldom comparable from year to year among countries. In the case of catch valuation and product prices, for example, the only data that are reasonably comprehensive and worthy of attention are the declared values of commodities entering international trade. For all these reasons, it has not been possible to satisfy the terms of reference in a quantitative and comprehensive fashion. Because reliable baseline data are lacking, it has not been feasible to make the desired projections. Some of the available statistical material has, however, been used [in this paper] to illustrate a variety of qualitative insights.

**KEYWORDS:**

**NOTES:**

Tyack, Peter L.



**2009 Implications for marine mammals of large-scale changes in the marine acoustic environment.** *Journal of Mammalogy* 89(3):549-558.

**ABSTRACT:** The amount of underwater sound from ship traffic, commercial, research, and military sound sources has increased significantly over the past century. Marine mammals and many other marine animals rely on sound for short- and long-range communication, for orientation, and for locating prey. This reliance has raised concern that elevated sound levels from human sources may interfere with the behavior and physiology of marine animals. The dominant source of human sound in the sea stems from propulsion of ships. Shipping noise centers in the 20- to 200-Hz band. Frequencies this low propagate efficiently in the sea, and shipping has elevated the global deepwater ambient noise 10- to 100-fold in this frequency band. Baleen whales use the same frequency band for some of their communication signals, and concern has been raised that elevated ambient noise may reduce the range over which they can communicate. Marine mammals have a variety of mechanisms to compensate for increased noise, but little is known about the maximum range at which they may need to communicate. Some of the most intense human sources of sound include air guns used for seismic exploration and sonar for military and commercial use. Human sources of sound in the ocean can disturb marine mammals, evoking behavioral responses that can productively be viewed as similar to predation risk, and they can trigger allostatic physiological responses to adapt to the stressor. Marine mammals have been shown to avoid some human sound sources at ranges of kilometers, raising concern about displacement from important habitats. There are few studies to guide predictions of when such changes start to lower the fitness of individuals or have negative consequences for the population. Although acute responses to intense sounds have generated considerable interest, the more significant risk to populations of marine mammals is likely to stem from less visible effects of chronic exposure.

**KEYWORDS:** ambient ocean noise; effects of noise; marine mammal

**NOTES:** doi: 10.1644/07-MAMM-S-307R.1

Tyler, N. J. C., J. M. Turi, M. A. Sundset, K. Strøm Bull, M. N. Sara, E. Reinert, N. Oskal, C. Nellemann, J. J. McCarthy, S. D. Mathiesen, M. L. Martello, O. H. Magga, G. K. Hovelsrud, I. Hanssen-Bauer, N. I. Eira, I. M. G. Eira, and R. W. Corell

**2007 Saami reindeer pastoralism under climate change: Applying a generalized framework for vulnerability studies to a sub-arctic social-ecological system.** *Global Environmental Change* 17(2):191-206.

**ABSTRACT:** A generalized vulnerability framework was used to structure an interdisciplinary and intercultural examination of factors that influence the ways in which reindeer pastoralism in Finnmark (northern Norway) may be affected by climate change. Regional and local (downscaled) climate projections included scenarios that can potentially influence foraging conditions for reindeer. None of the projections were without precedent; several climate change events in Finnmark during the last 100 years were at least as great as those projected in the next 20-30 years. Herders' traditional responses to changes in both the natural and the socio-economic environments have depended on a flexibility in herding practice that is currently being eroded by several non-climate factors. The reduced freedom of action resulting from loss of habitat, predation and aspects of governance (especially economic and legal constraints) potentially dwarves the putative effects of projected climate change on reindeer pastoralism. It may, however, also lead to situations in which new climatic conditions threaten the system in unprecedented ways. Developing appropriate methodologies for assessing the adaptive capacity, the vulnerability and the resilience of social-ecological systems to global changes remains a challenge. Recognition of the knowledge systems of Arctic cultures and the full engagement of local people throughout the process are key elements of the solution.

**KEYWORDS:** Climate change; Downscaling; Finnmark; Pastoralism; Reindeer; Saami; Traditional knowledge; Transhumance; Vulnerability

**NOTES:** doi: DOI: 10.1016/j.gloenvcha.2006.06.001

Tyler, N. J. C., J. M. Turi, M. A. Sundset, K. Strøm Bull, M. N. Sara, E. Reinert, N. Oskal, C. Nellemann, J. J. McCarthy, S. D. Mathiesen, M. L. Martello, O. H. Magga, G. K. Hovelsrud, I. Hanssen-Bauer, N. I. Eira, I. M. G. Eira, and R. W. Corell

**2007 Saami reindeer pastoralism under climate change: Applying a generalized framework for vulnerability studies to a sub-arctic social-ecological system.** *Global Environmental Change* 17(2):191-206.

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**KEYWORDS:** Climate change; Downscaling; Finnmark; Pastoralism; Reindeer; Saami; Traditional knowledge; Transhumance; Vulnerability

**NOTES:** doi: DOI: 10.1016/j.gloenvcha.2006.06.001

Tyrrell, M.

**2007 Sentient beings and wildlife resources: Inuit, beluga whales and management regimes in the Canadian Arctic.** *Human Ecology* 35:575-586.

**ABSTRACT:** Beluga whale hunting is one of the most social subsistence hunting activities to take place in the Canadian Arctic. Through the harvest, distribution and consumption of beluga whales, Inuit identity and social relationships are affirmed. The whale-hunting complex is influenced by beliefs that beluga whales are sentient beings who inhabit a shared social space with humans. Yet, across the region beluga whales are perceived by wildlife managers as scarce resources and as such require protection through the imposition of management plans. There is currently no management of whales on the west coast of Hudson Bay, in Nunavut. In 2002, Inuit there were requested to sell part of their whale harvest to Inuit in Nunavik, northern Quebec, where hunting quotas exist. The outcome of this event was concern in Nunavut for the future of the whale hunt, and a deepening sense of powerlessness in Nunavik due to the management of the whale harvest.

**KEYWORDS:**

**NOTES:** Times Cited: 4

Tyrrell, M.

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**KEYWORDS:**

**NOTES:** Times Cited: 4

Uhl, William R., and Carrie Uhl

**1979 Nuatakmiit: A study of subsistence use of renewable resources in the Noatak River valley.** Fairbanks, AK: University of Alaska, Cooperative Park Studies Unit.

**ABSTRACT:**

**KEYWORDS:** ethnography; Noatak; Alaska Native; subsistence; Noatak River

**NOTES:**

Uhl, William R., and Carrie K. Uhl

**1977 Tagiumsinaaqmiit: ocean beach dwellers of the Cape Krusenstern area, subsistence patterns.** Fairbanks, AK: University of Alaska, Cooperative Park Studies Unit.

**ABSTRACT:**

**KEYWORDS:** Alaska Native; subsistence; Cape Krusenstern; ethnography; hunting; fishing;

**NOTES:**

Underwood, Tevis J.

**2000 Abundance, length composition, and migration of spawning inconnu in the Selawik River, Alaska.** *North American Journal of Fisheries Management* 20(2):386-393.

**ABSTRACT:** Abstract Inconnus *Stenodus leucichthys* in the Selawik River, Alaska, were sampled during spawning migrations in the years 1993-1996. Modified Petersen estimates of spawning inconnu were 5,190 (95% confidence interval = 3,690-7,272) for 1995 and 5,157 (3,038-12,983) for 1996. Fork lengths of migrating fish ranged from 52 to 120 cm. Minor differences in length-frequency distributions were observed among the 3 years sampled. Migrating inconnu reached holding areas 25 km below the spawning area in the first week of July and resided there for up to 1 month. Further upstream movement in late August was associated with precipitation. A short reach of river, approximately 12 km long, was identified as the spawning area by use of radiotelemetry. Postspawning migrations occurred as early as September 27 and were completed by October 19. Dispersal during the winter, as measured by tag returns, showed mixing with Kobuk River inconnu within the Selawik Lake-Hotham Inlet complex. Lack of observed interdrainage migration was evidence that inconnus from the Selawik and Kobuk rivers are separate stocks. Some inconnus tagged in previous years returned with subsequent migrations, indicating possible consecutive-year spawning. Management actions such as reduced bag limits, purchase of private inholdings, and consideration of spawning habitat and timing when issuing federal special use permits would enhance conservation of the Selawik River inconnu spawning population and habitats.

**KEYWORDS:****NOTES:**

Underwood, Tevis J.

**2000 Abundance, length composition, and migration of spawning inconnu in the Selawik River, Alaska.** North American Journal of Fisheries Management 20(2):386-393.

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**KEYWORDS:****NOTES:**

Usher, Peter J.

**1979 Environmental conservation, wildlife management and native rights in Northern Canada.** Pp. 1-48. Ottawa, Ontario: Canadian Arctic Resources Committee.

**ABSTRACT:****KEYWORDS:****NOTES:**

Usher, Peter J.

**1981 Sustenance or recreation? The future of native wildlife harvesting in Northern Canada.** Renewable Resources and the Economy of the North. Ottawa: ACUNS/MAB:56-71.

**ABSTRACT:****KEYWORDS:****NOTES:**

Usher, Peter J.

**1982 Can native people and sport hunters coexist?** Pp. 1-11. Montreal, Quebec.

**ABSTRACT:****KEYWORDS:**

**NOTES:** Many problems and changes beset native hunting peoples in rural and northern Canada. Their traditional lands are being taken for resource development, other people want the right to use their traditional resources, and their economy and society are undergoing great changes. In addition, native people are increasingly accused of abusing fish and wildlife. In recent years there have been widespread reports of slaughters of caribou far beyond need, the hunting of marine mammals solely for their ivory (and in both cases, much wastage of meat), and the blackmarketing of salmon taken under domestic fishing permits. Furthermore, many native people now hunt with sophisticated gear -- high-powered rifles with telescopic sights,

snowmobiles, and fast boats with big outboards -- and even search out game by air. The feeling is that the balance has been tipped too far in favor of the hunter.

Usher, Peter J.

**1985 Hypothesis on the effects of industrial development on Native resource harvesting.** Pp. 1-13.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** Based on the Workshop on Resource Harvesting, Mackenzie Environmental Monitoring Project

Usher, Peter J.

**1985 An hypothesis on the effects of wage employment on subsistence harvesting in the Canadian Western Arctic.** *In* 1985 American Anthropological Association Meetings. Pp. 1-25. Washington, D.C.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Usher, Peter J.

**1991 The Beverly-Kaminuriak caribou management board: An experience in co-management.** CONCEPTS AND CASES:111-120.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Usher, Peter J.

**1995 Harvest data: Who wants to know, and why?** *In* Understanding Harvest Assessment in the North. Pp. 1-7. Girdwood, Alaska.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** speech notes, opening keynote address

Usher, Peter J.

**2000 Traditional ecological knowledge in environmental assessment and management.** *Arctic* 53(2):183-193.

**ABSTRACT:** It is now a policy requirement that "traditional ecological knowledge" (TEK) be incorporated into environmental assessment and resource management in the North. However, there is little common understanding about what TEK is, and no guidance on how to implement the policy in public arenas where knowledge claims must be tested. The problems are inconsistent and unclear definitions of TEK, and insufficient attention to appropriate methods of organizing and presenting it for assessment and management purposes. TEK can be classified as knowledge about the environment, knowledge about the use of the environment, values about the environment, and the knowledge system itself. All categories are required for environmental assessment, but each must be presented and examined differently. TEK and "Western" science provide partially different information, based on different sets of observations and procedures, and sometimes on different knowledge claims. It is important that TEK be comprehensible and testable as a knowledge claim in public reviews, and usable for ongoing public monitoring and co-management processes. To this end, certain procedures are recommended for recording, organizing, and presenting TEK, with particular emphasis on the need to differentiate between observation and inference or association. Documenting TEK as recommended usually requires trained intermediaries, but they in turn require the support and cooperation of those who have

TEK. One consequence is that it is often both impractical and inappropriate to require development proponents to incorporate TEK into their environmental impact statements. However, the environmental assessment process must facilitate the use of TEK in the public review phase.

**KEYWORDS:** traditional ecological knowledge, environmental assessment, co-management, research methods, public policy, Canada

**NOTES:**

Usher, Peter J., Gérard Duhaime, and Edmund Searles

**2003 The household as an economic unit in Arctic aboriginal communities, and its measurement by means of a comprehensive survey.** Social Indicators Research 61(2):175-202.

**ABSTRACT:** Outlines a model of the household in mixed, subsistence-based economies of aboriginal communities in northern Canada. Contribution of subsistence harvesting and related activities to household well-being; Characteristics of northern aboriginal household economy; Significance of household function for the development of appropriate economic and social policies.

**KEYWORDS:** home economics, indigenous peoples, Canada

**NOTES:**

Usher, Peter J., and George Wenzel

**1987 Native harvest surveys and statistics: A critique of their construction and use.** Arctic 40(2):145-160.

**ABSTRACT:** Native harvest statistics are counts, or estimates, of the number of animals by category taken by a specific group of native people during a specific time period. These statistics are significant for basic research in the social and biological sciences, for public policy and for the resolution of environmental conflicts in the North. This paper reviews and assesses two common sources of native harvest data -- administrative and monitoring records, and special-purpose studies -- and provides an extensive bibliography for the latter. Native harvest data are normally obtained by recall survey rather than direct observation. The existing data base is therefore evaluated in terms of the methodological norms of social surveys, with particular attention to precision and uniformity of survey parameters and interview terminology, sampling procedures, non-response bias and response bias. Despite some lack of methodological rigour, especially regarding parameters, terminology and projection from reported harvests, it is concluded that the existing body of information may be used to recreate an historical statistical series of substantial breadth and depth, useful for both socio-economic and biological research purposes.

**KEYWORDS:**

**NOTES:**

Valderrama, Diego, and James L. Anderson

**2010 Market interactions between aquaculture and common-property fisheries: Recent evidence from the Bristol Bay sockeye salmon fishery in Alaska.** Journal of Environmental Economics and Management 59(2):115-128.

**ABSTRACT:** The remarkable growth of the global salmon aquaculture industry has generated important implications for Alaskan salmon fisheries as increased supplies of farmed product have led to declines in prices of both farmed and wild species. In the particular case of Bristol Bay sockeye salmon, falling prices and declining profit margins have led to reduced participation in the limited-entry fishery. This study conducts a formal examination of market interactions between the aquaculture and commercial fishery sectors by adapting the Homans and Wilen

(1997) model of regulated open access to the context of restricted access fisheries. The econometric model reveals that limited entry regulations were initially successful in extracting rents from the Bristol Bay fishery; however, these rents were gradually dissipated as a result of overcapacity and the effect of falling ex-vessel prices. The emergence of aquaculture provides a strong rationale in favor of right-based approaches to fisheries management in Alaska.

**KEYWORDS:** market interactions, aquaculture, restricted access fisheries, Bristol Bay, Alaska, salmon

**NOTES:**

Van Oostdam, J., S. G. Donaldson, M. Feeley, D. Arnold, P. Ayotte, G. Bondy, L. Chan, E. Dewailly, C. M. Furgal, H. Kuhnlein, E. Loring, G. Muckle, E. Myles, O. Receveur, B. Tracy, U. Gill, and S. Kalhok

**2005 Human health implications of environmental contaminants in Arctic Canada: A review.** Science of The Total Environment 351:165-246.

**ABSTRACT:** The objectives of this paper are to: assess the impact of exposure to current levels of environmental contaminants in the Canadian Arctic on human health; identify the data and knowledge gaps that need to be filled by future human health research and monitoring; examine how these issues have changed since our first assessment [Van Oostdam, J., Gilman, A., Dewailly, L., Usher, P., Wheatley, B., Kuhnlein, H. et al., 1999. Human health implications of environmental contaminants in Arctic Canada: a review. Sci Total Environ 230, 1-82]. The primary exposure pathway for contaminants for various organochlorines (OCs) and toxic metals is through the traditional northern diet. Exposures tend to be higher in the eastern than the western Canadian Arctic. In recent dietary surveys among five Inuit regions, mean intakes by 20- to 40-year-old adults in Baffin, Kivalliq and Inuvialuit communities exceeded the provisional tolerable daily intakes (pTDIs) for the OCs, chlordane and toxaphene. The most recent findings in NWT and Nunavut indicate that almost half of the blood samples from Inuit mothers exceeded the level of concern value of 5  $\mu\text{g/L}$  for PCBs, but none exceeded the action level of 100  $\mu\text{g/L}$ . For Dene/Metis and Caucasians of the Northwest Territories exposure to OCs are mostly below this level of concern. Based on the exceedances of the pTDI and of various blood guidelines, mercury and to a lesser extent lead (from the use of lead shot in hunting game) are also concerns among Arctic peoples. The developing foetus is likely to be more sensitive to the effects of OCs and metals than adults, and is the age groups of greatest risk in the Arctic. Studies of infant development in Nunavik have linked deficits in immune function, an increase in childhood respiratory infections and birth weight to prenatal exposure to OCs. Balancing the risks and benefits of a diet of country foods is very difficult. The nutritional benefits of country food and its contribution to the total diet are substantial. Country food contributes significantly more protein, iron and zinc to the diets of consumers than southern/market foods. The increase in obesity, diabetes and cardiovascular disease has been linked to a shift away from a country food diet and a less active lifestyle. These foods are an integral component of good health among Aboriginal peoples. The social, cultural, spiritual, nutritional and economic benefits of these foods must be considered in concert with the risks of exposure to environmental contaminants through their exposure. Consequently, the contamination of country food raises problems which go far beyond the usual confines of public health and cannot be resolved simply by risk-based health advisories or food substitutions alone. All decisions should involve the community and consider many aspects of socio-cultural stability to arrive at a decision that will be the most protective and least detrimental to the communities. Crown Copyright (c) 2005 Published by Elsevier B.V All rights reserved.

**KEYWORDS:**

**NOTES:** Times Cited: 46

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Van Oostdam, J., A. Gilman, E. Dewailly, P. Usher, B. Wheatley, H. Kuhnlein, S. Neve, J. Walker, B. Tracy, M. Feeley, V. Jerome, and B. Kwavnick

**1999 Human health implications of environmental contaminants in Arctic Canada: a review.** Science of The Total Environment 230(1-3):1-82.

**ABSTRACT:** This paper assesses the impact on human health of exposure to current levels of environmental contaminants in the Canadian Arctic, and identifies the data gaps that need to be filled by future human health research and monitoring. The concept of health in indigenous groups of the Arctic includes social, cultural, and spiritual dimensions. The harvesting, sharing and consumption of traditional foods are an integral component to good health among Aboriginal people influencing both physical health and social well-being. Traditional foods are also an economic necessity in many communities. Consequently, the contamination of country food raises problems which go far beyond the usual confines of public health and cannot be resolved by health advisories or food substitutions alone. The primary exposure pathway for the contaminants considered in this paper is through the traditional northern diet. For the Inuit, the OCs of primary concern at this time from the point of view of exposure are chlordane, toxaphene, and PCBs. Exposures are higher in the eastern than in the western region of the North. For Dene/Metis, exposure to OCs is in general below a level of concern. However, estimated intake of chlordane and toxaphene has been found to be elevated for certain groups and is a cause for concern if exposures are elevated on a regular basis. The developing foetus and breast-fed infant are likely to be more sensitive to the effects of OCs and metals than individual adults and are the age groups at greatest risk in the Arctic. Extensive sampling of human tissues in the Canadian north indicate that a significant proportion of Dene, Cree and Inuit had mean maternal hair mercury levels within the 5% risk-range proposed by the WHO for neonatal neurological damage. Based on current levels, lead does not appear to pose a health threat while cadmium is likely only a major risk factor for heavy smokers or consumers of large amounts of organ meats. Consumers of traditional foods are exposed to an approximately seven-fold higher radiation dose than non-consumers of traditional foods due predominantly to the bioaccumulation of natural radionuclides in the food chain. Risk determination for contaminants in country food involves a consideration of the type and amounts of food consumed and the sociocultural, nutritional, economic, and spiritual benefits associated with country foods. Risk management options that minimize the extent to which nutritional and sociocultural aspects of Aboriginal societies are compromised must always be considered. (C) 1999 Elsevier Science B.V. All rights reserved.

**KEYWORDS:**

**NOTES:** Times Cited: 86

Vande Kamp, Mark E., Sarah Osterhoudt, and Darryll R. Johnson

**2004 The administrative context of social science in Alaskan NPS units and a critical review of existing social science research.** Pp. 135. Anchorage, AK: Alaska Region, National Park Service.

**ABSTRACT:** This document serves to support the development of a social science research plan for the Alaska region of the NPS. It will: 1) describe the administrative context of social science in the region by reviewing legislature, guidelines, and policies that dictate or influence social science and the way research is conducted, and 2) review the social science research that has been conducted within Alaska NPS units. Each of these two distinct goals is addressed in a separate section.

**KEYWORDS:**

**NOTES:**

Vander Pol, Stacy S., Paul R. Becker, Michael B. Ellisor, Amanda J. Moors, Rebecca S. Pugh, and David G. Roseneau

**2009 Monitoring organic contaminants in eggs of glaucous and glaucous-winged gulls (*Larus hyperboreus* and *Larus glaucescens*) from Alaska.** Environmental Pollution 157(3):755-762.



**ABSTRACT:** Gull eggs have been used to monitor contaminants in many parts of the world. The Seabird Tissue Archival and Monitoring Project (STAMP) is a long-term program designed to track trends in pollutants in northern marine environments using seabird eggs. Glaucous and glaucous-winged gull (*Larus hyperboreus* and *Larus glaucescens*) eggs collected in 2005 from seven Alaskan colonies were analyzed for organic contaminants. Concentrations ranged from below detection limits to 322 ng g<sup>-1</sup> wet mass in one egg for 4,4'-DDE and differed among the samples collected in the Gulf of Alaska and Bering and Chukchi Seas. Chick growth and survival rates may be affected by the contaminant levels found in the eggs, but **the eggs should be safe for human consumption if they are eaten in small quantities**. STAMP plans to continue collecting and banking gull eggs for future real-time and retrospective analyses.

**KEYWORDS:** Organic contaminant

Glaucous gull  
Glaucous-winged gull  
Seabird egg  
Subsistence food

**NOTES:**

VanStone, James W.

**1955 Archaeological excavations at Kotzebue, Alaska.** Anthropological Papers of the University of Alaska 3(2):75-155.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

VanStone, James W.

**1960 A successful combination of subsistence and wage economics on the village level.** Economic Development and Cultural Change 8(2):174-191.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

VanStone, James W.

**1973 VS Khromchenko's coastal explorations in Southwestern Alaska, 1822.** Fieldiana: Anthropology 64:1-95.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

VanStone, James W.

**1976 The Yukon River Ingalik: Subsistence, the fur trade, and a changing resource base.** Ethnohistory 23(3):198.

**ABSTRACT:** Throughout the period of historic contact, the Ingalik Indians, salmon fishermen of the lower-middle Yukon River in west-central Alaska, displayed a strong secondary dependence on large and small game animals. Patterns of fluctuating wildlife populations are examined and related to habitat changes, particularly those brought about by forest fires. Excessive trapping combined with ecological variations and a changing economic environment are shown to have been responsible for the decline in the fur trade apparent in the last decades of the 19th century.

**KEYWORDS:** Hit'an Indians, Yukon River

**NOTES:**

VanStone, James W.

**1977 AF Kashevarov's Coastal Explorations in Northwest Alaska, 1838.** Fieldiana: Anthropology 69:1-104.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

VanVeenen, Erik

**1979 Subsistence whaling in Alaska** Vol. Fifty-second Annual Report: Scott Polar Research Institute.

**ABSTRACT:** In a splendid geographic setting, the Eskimo of western and northwestern Alaska have for centuries risked the ice and elements in pursuit of one of the largest and most magnificent animals on earth, the Bowhead whale. The life cycle of the Bowhead whale wholly depends on the pack ice, near the edge of which it lives throughout the year. Commercial exploitation by Yankee whalers made heavy inroads on the Bowhead whale stocks of the north Pacific Ocean. Half a century of commercial exploitation of the Bowhead whale by Yankee whalers not only made heavy inroads on the whale stocks, it also made a heavy imprint on the life of the neolithic Eskimo whalers. Modern technological aids drastically altered the pattern of post-white contact whaling by Eskimos. This pattern was allowed to stabilize to some extent after the collapse of the commercial whaling industry in 1908. After the second world war a new wave of white presence in the north again caused drastic social and economic changes to take place. Earning opportunities on military and oil pipeline constructed affected whaling traditions. Many inexperienced Eskimo men aspiring for the traditional social status of whaling captain, were with their high incomes able for the first time to outfit their own crews. The century-old traditions in whaling eroded as a result, and some Eskimo whaling became merely a form of sport. In 1977 the interference of powerful conservationist groups, alarmed by the increased number of animals wounded by inexperienced and unethical whalers brought about an International Whaling Commission ban on the taking of Bowhead whales.

**KEYWORDS:**

**NOTES:**

Veltre, Douglas W.

**1985 Contemporary Aleut subsistence patterns: Resource utilization in four communities.** In Modern Hunting and Fishing Adaptations in northern North America. American Anthropological Association annual meeting. Pp. 1-36. Anchorage, Alaska.

**ABSTRACT:** Based upon field research conducted from 1980 to 1983, resource utilization in the contemporary Aleut communities of St. Paul, St. George, Unalaska, and Atka is examined to determine the factors responsible for similarities and differences in subsistence patterning. While similarities among these coastal island communities are found to be the result of fundamental environmental homogeneity and deeply rooted traditions within a single culture, differences in the use of natural food and fabricational resources may largely be attributed to postcontact events of the last 200 years, in particular political and economic factors over which the Aleuts have had little, if any, control.

**KEYWORDS:**

**NOTES:**

Veltre, Douglas W., and Mary J. Veltre

**1981 A preliminary baseline study of subsistence resource utilization in the Pribilof Islands.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This detailed report describes the conditions of the Native residents of Saint Paul and Saint George in the Pribilof Islands. The resources used for food, the harvest methods, harvest quotas, and the uses of the resources on the two islands are outlined. This is a baseline report for a larger study of the Pribilof Islands and other Aleutian communities.

**KEYWORDS:****NOTES:**

Veltre, Douglas W., and Mary J. Veltre

**1982 Resource utilization in Unalaska, Aleutian Islands, Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report presents baseline resource data on the harvest, distribution, preparation, and consumption of subsistence food resources in the multiracial Aleutian Island community of Unalaska. Following a discussion of historical resource uses from archaeological and ethnographic literature, the uses of various individual resources are explained in detail.

**KEYWORDS:****NOTES:**

Veltre, Douglas W., and Mary J. Veltre

**1983 Resource utilization in Atka, Aleutian Islands, Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report focuses on the historic and contemporary food and fabricational use of local resources by the Aleut residents of the village of Atka, the westernmost Native community in Alaska. Included in the study is an inventory of resources used, the methods by which they are obtained, and the patterns of distribution and use in the community.

**KEYWORDS:****NOTES:**

Verges, Scott C., and Thomas V. McClendon

**1980 Inupiat Eskimos, Bowhead whales, and oil: Competing federal interests in the Beaufort Sea.** Alaska Law Review 10(1):1-31.

**ABSTRACT:****KEYWORDS:****NOTES:**

Véron, René, and Garry Fehr

**2011 State power and protected areas: Dynamics and contradictions of forest conservation in Madhya Pradesh, India.** Political Geography 30(5):282-293.

**ABSTRACT:** The traditionally coercive and state-controlled governance of protected areas for nature conservation in developing countries has in many cases undergone change in the context of widespread decentralization and liberalization. This article examines an emerging "mixed" (coercive, community- and market-oriented) conservation approach in managed-resource protected areas and its effects on state power through a case study on forest protection in the central Indian state of Madhya Pradesh. The findings suggest that imperfect decentralization and partial liberalization resulted in changed forms, rather than uniform loss, of state power. A forest co-management program paradoxically strengthened local capacity and influence of the Forest Department, which generally maintained its territorial and knowledge-based control over forests and timber management. Furthermore, deregulation and reregulation enabled the state to withdraw from uneconomic activities but also implied reduced place-based control of non-timber forest products. Generally, the new policies and programs contributed to the separation of livelihoods and forests in Madhya Pradesh. The article concludes that regulatory, community- and market-based initiatives would need to be better coordinated to lead to more effective nature conservation and positive livelihood outcomes.

**KEYWORDS:** Nature conservation

Decentralization  
Liberalization

Territoriality  
Political ecology  
India

**NOTES:**

Victor-Howe, Anne-Marie

**2008 Subsistence harvests and trade of Pacific herring spawn on Macrocystis kelp in Hydaburg, Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes the subsistence uses of Pacific herring *Clupea pallasii* spawn on kelp in Hydaburg, a predominately Haida community on Prince of Wales Island in Southeast Alaska. The history of herring spawn-on-kelp harvests, barter, and trade by the Haida is summarized as reported in historical and contemporary sources.

**KEYWORDS:** Pacific herring, *Clupea pallasii*, spawn-on-kelp, *Macrocystis kelp*, *Macrocystis integrifolia*, Hydaburg, Haida, Prince of Wales Island

**NOTES:**

Vining, I., and J. Zheng

**2006 Status of king crab stocks in the Eastern Bering Sea in 2005:** Alaska Dept. of Fish and Game, Division of Sport Fish.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Vining, I., and J. Zheng

**2006 Status of king crab stocks in the Eastern Bering Sea in 2005:** Alaska Dept. of Fish and Game, Division of Sport Fish.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Vozoris, Nicholas T., and Valerie S. Tarasuk

**2003 Household Food Insufficiency Is Associated with Poorer Health.** *Journal of Nutrition* 133(1):120-126.

**ABSTRACT:** The purposes of this study were to estimate the prevalence of household food insufficiency in Canada, to identify sociodemographic characteristics of households most likely to report food insufficiency and to examine the relationship between food insufficiency and physical, mental and social health. These objectives were achieved through an analysis of data from the 1996/1997 National Population Health Survey. An estimated 4% of Canadians, 1.1 million people, were found to be living in food-insufficient households. Single-parent families, households reporting their major source of income as welfare, unemployment insurance or workers' compensation, those who did not own their own homes and households in Western Canada were more likely to report food insufficiency. The likelihood of reporting food insufficiency increased dramatically as income adequacy deteriorated. Individuals from food-insufficient households had significantly higher odds of reporting poor/fair health, of having poor functional health, restricted activity and multiple chronic conditions, of suffering from major depression and distress, and of having poor social support. Individuals in food-insufficient households were also more likely to report heart disease, diabetes, high blood pressure and food allergies. Men in food-insufficient households were less likely to be overweight; after adjusting for potentially confounding variables, no other associations were found between food insufficiency and body mass index. These findings suggest that food insufficiency is one dimension of a more pervasive vulnerability to a range of physical, mental and social health problems among households struggling with economic constraints.

**KEYWORDS:****NOTES:**

Walker, B, CS Holling, SR Carpenter, and A Kinzig

**2004 Resilience, adaptability and transformability in social-ecological systems.** Ecology and Society 9(2):5.

**ABSTRACT:** The concept of resilience has evolved considerably since Holling's (1973) seminal paper. Different interpretations of what is meant by resilience, however, cause confusion. Resilience of a system needs to be considered in terms of the attributes that govern the system's dynamics. Three related attributes of social-ecological systems (SESs) determine their future trajectories: resilience, adaptability, and transformability. Resilience (the capacity of a system to absorb disturbance and reorganize while undergoing change so as to still retain essentially the same function, structure, identity, and feedbacks) has four components—latitude, resistance, precariousness, and panarchy—most readily portrayed using the metaphor of a stability landscape. Adaptability is the capacity of actors in the system to influence resilience (in a SES, essentially to manage it). There are four general ways in which this can be done, corresponding to the four aspects of resilience. Transformability is the capacity to create a fundamentally new system when ecological, economic, or social structures make the existing system untenable. The implications of this interpretation of SES dynamics for sustainability science include changing the focus from seeking optimal states and the determinants of maximum sustainable yield (the MSY paradigm), to resilience analysis, adaptive resource management, and adaptive governance.

**KEYWORDS:** resilience, social-ecological systems

**NOTES:**

Walker, Robert J.

**2009 The validity and reliability of fisheries harvest monitoring methods, Southeast Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** The primary objective of this research was to evaluate the reliability and validity of harvest monitoring methods used to estimate the salmon harvested using legal subsistence personal use gear in Southeast Alaska. Data collected from Kake, Hoonah, Angoon, Petersburg, Wrangell, and Yakutat were addressed as part of this analysis. Methods included household surveys of the harvest of salmon using legal subsistence/personal use gear and statistically comparing the estimated harvests from surveys and permits. In Wrangell and Petersburg, where over 90% of permits were returned, and researchers concluded that the monitoring system was adequate. The Yakutat Area subsistence salmon fishery needs further research. For Angoon and Hoonah, the practice of sharing permits needs careful examination and regulations need to be crafted to accommodate this practice. For Kake, it is recommended that regularly-scheduled household surveys of salmon harvests using subsistence/personal use gear be undertaken.

**KEYWORDS:** Petersburg, Wrangell, Yakutat, Angoon, Hoonah, Kake, Chinook salmon, *Oncorhynchus tshawytscha*, coho salmon, *Oncorhynchus kisutch*, sockeye salmon, *Oncorhynchus nerka*, pink salmon, *Oncorhynchus gorbuscha*, chum salmon, *Oncorhynchus keta*, personal use, subs

**NOTES:**

Walker, Robert J., Elizabeth F. Andrews, David B. Andersen, and Neil Shishido

**1989 Subsistence harvest of Pacific salmon in the Yukon River drainage, Alaska 1977-88.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** Salmon fishing for subsistence in the Yukon River drainage in Alaska has a long history. The harvest has been documented consistently since 1961. However, survey methods and harvest reporting have varied. Successful management of the fishery and allocation among

the various uses hinge on precise estimates of subsistence harvests. A new methodology developed for improving the estimate was used to estimate the 1988 harvest. The revised methodology showed a 30% improvement overall in harvest estimation. That is, the previous methodology would have accounted for only 70% of the estimated 1988 harvest, although the difference varied by species and fishing district. Updating of household and fishing household lists, and intensive effort to contact most fishing households were also considered important factors in an improved estimate.

**KEYWORDS:**

**NOTES:**

Walker, Robert J., and Michael W. Coffing

**1993 Subsistence salmon harvests in the Kuskokwim Area during 1989.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** Subsistence salmon harvest data for 36 communities in the Kuskokwim Area during 1989 are presented. Three primary methods were used to obtain the data: household catch calendars, household interviews, and postcard and telephone surveys. Estimates of the total harvest were developed using a revised procedure. Data on types of gear used for subsistence fishing and the harvest of salmon to feed dogs is also presented.

**KEYWORDS:**

**NOTES:**

Walsh, J.F.

**1985 Settling the Alaska Native Claims Settlement Act.** Stanford Law Review:227-263.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Walsh, John J., Dwight A. Dieterle, F. Robert Chen, Jason M. Lenes, Wieslaw Maslowski, John J.

Cassano, Terry E. Whitledge, Dean Stockwell, Mikhail Flint, Irina N. Sukhanova, and John Christensen

**2011 Trophic cascades and future harmful algal blooms within ice-free Arctic Seas north of Bering Strait: A simulation analysis.** Progress In Oceanography In Press, Corrected Proof.

**ABSTRACT:** Within larger ice-free regions of the western Arctic Seas, subject to ongoing trophic cascades induced by past overfishing, as well as to possible future eutrophication of the drainage basins of the Yukon and Mackenzie Rivers, prior very toxic harmful algal blooms (HABs) - first associated with ~100 human deaths near Sitka, Alaska in 1799 - may soon expand. Blooms of calcareous coccolithophores in the Bering Sea during 1997-1998 were non-toxic harbingers of the subsequent increments of other non-siliceous phytoplankton. But, now saxitoxic dinoflagellates, e.g. *Alexandrium tamarense*, were instead found by us within the adjacent downstream Chukchi Sea during SBI cruises of 2002 and 2003. A previous complex, coupled biophysical model had been validated earlier by ship-board observations from the Chukchi/Beaufort Seas during the summer of 2002. With inclusion of phosphorus as another chemical state variable to modulate additional competition by recently observed nitrogen-fixers, we now explore here the possible consequences of altered composition of dominant phytoplankton functional groups [diatoms, microflagellates, prymnesiophyte *Phaeocystis* colonies, coccolithophores, diazotrophs, and dinoflagellates] in relation to increases of the toxic *A. tamarense*, responding to relaxation of grazing pressure by herbivores north of Bering Strait as part of a continuing trophic cascade. Model formulation was guided by validation observations obtained during 2002-2004 from: cruises of the SBI, CHINARE, and CASES programs; moored arrays in Bering Strait; other RUSALCA cruises around Wrangel Island; and SBI helicopter surveys of the shelf-break regions of the Arctic basin. Our year-long model scenarios during 2002-2003 indicate that post bloom silica-limitation of diatoms, after smaller simulated spring grazing losses, led to subsequent competitive advantages in summer for the coccolithophores,

dinoflagellates, and diazotrophs. Immediate top-down control is exerted by imposed grazing pressures of the model's herbivores and bottom-up control is also effected by light-, nitrate-, ammonium-, silicate-, and phosphate-modulated competition among the six functional groups of the simulated phytoplankton community. Similar to the history of the southern North Sea adjacent to the Rhine River, possible farming of northwestern Alaska and Canada, in conjunction with other human activities of ice retreat and overfishing, may lead to future exacerbations of poisonous phytoplankton. These potential killers include both toxic dinoflagellate and diazotroph HABs, deadly to terrestrial and marine mammals, as well as those of prymnesiophytes, some of which have already foamed beaches, while others have killed fishes of European waters.

**KEYWORDS:**

**NOTES:**

Walter, KM, SA Zimov, JP Chanton, D Verbyla, and FS Chapin III

**2006 Methane bubbling from Siberian thaw lakes as a positive feedback to climate warming.** Nature 443(7107):71-75.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Walter, K. M., M. E. Edwards, G. Grosse, S. A. Zimov, and F. S. Chapin, III

**2007 Thermokarst Lakes as a Source of Atmospheric CH<sub>4</sub> During the Last Deglaciation.** Science 318(5850):633-636.

**ABSTRACT:** Polar ice-core records suggest that an arctic or boreal source was responsible for more than 30% of the large increase in global atmospheric methane (CH<sub>4</sub>) concentration during deglacial climate warming; however, specific sources of that CH<sub>4</sub> are still debated. Here we present an estimate of past CH<sub>4</sub> flux during deglaciation from bubbling from thermokarst (thaw) lakes. Based on high rates of CH<sub>4</sub> bubbling from contemporary arctic thermokarst lakes, high CH<sub>4</sub> production potentials of organic matter from Pleistocene-aged frozen sediments, and estimates of the changing extent of these deposits as thermokarst lakes developed during deglaciation, we find that CH<sub>4</sub> bubbling from newly forming thermokarst lakes comprised 33 to 87% of the high-latitude increase in atmospheric methane concentration and, in turn, contributed to the climate warming at the Pleistocene-Holocene transition.

**KEYWORDS:**

**NOTES:**

Walter, Katey M., Laurence C. Smith, and F. Stuart Chapin

**2007 Methane bubbling from northern lakes: present and future contributions to the global methane budget.** Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences 365(1856):1657-1676.

**ABSTRACT:** Large uncertainties in the budget of atmospheric methane (CH<sub>4</sub>) limit the accuracy of climate change projections. Here we describe and quantify an important source of CH<sub>4</sub>—point-source ebullition (bubbling) from northern lakes—that has not been incorporated in previous regional or global methane budgets. Employing a method recently introduced to measure ebullition more accurately by taking into account its spatial patchiness in lakes, we estimate point-source ebullition for 16 lakes in Alaska and Siberia that represent several common northern lake types: glacial, alluvial floodplain, peatland and thermokarst (thaw) lakes. Extrapolation of measured fluxes from these 16 sites to all lakes north of 45°N using circumpolar databases of lake and permafrost distributions suggests that northern lakes are a globally significant source of atmospheric CH<sub>4</sub>, emitting approximately 24.2 Gt CH<sub>4</sub> yr<sup>-1</sup>. Thermokarst lakes have particularly high emissions because they release CH<sub>4</sub> produced from organic matter previously sequestered in permafrost. A carbon mass balance calculation of CH<sub>4</sub> release from thermokarst lakes on the Siberian Yedoma ice complex suggests that these lakes alone would emit as much as approximately 49 000 Tg CH<sub>4</sub> if this ice complex was to thaw.

completely. Using a space-for-time substitution based on the current lake distributions in permafrost-dominated and permafrost-free terrains, we estimate that lake emissions would be reduced by approximately 12% in a more probable transitional permafrost scenario and by approximately 53% in a 'permafrost-free' Northern Hemisphere. Long-term decline in CH<sub>4</sub> ebullition from lakes due to lake area loss and permafrost thaw would occur only after the large release of CH<sub>4</sub> associated thermokarst lake development in the zone of continuous permafrost.

**KEYWORDS:** northern lakes; methane emissions; permafrost; thermokarst; Geographical Information System; climate change

**NOTES:** "Rather than attempting to provide a precise estimate of lake CH<sub>4</sub> emissions, we sought to demonstrate that ebullition from lakes may be a much larger and globally significant source of atmospheric CH<sub>4</sub> than that previously thought because (i) point-source ebullition is a dominant (and previously unrecognized) source of CH<sub>4</sub> emissions from lakes, and (ii) lakes are a prominent landscape feature in the north that convert organic C sequestered for hundreds to thousands of years in permafrost into the radiatively important CH<sub>4</sub> in the atmosphere. Our calculations suggest that tens of thousands of teragrams of CH<sub>4</sub> will be released from thermokarst lakes as permafrost warms and thaws in the future, but that, eventually, disappearance of permafrost altogether will result in a net, approximately 50%, loss of lake area and associated CH<sub>4</sub> emissions from lakes." (p.1671)

Waters, Michael R., Steven L. Forman, Thomas A. Jennings, Lee C. Nordt, Steven G. Driese, Joshua M. Feinberg, Joshua L. Keene, Jessi Halligan, Anna Lindquist, James Pierson, Charles T. Hallmark, Michael B. Collins, and James E. Wiederhold

**2011 The Buttermilk Creek Complex and the Origins of Clovis at the Debra L. Friedkin Site, Texas.** Science 331(6024):1599-1603.

**ABSTRACT:** Compelling archaeological evidence of an occupation older than Clovis (~12.8 to 13.1 thousand years ago) in North America is present at only a few sites, and the stone tool assemblages from these sites are small and varied. The Debra L. Friedkin site, Texas, contains an assemblage of 15,528 artifacts that define the Buttermilk Creek Complex, which stratigraphically underlies a Clovis assemblage and dates between ~13.2 and 15.5 thousand years ago. The Buttermilk Creek Complex confirms the emerging view that people occupied the Americas before Clovis and provides a large artifact assemblage to explore Clovis origins.

**KEYWORDS:**

**NOTES:**

Watson, Alan, Janet Sproull, and Liese Dean

**2007 Science and stewardship to protect and sustain wilderness values.** Eighth World Wilderness Congress symposium, Anchorage, AK, 2007. Vol. RMRS-P-49. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station.

**ABSTRACT:** The Eighth World Wilderness Congress met in Anchorage, Alaska, in 2005. The symposium on science and stewardship to protect and sustain wilderness values was the largest of multiple symposia held in conjunction with the Congress. The papers contained in this proceedings were generated at this symposium, submitted by the author or authors for consideration for inclusion in this proceedings, and have been organized into nine major topics: (1) Alaska: past, present and future; (2) connections between wilderness and communities; (3) values to local and distant societies of wilderness protection; (4) establishing priorities and developing policies for wilderness protection; (5) wilderness stewardship challenges in a changing world; (6) encouraging stewardship through education; (7) place and spirit: commitment to wilderness; (8) protecting ecological integrity of wilderness; and (9) wilderness, water, and wisdom.



**KEYWORDS:** wilderness, biodiversity, protected areas, economics, subsistence, tourism, traditional knowledge, community involvement, policy, stewardship, education, spiritual values

**NOTES:**

Watts, D. J.

**2007 Connections A twenty-first century science.** Nature 445:489.

**ABSTRACT:** If handled appropriately, data about Internet-based communication and interactivity could revolutionize our understanding of collective human behaviour

**KEYWORDS:**

**NOTES:**

Webb, Patrick, Jennifer Coates, Edward A. Frongillo, Beatrice Lorge Rogers, Anne Swindale, and Paula Bilinsky

**2006 Measuring Household Food Insecurity: Why It's So Important and Yet So Difficult to Do.** Journal of Nutrition 136(5):1404S-1408.

**ABSTRACT:** Food insecurity is a daily reality for hundreds of millions of people around the world. Although its most extreme manifestations are often obvious, many other households facing constraints in their access to food are less identifiable. Operational agencies lack a method for differentiating households at varying degrees of food insecurity in order to target and evaluate their interventions. This chapter provides an overview of a set of papers associated with a research initiative that seeks to identify more precise, yet simple, measures of household food insecurity. The overview highlights three main conceptual developments associated with practical approaches to measuring constraints in access to food: 1) a shift from using measures of food availability and utilization to measuring "inadequate access"; 2) a shift from a focus on objective to subjective measures; and 3) a growing emphasis on fundamental measurement as opposed to reliance on distal, proxy measures. Further research is needed regarding 1) how well measures of household food insecurity designed for chronically food-insecure contexts capture the processes leading to, and experience of, acute food insecurity, 2) the impact of short-term shocks, such as major floods or earthquake, on household behaviors that determine responses to food security questions, 3) better measurement of the interaction between severity and frequency of household food insecurity behaviors, and 4) the determination of whether an individual's response to survey questions can be representative of the food insecurity experiences of all members of the household.

**KEYWORDS:**

**NOTES:**

Weber, M.

**1947 Theory of Social and Economic Organization.** A.M. Henderson and T. Parsons, transl. New York, New York, U.S.A.: Oxford University Press.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Wei Wo, CK, and HH Draper

**1975 Vitamin E status of Alaskan Eskimos.** American Journal of Clinical Nutrition 28(8):808-813.

**ABSTRACT:** A survey was conducted during 1971-1973 on the vitamin E status of Alaskan Eskimos. The subjects were 315 residents of the northern coastal villages of Wainwright and Point Hope and the southwestern inland villages of Kasigluk and Nunapitchuk. Plasma vitamin E levels for the 6- to 17-year-old subjects at Wainwright, Point Hope, and Nunapitchuk were 0.81 plus or minus 0.26, 0.90 plus or minus 0.20, and 0.84 plus or minus 0.25 mg/100 ml (mean and standard deviation), respectively. The values for adults at Wainwright, Point Hope, and Kasigluk

were 1.23 plus or minus 0.27, 1.23 plus or minus 0.27, and 1.27 plus or minus 0.33 mg/100 ml, respectively. No value less than 0.30 mg/100 ml was observed. Alpha-tocopherol was the only isomer present in significant amounts. Plasma vitamin E levels did not change significantly between 6 and 17 years of age; however, a steady increase with age was observed in the 18- to 69-year-old groups. Plasma alpha-tocopherol concentrations were significantly lower in children than in adults but there were no differences attributable to sex or geographic location. Vitamin E concentration in the blood plasma was linearly correlated with cholesterol concentration. Values are reported for the vitamin E content of some native foods. This study indicates that plasma vitamin E levels in Alaskan Eskimos consuming a high meat or fish diet are comparable to those in adults of the United States consuming a mixed diet.

**KEYWORDS:**

**NOTES:**

Weigl, Peter D.

**2009 The Natural History Conundrum Revisited: Mammalogy Begins at Home.** *Journal of Mammalogy* 90(2):265-269.

**ABSTRACT:** This commentary is the text of an oral presentation delivered at the 88th Annual Meeting of the American Society of Mammalogists in Brookings, South Dakota, on 22 June 2008 to recognize receipt of the Joseph Grinnell Award for Excellence in Education in Mammalogy. Much has been written by previous recipients of the Joseph Grinnell Award about the declining interest in natural history and organismic biology in academia and in society in general. In the course of 40 years of university teaching and student advising, as well as field research with students on 5 continents, I too have witnessed this increasing abandonment of the natural world. This phenomenon seems to stem from changes in the early experiences of children and young people over the past 40 years and, thus, I would advance the premise that mammalogy and other branches of natural history begin at home. Three types of learning seem important to the developing mind. First is the time and opportunity for unstructured, unforced exploration of the local environment -- time to develop from the inside out rather than merely as a shell coated with a number of intellectual veneers. Second is learning from the example and caring instruction of enthusiastic parents, teachers, and mentors. Third is the transfer of information -- from personal experience, reading, teaching, and selectively from a vast array of electronic sources -- once again with time for synthesis and contemplation. All 3 types of learning appear to be critical to an appreciation of the natural world. Unfortunately, these processes have been grossly distorted by the loss of outdoor experience, by parental fears and ambitions, and by a kind of electronic idolatry associated with constant entertainment, instant gratification, and virtual relationships. Such an upbringing may affect not only a child's physical and mental health, but his or her future commitment to preserving the natural world as an adult. Published studies of "nature deficit disorder" and "videophilia" now describe this phenomenon and challenge families, schools, and scientific organizations to respond in a timely way.

**KEYWORDS:** child development; electronic idolatry; natural history; parental pressure

**NOTES:** doi: 10.1644/08-MAMM-S-232.1

Wein, Eleanor E.

**1996 Foods and Nutrients in Reported Diets versus Perceived Ideal Diets of Yukon Indian People.** *Journal of Nutrition Education* 28(4):202-208.

**ABSTRACT:** A common belief among northern aboriginal people is that they would enjoy better health if their diet contained a greater proportion of indigenous foods. The accuracy of this belief was examined among 121 adults of three Yukon First Nations, living in remote and urban communities, by comparing mean nutrient levels in a fall season 24-hour recall of actual food consumption with those in a quantitative one day's description of their perceived ideal diet for health. The latter was obtained immediately following the 24-hour recall using a similar

interviewing technique. Graduated three-dimensional food models were used to estimate portion sizes. Compared to the actual diet, the perceived ideal diet mentioned traditional foods about twice as often and provided, on average, 245 more kcal and higher levels of most nutrients ( $p < .05$ ), although the percentage of energy from fat was the same. The perceived ideal diet met health recommendations for more nutrients than the actual diet; nevertheless, for both men and women, calcium remained below the recommendation, while folate remained below the recommendation for men. Energy from fat (34%) was higher than recommended. Implications of results are discussed for nutrition education in aboriginal communities.

**KEYWORDS:**

**NOTES:**

Wein, Eleanor E., Milton M. R. Freeman, and Jeanette C. Makus

**1996 Use of and preference for traditional foods among the Belcher Island Inuit.** *Arctic* 49(3):256-264.

**ABSTRACT:** To document the extent of use of traditional foods (marine and land mammals, birds, fish, and plants) and degree of preference for these foods in contemporary diets and culture, 102 households (98% of Inuit households) in the community of Sanikiluaq, Northwest Territories, Canada, were studied. During personal interviews, individuals estimated their frequency of use of traditional foods, systematically by season. In addition, 100 adults (from 96% of households) and 64 young people (84% of those in Grades 6–11) rated 41 foods (32 traditional and 9 market foods) for preference on a 5-point hedonic scale. According to respondents' estimates, traditional foods were used by all households, on average  $1,171 \pm 852$  times annually. Fish and shellfish were most frequently consumed ( $523 \pm 490$  times annually), followed by birds ( $254 \pm 204$ ), sea mammals ( $184 \pm 161$ ), berries ( $166 \pm 115$ ), and land mammals ( $45 \pm 70$ ). Preference ratings showed that most traditional foods were well-liked by both adults and young people, although adults rated 25 traditional foods higher ( $p < 0.01$ ) and 2 market foods lower ( $p < 0.01$ ) than young people did. Traditional foods remain an important part of contemporary Sanikiluaq lifestyle.

**KEYWORDS:** traditional foods; food preferences; Belcher Island: Inuit; Sanikiluaq

**NOTES:**

Welfinger-Smith, Gretchen, Judith L. Minholz, Sam Byrne, Vi Waghiyi, Jesse Gologergen, Jane Kava, Morgan Apatiki, Eddie Ungott, Pamela K. Miller, John G. Arnason, and David O. Carpenter

**2011 Organochlorine and Metal Contaminants in Traditional Foods from St. Lawrence Island, Alaska.** *Journal of Toxicology & Environmental Health: Part A* 74(18):1195-1214.

**ABSTRACT:** Marine mammals (bowhead whale, walrus, and various seals) constitute the major component of the diet of the Yupik people of St. Lawrence Island, Alaska. St. Lawrence Island residents have higher serum concentrations of polychlorinated biphenyls (PCB) than in the general U.S. population. In order to determine potential sources, traditional food samples were collected from 2004 to 2009 and analyzed for PCBs, three chlorinated pesticides, and seven heavy metals (mercury, copper, zinc, arsenic, selenium, cadmium, and lead). **Concentrations of PCB in rendered oils (193-421 ppb) and blubber (73-317 ppb) from all marine mammal samples were at levels that trigger advisories for severely restricted consumption, using U.S. Environmental Protection Agency (EPA) fish consumption advisories. Concentrations of pesticides were lower, but were still elevated.** The highest PCB concentrations were found in polar bear (445 ppb) and the lowest in reindeer adipose tissue (2 ppb). Marine mammal and polar bear meat in general have PCB concentrations that were 1-5% of those in rendered oils or adipose tissue. PCB concentrations in organs were higher than meat. Concentrations of metals in oils and meats from all species were relatively low, but increased levels of mercury, cadmium, copper, and zinc were present in some liver and kidney samples. Mercury and arsenic were found in lipid-rich samples, indicating organometals. These results

show that the source of the elevated concentrations of these contaminants in the Yupik population is primarily from consumption of marine mammal blubber and rendered oils.

**KEYWORDS:**

**NOTES:**

Welfinger-Smith, Gretchen, Judith L. Minholz, Sam Byrne, Vi Waghiyi, Jesse Golodergren, Jane Kava, Morgan Apatiki, Eddie Ungott, Pamela K. Miller, John G. Arnason, and David O. Carpenter

**2011 Organochlorine and Metal Contaminants in Traditional Foods from St. Lawrence Island, Alaska.** Journal of Toxicology & Environmental Health: Part A 74(18):1195-1214.

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**KEYWORDS:** contaminants, subsistence, diet, marine mammals, fish, birds, plants, bowhead whale, walrus, seals, reindeer

**NOTES:** "In comparison to other Arctic regions, there is a paucity of data on concentrations of recalcitrant pollutants in traditional foods from Alaska. Unlike the situation with food consumed by the Inuit in Eastern Canada and Greenland, where contaminants originate primarily from North America, **marine mammals in the northern Pacific are likely to be affected more by contaminants coming from Asia.** In many regions of the Arctic, recalcitrant pollutants reach concentrations that produce adverse health effects in food animals (Letcher et al. 2010), and by implication are likely to also produce adverse health effects in humans who consume these animals. Furthermore, there is reason for concern that the situation will become worse in the era of global warming of the Arctic (Jenssen 2006; Ford and Pearce 2010). Increasing temperatures associated with climate change may affect contaminant fluxes into Arctic ecosystems, and release previously sequestered contaminants into the environment, compounding this effect (Noyes et al. 2009). The multiple beneficial properties of traditional foods and their integral role in the vitality of northern Indigenous communities make it essential to understand the current extent of contamination in these food sources and to follow changes in the future." (p. 1196-97)

"This study of the dietary sources of the St. Lawrence Island Yupik provides a snapshot not just of the contaminant exposure in their local subsistence diet, but also of the current contaminant exposure of the wildlife in this area. **The results demonstrate levels of PCB in traditional foods at concentrations that pose clear adverse effects on human health.** Levels of chlorinated pesticides and organic mercury are also sufficiently high to be a reason for concern. Within the context of traditional foods, the lowest contaminants are founds in plants, reindeer meat, and the meat of marine species. **Levels of PCB in the blubber/adipose tissue all trigger severe consumption restriction advisories when one applies U.S. EPA guidance**

**for fish, but these guidelines need to be balanced by other considerations including culture and tradition.** The primary goal is to preserve the culture and lifestyle associated with traditional foods, but at the same time provide the community members necessary information to make their own informed decisions. However, it is imperative to take measures to reduce exposures where possible and eliminate sources of PCB, chlorinated pesticides, and metals through state, national, and international policy actions." (p. 1210)

Wenger, Jay D., Louisa J. Castrodale, Dana L. Bruden, James W. Keck, Tammy Zulz, Michael G. Bruce, Donna A. Fearey, Joe McLaughlin, Debby Hurlburt, Kim Boyd Hummel, Sassa Kitka, Steve Bentley, Timothy K. Thomas, Rosalyn Singleton, John T. Redd, Larry Layne, James E. Cheek, and Thomas W. Hennessy

**2011 2009 Pandemic Influenza A H1N1 in Alaska: Temporal and Geographic Characteristics of Spread and Increased Risk of Hospitalization among Alaska Native and Asian/Pacific Islander People.** *Clinical Infectious Diseases* 52(suppl 1):S189-S197.

**ABSTRACT:** Alaska Native people have suffered disproportionately from previous influenza pandemics. We evaluated 3 separate syndromic data sources to determine temporal and geographic patterns of spread of 2009 pandemic influenza A H1N1 (pH1N1) in Alaska, and reviewed records from persons hospitalized with pH1N1 disease in 3 areas in Alaska to characterize clinical and epidemiologic features of disease in Alaskans. A wave of pH1N1 disease swept through Alaska beginning in most areas in August or early September. In rural regions, where Alaska Native people comprise a substantial proportion of the population, disease occurred earlier than in other regions. **Alaska Native people and Asian/Pacific Islanders (A/PI) were 2-4 times more likely to be hospitalized than whites. Alaska Native people and other minorities remain at high risk for early and substantial morbidity from pandemic influenza episodes.** These findings should be integrated into plans for distribution and use of vaccine and antiviral agents.

**KEYWORDS:**

**NOTES:**

Wenzel, George W.

**1999 Traditional ecological knowledge and Inuit: reflections on TEK research and ethics.** *Arctic* 52(2):113-124.

**ABSTRACT:** The intimate knowledge that Inuit possess about the environment has figured prominently in North American Arctic research since at least the mid-1960s, when adherents of Julian Steward's adaptationist perspective essentially displaced the acculturation paradigm that until then had dominated Inuit studies. While Nelson's *Hunters of the Northern Ice* is the prototype of integrating traditional ecological knowledge (TEK) into the cultural analysis of Inuit, virtually all ecologically framed research on Inuit adaptation since has drawn extensively on TEK, if only as one of several information sources. Recently, however, Inuit and agencies and individuals concerned with the conduct of research in the North have expressed concern about the appropriation of this culturally specific knowledge. In the contemporary research environment of Nunavut, TEK is now a political (as well as scientific and cultural) concern. More specifically, I conclude that 1) TEK is not qualitatively different from other scientific data sets; therefore, its analysis and interpretation must be subject to the same "rules" that apply to other forms of information; 2) TEK, because it is frequently contextualized in individuals, demands closer ethical treatment than it has previously been accorded; and 3) the protection of TEK from "abuse" by scientists through intellectual property rights initiatives is problematic and unlikely to serve the long-term interests of either Inuit or researchers.

**KEYWORDS:** traditional ecological knowledge; Inuit; research ethics; intellectual property rights

**NOTES:**

Wenzel, G. W.

**2009 Canadian Inuit subsistence and ecological instability- if the climate changes, must the Inuit?** Polar Research 28(1):89-99.

**ABSTRACT:** Considerable attention has been devoted to the possible effects of global climate change on the environment of the circumpolar world. With regard to the Inuit, the aboriginal culture of Arctic Canada, research interest has focused principally on the vulnerability of the hunting and harvesting component of the traditional food system, otherwise frequently referred to as the subsistence system, if wild terrestrial and marine resources become less available. Although also concerned with the traditional Inuit food economy, this paper concentrates on the customary institutional mechanisms by which the Inuit distribute and share the products obtained from hunting. After analysing this social economy, a review of the data on recent climate-related range changes of a number of Arctic animal populations is carried out, in terms of how projected environmental changes may affect this other aspect of Inuit subsistence. After tentatively concluding that some species substitution and/or replacement will occur, the final aspect of the paper considers the potential for the possible exclusion of these "replacements" as a result of the political aspect of climate change.

**KEYWORDS:**

**NOTES:** Times Cited: 0

Wenzel, George W., Grete K Hovelsrud-Broda, and Nobuhiro Kishigami, eds.

**2000 The social economy of sharing: resource allocation and modern hunter-gatherers:** National Museum of Ethnology

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

West, Colin Thor

**2009 Domestic Transitions, Desiccation, Agricultural Intensification, and Livelihood Diversification among Rural Households on the Central Plateau, Burkina Faso.** American Anthropologist 111(3):275-288.

**ABSTRACT:** Understanding how and why domestic groups alter their function and form has long been a theme within anthropology. Numerous accounts have detailed the processes that drive household transformations and their underlying mechanisms. Mostly, these studies describe how domestic groups fission and fuse between extended and nuclear forms. In recent years, scholars have emphasized that these transformations should be understood within larger contexts of social and environmental change. Mossi communities on the Central Plateau of Burkina Faso provide an excellent opportunity to explore such processes because the large extended households documented 30 years ago were predicted to decline and eventually disappear. In this study, I examine dynamics of household transformations and test the validity of this prediction. I use perspectives from sustainability science and computer-simulation modeling to understand how regional desiccation, agricultural intensification, and livelihood diversification articulate with domestic transitions.

**KEYWORDS:**

**NOTES:** 10.1111/j.1548-1433.2009.01132.x

West, Frederick Hadleigh

**1966 Archaeology of Ogotoruk Creek.** Environment of the Cape Thompson region, Alaska. US Atomic Energy 1:250.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

West, Paige, James Igoe, and Dan Brockington

**2006 Parks and peoples: The social impact of protected areas.** Annual Review of Anthropology 35:251-277.

**ABSTRACT:** This review examines the social, economic, and political effects of 1 environmental conservation projects as they are manifested in protected areas. We pay special attention to people living in and displaced from protected areas, analyze the worldwide growth of protected areas over the past 20 years, and offer suggestions for future research trajectories in anthropology. We examine protected areas as a way of seeing, understanding, and producing nature (environment) and culture (society) and as a way of attempting to manage and control the relationship between the two. We focus on social, economic, scientific, and political changes in places where there are protected areas and in the urban centers that control these areas. We also examine violence, conflict, power relations, and governmentality as they are connected to the processes of protection. Finally, we examine discourse and its effects and argue that anthropology needs to move beyond the current examinations of language and power to attend to the ways in which protected areas produce space, place, and peoples.

**KEYWORDS:**

**NOTES:**

Wexler, Lisa Marin

**2006 Inupiat youth suicide and culture loss: Changing community conversations for prevention.** Social Science & Medicine 63(11):2938-2948.

**ABSTRACT:** Inupiat living in Northwest Alaska have one of the highest youth suicide rates in the world. Other circumpolar peoples share this disturbing distinction. This demographic and ethnic health disparity has spurred research that investigates acculturation stress as a cause of Inuit youth suicide. Despite this body of knowledge, few studies describe how local people connect suicide to culture loss, even though this understanding is crucial for developing effective prevention and intervention strategies. This article describes how Inupiat understand and talk about youth suicide and suicide prevention within public settings. I have used participatory action research (PAR) to illuminate the meanings and processes that surround youth suicide. In meetings focused on suicide prevention, local people clearly link self-destruction with historical oppression, loss of the Inupiaq culture and current manifestations of these realities in alcoholism, abuse and neglect. This narrative typically focuses on young people and the Inupiaq community's current failure to lead them to a bright future. The article describes these understandings and offers suggestions to expand them in order to create new possibilities for community-based prevention and the promotion of wellness in circumpolar communities.

**KEYWORDS:** Inuit suicide

Acculturation stress

Ethnography

Universal suicide prevention

Cultural renewal

Alaska

USA

Youth

**NOTES:**

Wheeler, Priscilla

**1987 Salmon fishing patterns along the Middle Yukon River at Kaltag, Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes historical and contemporary salmon fishing patterns in the Middle Yukon River community of Kaltag. The research focused on the interrelationships between commercial and subsistence salmon fisheries and the effects of state fishing

regulations on traditional fishing patterns. Fieldwork was conducted during the 1985 salmon fishing season.

**KEYWORDS:**

**NOTES:**

Wheeler, Polly, and Amy Craver

**2005 Office of subsistence management and issues and challenges of integrating TEK into subsistence fisheries management.** Practicing Anthropology 27:15-19.

**ABSTRACT:**

**KEYWORDS:** Descriptor: Alaska

Fisheries

North American Indians

Indigenous peoples

Traditional knowledge

Environmental resource management

CULTURAL ETHNOGRAPHY

AMERICAS

NORTH AMERICA

**NOTES:** Using Smart Source Parsing

no. 1 (), p. Journal Code: Pract Anthropol

in thematic issue 'Traditional environmental knowledge in federal natural resource management agencies' Document Type: article

Wheeler, Polly, and Tom Thornton

**2005 Subsistence research in Alaska: A thirty year retrospective.** Alaska Journal of Anthropology 3(1):69-103.

**ABSTRACT:** Subsistence hunting, fishing, and gathering has been the foundation of Alaska Natives' historical existence and the most contentious and intractable political issue of Alaska's modern history as a state. As both a basic cultural system and thorny public policy issue, subsistence has provided a rich base for anthropological inquiry, especially in the past thirty years, since the birth of the Alaska Anthropological Association. While anthropological inquiry into subsistence in Alaska certainly did not begin with the inception of the Association, it could be argued that the history of the Association, and the focus of many of its members, are intimately tied to understanding and explaining the unique economic, political, cultural and ideological phenomena associated with subsistence. This review essay highlights important findings and themes in subsistence research over the past 30 years and how they bear on contemporary subsistence policy and research emphases and needs. We close by offering some general conclusions about subsistence research in relation to public policy, as well as some practical directions for future anthropological work on this important, enduring issue.

**KEYWORDS:** political ecology; culture change; TEK

**NOTES:** "While we are confident in saying that anthropological knowledge regarding attributes of subsistence economies is far more rich and comprehensive than it was when the Alaska Anthropological Association began some 30 odd years ago, we must question if this is enough? Why, if so much anthropological work has addressed various aspects of subsistence in Alaska, are we not any closer to deriving effective subsistence policy? Why is it that after so much work, the central paradigm for fish and game management in the state continues to be biological? Why, in spite of a common anthropological understanding of subsistence as being so much more than economics, do we continue to have that as the driving question in most subsistence research? Why is TEK rarely incorporated into fisheries and wildlife management?" (page 85)



Wheeler, Priscilla Carvill

**1998 The Role of Cash in Northern Economies: A Case Study of Four Alaskan Athabascan Villages.** Ph.D., University of Alberta.

**ABSTRACT:** This study examines contemporary resource use by members of four Athabascan communities in the lower Yukon River region of Alaska. In addition to discussing the substantial wild resource use by members of the four communities, the role of cash is analyzed as one of many resources in the economic system. The Deg hi'tan and Doy hi'tan Athabascans residing in the four communities of Grayling, Anvik, Shageluk, and Holy Cross rely on a wide variety of fish, game, and cash resources; and the contemporary economies of the four communities are based on a unique combination of wild fish and game and cash resources. I demonstrate that while soundly rooted in and conditioned by their historical precedents, the local economies reflect adaptive and flexible strategies employing combinations of wild fish and game resources and cash obtained from a variety of sources. The role of cash in traditional or subsistence economies has been an important one in hunter-gatherer studies. Since publication of "Tappers and Trappers: Parallel Processes in Acculturation," (Murphy and Steward 1956), considerable anthropological dialogue has focused on defining and describing the so-called modern hunter-gatherer or forager economy. While theoretical and methodological foci have changed, a consistent theme has been the separation of subsistence and cash sectors of the economy, be it labeled as a dual economy or separate sectors. In this study, **I challenge the model which separates the subsistence and cash sectors of the economy, and instead consider cash from the local perspective, as one of many resources.** In examining the role of cash in the economic system, I consider emic perceptions of cash. I illustrate that rather than comprising a separate economic system, cash is utilized within the system outside of its capitalist trappings and, as such, it does not entail the introduction, insertion, or dominance of a capitalist mode of production inside the economy.

**KEYWORDS:** Grayling, Anvik, Shageluk, Holy Cross, subsistence, cash, economy

**NOTES:**

White, Daniel, Larry Hinzman, Lilian Alessa, John Cassano, Molly Chambers, Kelly Falkner, Jennifer Francis, William J. Gutowski, Marika Holland, R. Max Holmes, Henry Huntington, Douglas Kane, Andrew Kliskey, Craig Lee, James McClelland, Bruce Peterson, T. Scott Rupp, Flamma Staneo, Michael Steele, Rebecca Woodgate, Daqing Yang, Kenji Yoskikawa, and Tingjun Shang

**2007 The Arctic freshwater system: changes and impacts.** Journal of Geophysical Research 112(G4).

**ABSTRACT:** Dramatic changes have been observed in the Arctic over the last century. Many of these involve the storage and cycling of fresh water. On land, precipitation and river discharge, lake abundance and size, glacier area and volume, soil moisture, and a variety of permafrost characteristics have changed. In the ocean, sea ice thickness and areal coverage have decreased and water mass circulation patterns have shifted, changing freshwater pathways and sea ice cover dynamics. Precipitation onto the ocean surface has also changed. Such changes are expected to continue, and perhaps accelerate, in the coming century, enhanced by complex feedbacks between the oceanic, atmospheric, and terrestrial freshwater systems. Change to the arctic freshwater system heralds changes for our global physical and ecological environment as well as human activities in the Arctic. In this paper we review observed changes in the arctic freshwater system over the last century in terrestrial, atmospheric, and oceanic systems.

**KEYWORDS:**

**NOTES:**

White, Daniel M., S. Craig Gerlach, Philip A. Loring, Amy Tidwell, and Molly C. Chambers

**2007 Food and water security in a changing arctic climate.** Environmental Research Letters 2(4):045018.

**ABSTRACT:** In the Arctic, permafrost extends up to 500 m below the ground surface, and it is generally just the top metre that thaws in summer. Lakes, rivers, and wetlands on the arctic landscape are normally not connected with groundwater in the same way that they are in temperate regions. When the surface is frozen in winter, only lakes deeper than 2 m and rivers with significant flow retain liquid water. Surface water is largely abundant in summer, when it serves as a breeding ground for fish, birds, and mammals. In winter, many mammals and birds are forced to migrate out of the Arctic. Fish must seek out lakes or rivers deep enough to provide good overwintering habitat. Humans in the Arctic rely on surface water in many ways. Surface water meets domestic needs such as drinking, cooking, and cleaning as well as subsistence and industrial demands. Indigenous communities depend on sea ice and waterways for transportation across the landscape and access to traditional country foods. The minerals, mining, and oil and gas industries also use large quantities of surface water during winter to build ice roads and maintain infrastructure. As demand for this limited, but heavily-relied-upon resource continues to increase, it is now more critical than ever to understand the impacts of climate change on food and water security in the Arctic.

**KEYWORDS:**

**NOTES:**

White, Harrison C.

**1966** Notes on coupling-decoupling. Pp. 8.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Whiting, Alex

**2004** The relationship between *Qikiktagrugmiut* (Kotzebue tribal members) and the Western Arctic Parklands, Alaska, United States. International Journal of Wilderness 10(2):28-31.

**ABSTRACT:**

**KEYWORDS:** Kotzebue, ANILCA, National Park Service, tribe, subsistence, management, wilderness

**NOTES:** Although wilderness protection provides some benefits to users, the threat of an ongoing land use relationship being destroyed through dependence on legislative, administrative, and legal decision making is a source of anxiety in the Alaska Native community. ANILCA could have addressed this, in part, by developing new park designations and management regimes specifically for protecting traditional relationships, with other park objectives being equal or subordinate. This approach was proposed for the Nunamiut Wildlands in what is now Gates of the Arctic National Park, but was rejected (Norris 2002). Furthermore, the predominantly nonlocal, and in many ways transient, nature of WEAR staff makes it difficult for them to build relationships needed to establish trust with local users.

The mistrust and hostilities revealed by many respondents in these interviews can, in part, be explained by the natural reaction of a colonized people subject to regulation by a dominant society. There are also historical examples of regulators in northwestern Alaska acting in ways that are interpreted by locals as being overly oppressive, perpetuating opinions that enforcement efforts are unreasonable, that there is an "occupying army," or that the people are being babysat while on the land—all of which were mentioned by one or more respondents. Currently, perceptions of agency personnel carry the baggage of past injustices, real or perceived, perpetuated by representatives of their kind. (p., 31)

Whiting, Alex

**2006** Native village of Kotzebue harvest survey program 2002-2003-2004. Pp. 22. Kotzebue: Native Village of Kotzebue.

**ABSTRACT:****KEYWORDS:**

**NOTES:** During the three study years, estimated total harvests varied from 1,401,325 pounds in 2002, to 892,782 pounds in 2003, to 1,022,847 pounds in 2004. Households harvested an average of 5,031 edible pounds of subsistence foods in 2002, 2,996 pounds in 2003, and 3,237 pounds in 2004. Five species – caribou, sheefish, bearded seal, chum salmon, and moose – accounted for about 90 percent of the harvest in each of the three study years.

Fish made up 40 to 55 percent of the total harvest by weight, followed by marine and land mammals comprising 20 to 29 percent each. Only about 1 percent of the annual catch was birds and their eggs. Annual marine mammal and bird catches were particularly consistent, with only a 100-pound per household range for marine mammals and a 4-pound per household range for birds. The estimated average catch per household was about 1,000 pounds for land mammals, 1,000 pounds for marine mammals, and 1,200 to 2,800 pounds for fish. (p. 8)

The substantially higher estimated catches in 2002 were concentrated among the major species. That is, in 2002 the estimated catches of nine of the top ten species (by edible weight) were greater than the average estimated catches in the other two years. Sheefish in 2002 accounted for 465,540 pounds, compared with an average of 217,162 pounds in 2003 and 2004. Likewise, chum salmon catches in 2002 were 56 percent greater than in the other two years, and caribou harvests were 31 percent greater. At the other end of the scale, minor species like trout and geese were about 25 percent less in 2002 than in the other two years. These results do not mean that there was less actual harvest in 2003 and 2004; only they reflect the fact that a few households that harvest a great majority by weight of the total fish catch were surveyed in 2002 and not included in the two following years through random chance. (p 9)

Whiting, Alex, David Griffith, Stephen Jewett, Lisa Clough, William Ambrose, and Jeffrey C. Johnson  
**2011 Combining Iñupiaq and scientific knowledge: Ecology in northern Kotzebue Sound, Alaska.** Fairbanks: Alaska Sea Grant College Program.

**ABSTRACT:**

**KEYWORDS:** Kotzebue, Kotzebue Sound, subsistence, traditional ecological knowledge, ecology, marine mammals, fish

**NOTES:** This book brings together traditional ecological knowledge and scientific ecological knowledge to present a comprehensive understanding of species and environmental processes in Kotzebue Sound in northwestern Alaska. Unique contributions include month-by-month seasonal accounts, and the incorporation of Iñupiaq knowledge in descriptions of more than 65 illustrated marine species. The book draws heavily on interviews with Iñupiaq hunters and fishers and uses quotes liberally, showing how the Iñupiaq think about and talk about marine mammals and fish, and how they relate species abundance, quality, and health to ice and storm patterns and other changes in the physical environment. The work is based on a three-year research project, developed cooperatively between nonlocal researchers and the Native Village of Kotzebue and funded by the National Science Foundation.

Wigutoff, Norman B. , and Clarence J. Carlson  
**1950 A survey of the commercial fishery possibilities of Seward Peninsula area, Kotzebue Sound, and certain inland rivers and lakes in Alaska.** 1-24.

**ABSTRACT:****KEYWORDS:****NOTES:**

Wilde, Parke E.

**2004 Differential Response Patterns Affect Food-Security Prevalence Estimates for Households with and without Children.** Journal of Nutrition 134(8):1910-1915.

**ABSTRACT:** To produce national prevalence estimates for "food insecurity" and "food insecurity with hunger," the USDA uses a battery of 18 survey items about symptoms of food-related hardship. Ten items refer to adults in the household, while 8 items refer to children in the household and hence are not asked of households without children. To equate food-security status in households with and without children, the USDA uses a statistical model from item response theory, known as the Rasch model. This model requires an assumption that adult-referenced items have the same severity calibrations for all households, including households with and without children. However, empirical estimates from the 2000 Current Population Survey showed significantly different severity calibrations for households with and without children. These differences have implications for observable response patterns. Holding constant the number of affirmative responses to adult-referenced items, households with children were more likely to respond that they "worried food would run out," and households without children were more likely to be unable to afford "balanced meals." In light of such differences, the Rasch model cannot be used to equate the food-security status of households with and without children. One potential solution would be to estimate household food security by using the same battery of adult-referenced survey items for all households.

**KEYWORDS:**

**NOTES:**

Wilkinson, M. J., Y. Yai, and D. M. O'Brien

**2007 Age-related variation in red blood cell stable isotope ratios (delta C-13 and delta N-15) from two Yupik villages in Southwest Alaska: A pilot study.** *International Journal of Circumpolar Health* 66(1):31-41.

**ABSTRACT:** Objectives. A significant fraction of the Alaska Native population appears to be shifting from a primarily subsistence-based diet to a market-based diet; therefore, the ability to link diet pattern to disease risk has become increasingly important to predicting public health needs. Our research aims to develop the use of stable isotope ratios as diet pattern biomarkers, based on naturally-occurring isotopic differences in the elemental composition of subsistence and non-subsistence foods. These differences are reflected in human blood, hair and fingernail isotope signatures. Study design. In this preliminary study, we investigate the potential for C-13 and N-15 to serve as dietary biomarkers for age-related dietary differences in a subset of participants involved with a long-term study initiated by the Center for Alaska Native Health Research (CANHR) at the University of Alaska Fairbanks (UAF). Methods. We measured delta C-13 and delta N-15 in red blood cells collected from 12 "elder" participants (age 60+ yrs) and 14 younger participants (age 14-19 yrs). Samples were evenly divided between males and females, and between two villages sampled in 2004. We also sampled market and subsistence foods in Fairbanks, AK, as an indicator of the isotopic differences likely to be observed in village foods. Results. Elders were significantly enriched in N-15, but depleted in C-13, relative to younger participants. These differences are consistent with increased intake of marine subsistence in elders, and of certain market foods in younger participants. However, elders were considerably more variable in delta N-15, suggesting greater differences among individuals in their usual intake. Conclusions. Overall we find that RBC stable isotope signatures exhibit variation consistent with previously documented dietary patterns in Alaska Natives, and we describe future directions for developing these biomarkers for diet pattern monitoring.

**KEYWORDS:**

**NOTES:** Times Cited: 4

Williams, Ted

**1986 Hunting -- an American tradition.** *American Hunter*.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Williams, Liz

**2003 Patterns of harvest and use of mountain goats on Kodiak Island, GMU 8.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report presents findings of research conducted ADF&G Division of Subsistence on patterns of harvest and uses of mountain goats by the residents of the Kodiak Archipelago (Game Management Unit 8 [GMU 8]). The project was funded through a contract with the USFWS Office of Subsistence Management (OSM) under cooperative agreement number 02-080, March 2002.

**KEYWORDS:**

**NOTES:**

Williams, Liz, Philippa A. Coiley-Kenner, and David S. Koster

**2010 Subsistence harvests and uses of salmon, trout, and char in Akhiok, Larsen Bay, Old Harbor, Ouzinkie, and Port Lions, Alaska, 2004 and 2005.** Anchorage, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** Participation in the Alaska Department of Fish and Game's Kodiak Management Area salmon subsistence permitting program has been low; therefore, accurate harvest estimates have been difficult to achieve. This project provided education and outreach about the permit program as well as an evaluation of harvest assessment methods. The project included 11 key respondent interviews, 303 household harvest surveys in 2005 and 2006, and the engagement of residents, fisheries managers, ADF&G researchers and local research assistants through public meetings and workshops.

**KEYWORDS:** Kodiak Management Area, subsistence salmon fishing, subsistence fishing, subsistence harvest assessment, Akhiok, Larsen Bay, Old Harbor, Ouzinkie, Port Lions.

**NOTES:**

Williams, Liz, Chelsie Venechuk, Davin L. Holen, and William E. Simeone

**2004 Lake Minchumina, Telida, Nikolai, and Cantwell subsistence community use profiles and traditional fisheries use.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes subsistence fishery uses, needs, and areas traditionally used for subsistence harvests by the communities in the subsistence residence zone of Denali National Park and Preserve: Lake Minchumina, Nikolai, Telida, and Cantwell. Subsistence fishery harvest areas and practices have always been dynamic. A goal of this project was to document fish uses at a particular point in time. During the fieldwork for this project, conducted 1999-2003, residents of all 4 communities reported that the abundance of some of the fish species they depend on for subsistence are in decline. Nikolai and Telida residents noted declines in Chinook salmon *Oncorhynchus tshawytscha* and whitefish *Coregonus* spp., which they attributed to commercial fishing and changes in the environment. Lake Minchumina residents noted changes in the lake due to silting and a drop in the water table, which they believe has affected fish habitat. Cantwell residents noted a decline in the abundance of Arctic grayling *Thymallus arcticus* and other freshwater species, which they attribute to overharvest by urban sport fishers.

**KEYWORDS:** Cantwell, Chinook salmon, *Oncorhynchus tshawytscha*, Denali National Park and Preserve, Lake Minchumina, Nikolai, Telida, Cantwell, traditional ecological knowledge, whitefish, *Coregonus* spp., Arctic grayling, *Thymallus arcticus*, subsistence fishing, spo

**NOTES:**

Williamson, Laakkuluk Jessen

**2006 Inuit gender parity and why it was not accepted in the Nunavut legislature.** *Etudes Inuit/Studies* 30(1):51-68.

**ABSTRACT:** Cet article concerne les circonstances historiques qui ont mené au plébiscite non exécutoire de 1997 sur la parité des sexes dans ce qui allait devenir le Nunavut. D'abord, la tradition égalitariste et la fluidité des genres dans la culture Inuit y sont décrites en y apportant les exemples des valeurs instillées dans la langue, le système d'attribution des noms, la répartition sexuée des rôles et la sexualité. Ensuite, nous prenons en considération les circonstances politiques entourant l'instauration du Nunavut ainsi que la manière dont la question des sexes se joue au niveau politique. Les obstacles opposés aux femmes dans le système électoral sont analysés, de même que sont évalués les arguments élaborés à l'encontre de la création de la parité. Nous réfléchissons au vote sur la parité et aux raisons pour lesquelles celle-ci fut finalement rejetée. Dans la deuxième partie, nous observons attentivement la manière dont de nombreuses organisations extérieures au gouvernement interagissent lorsqu'elles abordent les problèmes relatifs au genre. Nous mettons en contraste des groupements politiques et artistiques qui représentent les femmes du Nunavut avec une organisation qui véhicule des voix d'hommes inuit, mais n'en représente pas l'ensemble. Paradoxalement, les hommes inuit conservent de loin une plus grande représentation à l'assemblée législative du Nunavut alors qu'au niveau social ils souffrent davantage que les femmes, elles-mêmes plus stables économiquement. L'article se termine par une discussion sur le futur des problématiques des sexes au Nunavut tenant compte des opinions de jeunes Inuit sur ce sujet. In this article, the historical circumstances that led up to the 1997 non-binding plebiscite on gender parity in what was soon-to-be Nunavut are considered. Firstly, traditional gender egalitarianism and fluidity in Inuit culture are described and exemplified by the values instilled in language, naming system, gendered roles and sexuality. Then, the political circumstances around the establishment of Nunavut and the way gender is played out on a political level are taken into account. The barriers against women in the electoral system are analysed and the arguments made for and against creating gender parity are evaluated. The vote on gender parity and the reasons why gender parity was finally rejected are reflected on. In the second part, the manners in which various organisations outside of government interact in order to address gender issues are scrutinised. Political and artistic bodies that represent women within Nunavut are contrasted against an organisation that contains Inuit men's voices, but does not represent them. Paradoxically, Inuit men still garner far more representation in the Legislative Assembly of Nunavut while at the social level they suffer more than women who are themselves more economically stable. The article ends with a discussion on the future of gender issues in Nunavut including the views held amongst Inuit youth on the topic.

**KEYWORDS:**

**NOTES:**

Wilson, Jerry C., D.R. Younger, Marvin L. Feldman, and Willam W. Wade

**1983 Hope Basin Planning Area Petroleum Technology Assessment.** Anchorage: U.S. Department of the Interior/Bureau of Land Management/Alaska OCS Office.

**ABSTRACT:** Based on data available to date, petroleum resources in the Hope Basin OCS Planning Area have been assessed as low and marginal fields appear likely. The area has been deleted from the current five-year OCS Leasing Schedule. Hope Basin is to the south of the adjacent Barrow Arch(Chukchi Sea) Planning Area and an earlier companion study reported on that area's related technology and economics. Hope Basin petroleum development will be restricted primarily by the expected low reserves, associated small field sizes and, to some extent, by greater average water depths than other arctic areas. Environmental constraints to Hope Basin development are similar to those described in the Barrow Arch report, but usually (except for seismic exposure) slightly less severe, e.g. the sea ice conditions are reduced and the open-water season is longer. Exploration could likely be done with more floating rigs than other arctic areas. Unlike other planning areas examined during these Alaska DeS Socioeconomic Studies Program analyses, Hope Basin petroleum development will probably be more significantly dependent on developments in the adjacent region. Important outside facilities include potentially re-usable drilling structures and other arctic equipment already available and

proven to be efficient for marginal fields, and an oil transport ation infrastructure established to serve adjacent areas I production.

**KEYWORDS:**

**NOTES:**

Wohling, Marc

**2009 The problem of scale in indigenous knowledge: a perspective from Northern Australia.** Ecology and Society 14(1):1.

**ABSTRACT:** Over the last decade, indigenous knowledge has been widely touted by researchers and natural resource managers as a valuable contributor to natural resource management and biodiversity conservation. In Australia, the concept of indigenous knowledge has gained such rapid currency that it has tended toward an essentialized and universal truth rather than remaining a diverse range of highly localized and contested knowledge. In this paper, I undertake a critical analysis of some of the current issues around the interpretation and application of indigenous knowledge and its relationship with natural resource management in northern Australia. Through a focus on how indigenous knowledge operates at a range of scales, I argue that indigenous knowledge is not adapted to the scales and kinds of disturbances that contemporary society is exerting on natural systems. Rather than being realistic about the limitations of indigenous knowledge, I argue that nonindigenous interpretations of indigenous knowledge have propelled us toward reified meanings, abstracted concepts, and an information-based taxonomy of place. The result can be the diminishing and ossifying of a dynamic living practice and the failure to recognize expressions of indigeneity in contemporary forms.

**KEYWORDS:** decision making; ecological scale; ecology; ethnoecology; indigenous knowledge; natural resource management; northern Australia

**NOTES:**

Wolfe, Robert J.

**1981 Norton Sound/Yukon Delta sociocultural systems baseline analysis.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** A detailed description of the economic systems and cultures of the people of the Yukon River Delta in 1980 and 1981 is presented in this report. The 1980-1981 seasonal rounds, use areas, and settlement patterns used to optimize hunting success and resource uses are described. The systems of food sharing are detailed. The perceived impacts of oil development in Norton Sound are outlined, emphasizing possible environmental degradation and local fear of destruction of fish and game resources upon which the Yukon River cultures depend.

**KEYWORDS:**

**NOTES:**

Wolfe, Robert J.

**1982 Alaska's great sickness, 1900: An epidemic of measles and influenza in a virgin soil population.** Proceedings of the American Philosophical Society 126(2):91-121.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Wolfe, Robert J.

**1982 The subsistence salmon fishery of the Lower Yukon River.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This paper discusses a proposal by the Lower Yukon Fish and Game Advisory Committee for adopting alternating openings of the subsistence and commercial salmon fishery

on the lower Yukon River to supplant concurrent openings presently established on the river. Included is a review of the subsistence salmon fishery and its relation to the mixed economic system operating in the area. Five case histories are presented illustrating household methods for obtaining subsistence catches during the open fishing periods. The historic effects of changing regulations on subsistence catches and on the fishcamp structure are described. 26 pp.

**KEYWORDS:****NOTES:**

Wolfe, Robert J.

**1983 Mapping subsistence use areas: Methodologies and issues.** Research Notebook Series 1.

**ABSTRACT:****KEYWORDS:****NOTES:**

Wolfe, Robert J.

**1983 Resource use and socioeconomic systems: Case studies of fishing and hunting in Alaskan communities.** 1-18.

**ABSTRACT:****KEYWORDS:****NOTES:**

Wolfe, Robert J.

**1984 Commercial fishing in the hunting-gathering economy of a Yukon River Yup'ik society.** Etudes/Inuit/Studies:159-183.

**ABSTRACT:****KEYWORDS:****NOTES:**

Wolfe, Robert J.

**1984 Social aspects of muskox transplants** **ABSTRACT:**

**KEYWORDS:****NOTES:**

Wolfe, Robert J.

**1985 Competition and subsistence uses: A mathematical model.**

**ABSTRACT:****KEYWORDS:****NOTES:**

Wolfe, Robert J.

**1985 Impacts of economic development on subsistence productivity: Western region and Copper Basin cases.** In 12th annual meeting of the Alaska Anthropological Association. Anchorage, AK: Alaska Department of Fish and Game Division of Subsistence.

**ABSTRACT:****KEYWORDS:****NOTES:**

Wolfe, Robert J.

**1985 Southeast timber project: Mapping and impact assessment.**

**ABSTRACT:****KEYWORDS:****NOTES:**

Wolfe, Robert J.



**1986 Economic overview of fish and wildlife: Statewide overview of subsistence and other local use.**

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Wolfe, Robert J.

**1986 The role of Fish and Wildlife in the economies of Barrow, Bethel, Dillingham, Kotzebue, and Nome.** Pp. 1-19.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Wolfe, Robert J.

**1988 The fish are not to be played with: Yup'ik views of sport fishing and subsistence-recreation conflicts along the Togiak River.** Division of Subsistence, Alaska Department of Fish and Game, Juneau.

**ABSTRACT:** This paper describes emerging conflicts between the traditional Yup'ik subsistence fishery and a new non-Native recreational fishery along the Togiak River in southwest Alaska. The report derives from field research along the Togiak River in 1987. The conflicts between the subsistence fishery and sport fishery was found to be based in part on profound differences between the traditional Central Yup'ik world view of fish as sentient beings, and the non-Native sport view of fish as fair game for recreational use. These basic contradictions in world views lead to different economic and social behavior in regard to use of land and resources, which resulted in political conflict along the Togiak River. How this political conflict was being negotiated between the Yup'ik community, the sport guiding industry, and governmental agencies is briefly described.

**KEYWORDS:**

**NOTES:**

Wolfe, Robert J.

**1989 Historic methods for harvesting non-commercial bottomfish in Southeast Alaska.** Pp. 1-19. Petersburg, Alaska: Alaska Board of Fisheries

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Wolfe, Robert J.

**1989 Subsistence-recreational conflicts along the Togiak, Kanektok, and Goodnews Rivers: A summary.** Alaska Board of Fisheries, Alaska Department of Fish and Game.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Wolfe, Robert J.

**1992 Trapping in Alaska communities with mixed, subsistence-cash economies.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes the role of trapping in the mixed subsistence-cash economies of rural Alaskan communities. The fur harvests of a sample of communities are presented and analyzed. The report shows that most households earn relatively modest amounts of money from their annual fur sales. Trapline activities also produce wild foods, raw materials, and fuel, most of which is consumed locally. Other social values also derive from trapping, especially the socialization of young males into the traditional culture.

**KEYWORDS:****NOTES:**

Wolfe, Robert J.

**1998 Subsistence economies in rural Alaska.** *In* Cultural survival quarterly. Pp. 49-50, Vol. 22.

**ABSTRACT:**

**KEYWORDS:** Descriptor: Alaska

Rural communities

Subsistence economy

Environmental resource management

CULTURAL ETHNOGRAPHY

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Wolfe, Robert J.

**2001 The subsistence harvest of harbor seals and sea lions by Alaska Natives in 2000.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** The subsistence harvest of harbor seals and sea lions by Alaska Natives in 62 coastal communities, based on field research conducted in 1999-2000, with funding provided by NOAA National Marine Fisheries Service.

**KEYWORDS:****NOTES:**

Wolfe, Robert J.

**2003 People and Salmon of the Arctic, Yukon, and Kuskokwim. Socioeconomic Dimensions: Fishery Harvests, Culture Change, and Local Knowledge Systems.** *In* Arctic-Yukon-Kuskokwim Sustainable Salmon Initiative Workshop. Pp. 35. Anchorage, Alaska.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Wolfe, Robert J.

**2003 People and Salmon of the Arctic, Yukon, and Kuskokwim. Socioeconomic Dimensions: Fishery Harvests, Culture Change, and Local Knowledge Systems.** *In* Arctic-Yukon-Kuskokwim Sustainable Salmon Initiative Workshop. Pp. 35. Anchorage, Alaska.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Wolfe, Robert J.

**2004 Local traditions and subsistence: a synopsis from twenty-five years of research by the State of Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report provides a synopsis of findings on subsistence systems in Alaska, drawing on a quarter-century of research by the ADF&G Division of Subsistence. The synopsis examines the localized nature of subsistence systems. Subsistence is shown to comprise a diverse set of localized systems of food production and distribution, representing relatively unique combinations of ecological, cultural, and economic factors. The report concludes that

there is not one subsistence tradition in Alaska, but a multitude of subsistence traditions linked to particular localities.

**KEYWORDS:** Alaska subsistence

**NOTES:**

Wolfe, Robert J.

**2007 Human systems and sustainable salmon: social, economic, and cultural linkages.** *In* Sustainability of the Arctic-Yukon-Kuskokwim Salmon Fisheries Conference. Fairbanks, Alaska: Arctic-Yukon-Kuskokwim Sustainable Salmon Initiative.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Wolfe, Robert J.

**2007 Human systems and sustainable salmon: social, economic, and cultural linkages.** *In* Sustainability of the Arctic-Yukon-Kuskokwim Salmon Fisheries Conference. Fairbanks, Alaska: Arctic-Yukon-Kuskokwim Sustainable Salmon Initiative.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Wolfe, Robert J., and Steven R. Behnke

**1982 Rural Alaska hunting and fishing economies as self-regulating systems.** *In* 33rd Alaska Science Conference, American Association for the Advancement of Science, Arctic Division. Pp. 1-18. Fairbanks, Alaska.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Wolfe, Robert J., Brian L. Davis, Susan Georgette, and Amy W. Paige

**2000 Sharing, distribution, and exchange of wild resources: An annotated bibliography of recent sources.** Division of Subsistence, Alaska Department of Fish and Game. Juneau. Technical Paper 263:1-58.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Wolfe, Robert J., Brian L. Davis, Susan E. Georgette, and Amy Paige

**2000 Sharing, distribution, and exchange of wild resources: an annotated bibliography of recent sources.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report presents an annotated bibliography of recent sources that document the sharing, distribution, and exchange of wild resources in Alaska. Funding was provided by the U.S. Fish and Wildlife Service under agreement number 701810J236. The goal of the project was to review all technical papers and other materials published by ADF&G Division of Subsistence. All source materials are available on request from the Division of Subsistence. A description of the Division's research methodologies is found in The Division of Subsistence of the Alaska Department of Fish and Game: An Overview of its Research Program and Findings: 1980-1990, by James A. Fall, Arctic Anthropology 27(2):68-92, 1990. A few additional materials on distribution and exchange not published by the Division are also included in the review.

**KEYWORDS:**

**NOTES:**

Wolfe, Robert J., and Linda J. Ellanna

**1983 Resource use and socioeconomic systems: case studies of fishing and hunting in Alaskan communities.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report presents findings of a comparative study of resource use patterns in 7 representative geographic areas in Alaska, including 16 communities. The patterns of fishing, hunting, and uses of wild, renewable resources are described for each geographic area and compared for similarities and differences, especially those associated with historical, ecological, socioeconomic, and demographic characteristics of the areas. The comparative information is used to explore relationships between patterns of resource use and rural-urban characteristics.

**KEYWORDS:**

**NOTES:**

Wolfe, Robert J., James A. Fall, Virginia Fay, Susan E. Georgette, James S. Magdanz, Sverre Pedersen, Mary C. Pete, and Janet Schichnes

**1986 The role of fish and wildlife in the economies of Barrow, Bethel, Dillingham, Kotzebue, and Nome.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report provides information on the role of wild resources in the economies of Barrow, Bethel, Dillingham, Kotzebue, and Nome. The 5 communities were named in the legislative history of the Alaska National Interest Lands Conservation Act as examples of rural places for the purposes of the federal subsistence law in 1979. The characteristics of the 5 named rural communities provide guidance as to what the federal legislature intended by the term rural. The report finds there are 4 general characteristics of the named communities: moderate population size, regional center functions, a culturally-diverse population, and mixed economies of cash and wild resource uses. Fishing and hunting make substantial contributions to the food supplies of many households and to the food supply of the communities as a whole.

**KEYWORDS:** Arctic Region, Barrow, Bethel, Dillingham, Kotzebue, Nome, Alaska National Interest Lands Conservation Act, rural Alaska, subsistence economies, subsistence hunting, subsistence fishing, subsistence food supply.

**NOTES:**

Wolfe, Robert J., James A. Fall, and Ronald T. Stanek

**2002 The subsistence harvest of harbor seals and sea lions by Alaska Natives in 2001.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes the subsistence harvests of harbor seals *Phoca vitulina* and Steller sea lions *Eumetopias jubatus* by Alaska Natives in 2001, including quantity, seasons, geographic distribution, and age and sex of the harvest. Information is summarized at the state, regional, and community levels, and is compared with annual takes since 1992. The research was conducted by the ADF&G Division of Subsistence in cooperation with the Alaska Native Harbor Seal Commission and the Aleut Marine Mammal Commission, under contract with the National Marine Fisheries Service. Information derives from systematic interviews with hunters and users of marine mammals in 1,461 households in 62 coastal communities within the geographic ranges of the two species. Local research conducted most of the household interviews as a part of regional research networks. The project received generous support from leaders of a number of Native governments and associations.

**KEYWORDS:** subsistence hunting, marine mammals, harbor seals, *Phoca vitulina*, spotted seals, *Phoca largha*, Steller sea lions, *Eumetopias jubatus*

**NOTES:**

Wolfe, Robert J., James A. Fall, and Ronald T. Stanek

**2003 The subsistence harvest of harbor seals and sea lions by Alaska Natives in 2002.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes the subsistence harvests of harbor seals *Phoca vitulina* and Steller sea lions *Eumetopias jubatus* by Alaska Natives in 2002, including quantity, seasons, geographic distribution, and age and sex of the harvest. Information is summarized at the state, regional and community levels and is compared with annual harvests since 1992.

**KEYWORDS:** Steller sea lions, *Eumetopisa jubata*, harbor seals, *Phoca vitulina*, spotted seals, *Phoca largha*, marine mammals, subsistence hunting

**NOTES:**

Wolfe, Robert J., James A. Fall, and Ronald T. Stanek

**2004 The subsistence harvest of harbor seals and sea lions by Alaska Natives in 2003.**  
Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes the subsistence harvests of harbor seals *Phoca vitulina* and Steller sea lions *Eumetopias jubatus* by Alaska Natives in 2003, including quantity, seasons, geographic distribution, and age and sex of the harvest. Information is summarized at the state, regional, and community levels and is compared with annual harvests since 1992. The research was conducted by the ADF&G Division of Subsistence in cooperation with the Alaska Native Harbor Seal Commission and the Aleut Marine Mammal Commission, under contract with the National Marine Fisheries Service. Information derives from systematic interviews with hunters and users of marine mammals in 1,310 households in 62 coastal communities within the geographic ranges of the two species. Local researchers conducted most of household interviews as part of regional research networks. The project received generous support from leaders of a number of Native governments and associations.

**KEYWORDS:** harbor seals, *Phoca vitulina*, spotted seals, *Phoca largha*, Steller sea lions, *Eumetopias jubatus*, subsistence hunting, marine mammals.

**NOTES:**

Wolfe, Robert J., James A. Fall, and Ronald T. Stanek

**2005 The subsistence harvest of harbor seals and sea lions by Alaska Natives in 2004.**  
Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes the subsistence harvests of harbor seals *Phoca vitulina* and Steller sea lions *Eumetopias jubatus* by Alaska Natives in 2004, including quantity, seasons, geographic distribution, and age and sex of the animals harvested. Information is summarized at the state, regional and community levels and is compared with annual harvests since 1992. The research was conducted by the ADF&G Division of Subsistence in cooperation with the Alaska Native Harbor Seal Commission and the Aleut Marine Mammal Commission, under contract with the National Oceanic and Atmospheric Administration. Information derives from systematic interviews with hunters and users of marine mammals in 1,209 households in 62 coastal communities within the geographic ranges of the two species. Local researchers conducted most of the household interviews as part of regional research networks. The project received generous support from leaders of a number of Native governments and associations.

**KEYWORDS:** harbor seals, *Phoca vitulina*, Steller sea lions, *Eumetopias jubatus*, marine mammals, Alaska Native Harbor Seal Commission, Aleut Marine Mammals Commission

**NOTES:**

Wolfe, Robert J., James A. Fall, and Ronald T. Stanek

**2006 The subsistence harvest of harbor seals and sea lions by Alaska Natives in 2005.**  
Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes the subsistence harvests of harbor seals *Phoca vitulina* and Steller sea lions *Eumetopias jubatus* by Alaska Natives in 2005, including quantity, seasons, geographic distribution, and age and sex of the animals harvested. Information is summarized at the state, regional, and community levels and is compared with annual harvests since 1992. The research was conducted by the ADF&G Division of Subsistence in cooperation with the Alaska Native Harbor Seal Commission and the Aleut Marine Mammal Commission, under contract with the National Marine Fisheries Service of the National Oceanic and Atmospheric Administration. Information derives from systematic interviews with hunters and users of marine mammals in 1,308 households in 62 coastal communities within the geographic ranges of the two species. Local researchers conducted most of the household interviews as part of regional research networks. The project received generous support from leaders of a number of Native governments and associations.

**KEYWORDS:** marine mammals, harbor seals, *Phoca vitulina*, Steller sea lions, *Eumetopias jubatus*, Southeast Alaska, Gulf of Alaska, Bering Sea, subsistence hunting

**NOTES:**

Wolfe, Robert J., Joseph J. Gross, Steven J. Langdon, John M. Wright, George K. Sherrod, Linda J. Ellanna, and Valerie A. Sumida

**1983 Subsistence-based economies in coastal communities of Southwest Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes and analyzes the systems of fishing, hunting, trapping, gathering, and remunerative employment in 4 predominantly Yup'ik communities: Togiak, Goodnews Bay, New Stuyahok, and Quinhagak. The study explores the effects of remunerative employment during the recent past on certain sociocultural and economic systems at the levels of family groups and village networks. This report provides a detailed analysis of the commercial fishery and its integration into a mixed, subsistence-based socioeconomic system.

**KEYWORDS:**

**NOTES:**

Wolfe, Robert J., and Lisa B. Hutchinson-Scarborough

**1999 The subsistence harvest of harbor seal and sea lion by Alaska Natives in 1998.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes the subsistence harvests of harbor seals *Phoca vitulina* and Steller sea lions *Eumetopias jubatus* by Alaska Natives in 1998, including quantity, seasons, geographic distribution, and ages and sexes of the harvested animals. Information is summarized at the state, regional, and community levels, and is compared with annual harvests since 1992. The research was conducted by the ADF&G Division of Subsistence, under contract with the National Oceanic and Atmospheric Administration and the National Marine Fisheries Service.

**KEYWORDS:**

**NOTES:**

Wolfe, Robert J., Matthew A. Kookesh, Amy W. Paige, Cheryl Scott, Morgen Smith, Michael F. Turek, and Charles J. Utermohle

**1999 Survey methodologies and reported sex compositions of harbor seal harvests of Alaska Natives, 1995-1997.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** Alaska Native hunters consistently have reported they harvest higher numbers of male harbor seals *Phoca vitulina* to female seals in annual subsistence harvests from 1992-1998. This report examines survey methodology as a potential contributing factor to unbalanced sex compositions of the reported harvests of subsistence harbor seals by Alaska Natives. The report compares estimates of sex compositions derived by 2 distinct

methodologies: a biosampling methodology and a retrospective recall methodology. Using a biosampling methodology, of 77 biosampled seals harvested by 10 trained biosamplers in Southeast Alaska during 1995-1997, 62.3% were reported as male seals. Using a retrospective recall methodology, of 407 seals (with reported sex) harvested for subsistence uses by the same 10 hunters during 1995-1997, 61.7% were reported as male seals. Also using a retrospective recall methodology, of 3,750 seals (with reported sex) harvested for subsistence uses by Alaska Natives in Southeast Alaska during 1995-1997, 65.3% were reported as male seals. Two different methodologies applied across three sets of seal harvest data produced similar estimates of sex composition. Based on the convergence of estimates, response bias due to survey methodology is not supported as a factor contributing to unbalanced sex compositions reported for harbor seal harvests.

**KEYWORDS:****NOTES:**

Wolfe, Robert J., and Craig Mishler

**1993 The subsistence harvest of harbor seal and sea lion by Alaska Natives in 1992.**  
Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes the subsistence takes of harbor seals *Phoca vitulina* and Steller sea lions *Eumetopias jubatus* by Alaska Natives in 1992, including seasons and geographic distribution, and the sizes, ages and sexes of the animals harvested. Information is summarized at the state, regional, and community levels. The research was conducted by the ADF&G Division of Subsistence under contract with the National Marine Fisheries Service. Information derives from systematic interviews with hunters and users of marine mammals in 2,105 households in 65 coastal communities within the geographic ranges of the two species. Local research assistants trained as part of the project assisted in the collection of information. The project received generous support from leaders of a number of Native governments and regional and statewide associations.

**KEYWORDS:****NOTES:**

Wolfe, Robert J., and Craig Mishler

**1994 The subsistence harvest of harbor seals and sea lions by Alaska Natives in 1993.**  
Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report provides information on the subsistence uses of harbor seals *Phoca vitulina* and Steller sea lions *Eumetopias jubatus* by Alaska Natives in 1993, including the seasons and geographic distributions, and sizes, ages and sexes of the animals harvested. It represents the second year's findings of a long-term research program to document the subsistence uses of harbor seals and sea lions in Alaska, and compares subsistence takes for 1992 and 1993. Information derives from systematic hunter interviews in 2,087 households from 60 coastal communities. The report assesses the success of a network of local and regional researchers for collecting subsistence information the second year.

**KEYWORDS:****NOTES:**

Wolfe, Robert J., and Craig Mishler

**1995 The subsistence harvest of harbor seal and sea lion by Alaska Natives in 1994.**  
Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes the subsistence takes of harbor seals *Phoca vitulina* and Stellar sea lions *Eumetopias jubatus* by Alaska Natives in 1994, including quantities, seasons, geographic distribution, and ages and sexes of the harvested animals. Information is summarized at the state, regional, and community levels, and is compared with takes in 1992 and 1993. The research was conducted by the ADF&G Division of Subsistence, under contract

with the National Oceanic and Atmospheric Administration and the National Marine Fisheries Service. Information derives from systematic interviews with hunters and users of marine mammals in 2,032 households in 59 coastal communities within the geographic ranges of the two species. Local researchers conducted most of the household interviews as part of a local and regional research network. The project received generous support from leaders of a number of Native governments as well as regional and statewide Native associations.

**KEYWORDS:****NOTES:**

Wolfe, Robert J., and Craig Mishler

**1995 The subsistence harvest of harbor seal and sea lion by Alaska Natives in 1995.**  
Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes the subsistence takes of harbor seals *Phoca vitulina* and Stellar sea lions *Eumetopias jubatus* by Alaska Natives in 1995, including quantities, seasons, geographic distribution, and the ages and sexes of harvested animals.

**KEYWORDS:****NOTES:**

Wolfe, Robert J., and Craig Mishler

**1997 The subsistence harvest of harbor seal and sea lion by Alaska Natives in 1996.**  
Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes the subsistence harvests of harbor seals *Phoca vitulina* and Steller sea lions *Eumetopias jubatus* by Alaska Natives in 1996, including the seasons and geographic distribution, and sizes, ages and sexes of the animals harvested. Information is summarized at the state, regional, and community levels and is compared with annual harvests since 1992. Information is derived from interviews with 1,801 households in 62 communities.

**KEYWORDS:****NOTES:**

Wolfe, Robert J., and Craig Mishler

**1998 The subsistence harvest of harbor seal and sea lion by Alaska Natives in 1997.**  
Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes the subsistence harvests of harbor seals *Phoca vitulina* and Steller sea lions *Eumetopias jubatus* by Alaska Natives in 1997, including quantity, seasons, geographic distribution, and ages and sexes of animals harvested. Information is summarized at the state, regional, and community levels, and is compared with takes during 1992-1996. The research was conducted by the ADF&G Division of Subsistence under contract with the National Oceanic and Atmospheric Administration and the National Marine Fisheries Service.

**KEYWORDS:****NOTES:**

Wolfe, Robert J., and Amy W. Paige

**1995 The subsistence harvest of black brant, emperor geese, and eider ducks in Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes the subsistence harvests of black brant, emperor geese, and four species of eider ducks in Alaska. Harvest estimates are presented for 133 rural Alaska communities, including the sizes, seasons, and geographic distribution of takes.

**KEYWORDS:** Black brant, *Branta bernicla nigricans*, emperor geese, *Chen canagica*, common eider, *Somateria mollissima*, king eider, *Somateria spectabilis*, spectacled eider, *Somateria fischeri*, Steller's eider, *Polysticta stelleri*, Prince William Sound, Kenai Peninsula



**NOTES:**

Wolfe, Robert J., Amy W. Paige, and Cheryl L. Scott

**1990 The subsistence harvest of migratory birds in Alaska.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes the contemporary subsistence harvests of migratory birds in Alaska during the mid-to-late 1980s, based on harvest survey information primarily collected by ADF&G and the U.S. Fish and Wildlife Service. The report covers known harvest levels, total estimated harvest levels expanded to unsurveyed communities, seasonality of harvests, geographic distribution of harvests, and the role of migratory birds in the cultures and economies of Alaska Native communities. Subsistence information derives from systematic random household harvest surveys conducted in 151 rural Alaska communities, representing a 60.2% sample of rural communities, which contain 70.8% of the rural population. Estimated bird harvests from Alaska's urbanized areas are developed from federal and state duck stamp survey returns. The report also discusses changes in the international system for managing migratory birds which would be needed to successfully include traditional subsistence bird hunting by northern cultural groups.

**KEYWORDS:****NOTES:**

Wolfe, Robert J., and Mary C. Pete

**1984 Use of caribou and reindeer in the Andreafsky Mountains.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report describes the uses of caribou and reindeer in the Andreafsky Mountains in winter 1981 by 6 Yukon River Delta communities. Information is presented on hunting methods, seasonality, areas hunted, and harvest levels.

**KEYWORDS:****NOTES:**

Wolfe, Robert J., and Charles J. Utermohle

**2000 Wild food consumption rate estimates for rural Alaska populations.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report presents community-specific wild food consumption rate estimates for rural Alaska populations. The estimates are indirect measures of consumption, based on information on the annual harvest and uses of wild resources from household surveys conducted by ADF&G Division of Subsistence. For about 220 communities, one or more of the consumption rate estimates are reported in the Division's Community Profile Database, a computerized data set summarizing information by community, year, and resource category.

**KEYWORDS:****NOTES:**

Wolfe, Robert J., and Robert J. Walker

**1987 Subsistence economies in Alaska: Productivity, geography, and development impacts.** Arctic anthropology 24(2):56-81.

**ABSTRACT:** This paper describes the productivity and geographic distribution of subsistence harvests in Alaska during the 1980s. Subsistence harvests of a statewide sample of 98 communities are presented, analyzed by size, composition, and locations. The analysis indicates that subsistence harvests of fish, land mammals, marine mammals, and other wild resources are making substantial contributions to the economies of most rural communities in Alaska. Community harvest levels tend to increase in areas away from urban centers, not connected by roads to urban areas, with lower degrees of settlement entry and with lower mean personal

incomes. These relationships suggest that certain types of economic development can create conditions which diminish subsistence productivity. **Construction of roads and settlement entry into roaded areas produce changes associated with lower subsistence harvests, including increased competition for wild resources, increased habitat alteration, and changing community economic orientations away from mixed, subsistence-market adaptations.** By recognizing the substantial contributions subsistence harvests make to the state's regional economies, economic development might be planned in ways which enhance, rather than erode, the state's rural subsistence base.

**KEYWORDS:** subsistence, development, impacts, roads, Ahtna, Dena'ina, Tanana, Copper Basin,

**NOTES:** Historically, two major impacts on subsistence productivity have been road building and settlement entry by non-Natives along roads and marine highway networks. **Settling roaded areas appears to diminish the subsistence productivity of an area over time.** The communities with the lowest subsistence harvests in the 1980s occur along the roaded, settled areas surrounding Anchorage and Fairbanks (Figure 5). These areas were the historic territories of Ahtna, Dena'ina, and Copper Tanana groups. In recent decades, roads into these areas have triggered several developments. Roads have increased competition for wild resources between rural and urban residents. Urban-based hunters and fishers utilize roads for access to rural areas for fishing and hunting, directly competing with rural communities and lowering their subsistence harvests. As an example of the level of competition, of 3,097 moose hunters counted by the state fish and game department in 1983 in the Copper Basin (a traditional Ahtna region connected by roads to Anchorage since 1927), only 13% were local rural residents of the basin. Of 7,540 salmon dip net and fishwheel permits, only 5.3% were held by local rural residents (Fall 1985). The increased competition for wild resources by outsiders has led to more restrictive regulations for fishing and hunting (seasons, bag limits, and methods) which have lowered subsistence harvests. The new state subsistence law was passed in part to rectify these types of disruptions of subsistence harvests caused by uncontrolled competition.

In addition to competition, state land disposal programs which turn public lands over to private ownership typically occur along the road networks. Land disposal programs stimulate settlement entry by outside immigrants who transplant sociocultural and market-oriented economic systems which are not directed toward fishing and hunting for local consumption. New non-Native settlers do not have the same value orientations toward hunting and fishing as do Alaska Natives, and choose to consume wild resources at lower levels. Concurrently, the development of private land holdings commonly create changes in the natural environment that reduce wild resource populations. Income levels increase in communities along roads with the changing economic system, providing the means for importing food products. However, incomes typically are not distributed equally among social classes in rural Alaska areas, so that many indigenous rural residents face both low monetary incomes and newly depressed subsistence harvests.

Wolfe, Wendy S., Edward A. Frongillo, and Pascale Valois

**2003 Understanding the Experience of Food Insecurity by Elders Suggests Ways to Improve Its Measurement.** *Journal of Nutrition* 133(9):2762-2769.

**ABSTRACT:** A full conceptualization of the elderly food insecurity experience has been lacking, leading to limitations in the definition and measurement of food insecurity in elders. Based on the qualitative analysis of two in-depth interviews 6 mo apart with each of 53 low income urban elders, using principles of grounded theory, the experience of elderly food insecurity was shown to have four components: quantitative, qualitative, psychological and social. The inability to obtain the right foods for health is a new element specific to elders. Common to each of these components were dimensions of severity, time and compromised food choice. Although money is a major cause of food insecurity, elders sometimes have enough money for food but are not able to access food because of transportation or functional limitations, or are not able to use food (i.e., not able to prepare or eat available food) because of functional impairments and

health problems. These findings suggest that augmentation of the U.S. Household Food Security Survey Module (FSSM), a national measure of food insecurity based on research in younger persons, may result in more accurate assessments for elders. We developed 14 new items for possible augmentation and administered them by telephone to these same elders along with the FSSM. Elders were independently classified according to food insecurity status based on their experience from the in-depth interviews, and these definitive criteria were used to evaluate the new and existing items. The results suggest that "couldn't afford right foods for health" and two policy-relevant immediate causes, "couldn't get the food I needed" and possibly "unable to prepare," should be added, although further testing is needed.

**KEYWORDS:**

**NOTES:**

Wolsko, Christopher, Gerald V. Mohatt, Cecile Lardon, and Rebekah Burket

**2009 Smoking, Chewing, and Cultural Identity: Prevalence and Correlates of Tobacco Use Among the Yup'ik--The Center for Alaska Native Health Research (CANHR) Study.** Cultural Diversity and Ethnic Minority Psychology 15(2):165-172.

**ABSTRACT:** Survey data were obtained from a large sample of Yup'ik participants residing in the Yukon-Kuskokwim Delta region of Alaska. Tobacco use, age, sex, and a variety of psychosocial variables were assessed. Over 75% of participants use tobacco; one half (57.4%) reported using smokeless tobacco (SLT) regularly; 28.2% reported smoking cigarettes regularly. Relative to women, men reported using SLT less, smoking cigarettes more, and using the combination of cigarettes and SLT more. Younger participants tended to smoke cigarettes more, and to use the combination of cigarettes and SLT more. SLT users displayed significantly greater enculturation by identifying more with a Yup'ik lifestyle and less with a White lifestyle, speaking their traditional language more frequently, and consuming more traditional food and medicine. In contrast, smokers tended to display significantly greater acculturation and reported using drugs and alcohol more to cope with stress. Discussion focuses on appreciating the influence of cultural factors on health behavior and on implications for intervention.

**KEYWORDS:** tobacco use

Alaska Natives  
cultural identity  
enculturation  
acculturation

**NOTES:**

Wood, Darryl S.

**2002 Explanations of employment turnover among Alaska Village Public Safety Officers.** Journal of Criminal Justice 30(3):197-215.

**ABSTRACT:** Since its inception in 1982, officer turnover has been a problem for Alaska's Village Public Safety Officer (VPSO) Program. This study employed principal components analysis methods to identify factors from the results of a survey of 113 VPSOs for use in an event history regression model to explain officer attrition. The results of the event history regression analysis indicate that Alaska Native heritage, marriage, satisfaction with training, a lack of absolute poverty, and the presence of other peace officers in the work situation were all associated with a decreased likelihood of officer turnover. The implications of these findings for rural police officer recruitment and retention are discussed.

**KEYWORDS:**

**NOTES:**

Wood, Darryl S., and Lawrence C. Trostle

**1997 The nonenforcement role of police in western Alaska and the eastern Canadian arctic: An analysis of police tasks in remote arctic communities.** Journal of Criminal Justice 25(5):367-379.

**ABSTRACT:** As with those in other geographic locales, police serving Alaska Native villages and Canadian Inuit communities perform a variety of tasks of which law enforcement is only a small part. In these jurisdictions the police fill public safety and community service functions that have more in common with the early period of policing in the west than with contemporary urban policing. The lack of economies of scale requires police officers serving in these remote areas to take a proactive approach and to assume many responsibilities that their urban counterparts would not even consider.

**KEYWORDS:**

**NOTES:**

Woolcock, Michael

**1998 Social capital and economic development: Toward a theoretical synthesis and policy framework.** Theory and Society 27(2):151-208.

**ABSTRACT:**

**KEYWORDS:** Humanities

Social Sciences and Law

**NOTES:**

Wooley, Chris

**2002 The Myth of the "Pristine Environment": Past Human Impacts in Prince William Sound and the Northern Gulf of Alaska.** Spill Science & Technology Bulletin 7(1-2):89-104.

**ABSTRACT:**

**KEYWORDS:** Exxon Valdez oil spill

coastal Alaska

Prince William Sound

pristine wilderness

media

environmental damage

environmental crisis

environmental effects

natural resource damage assessment

**NOTES:**

Woolford, Ray

**1954 Notes on village economies and wildlife utilization in Arctic Alaska.** 1-34.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Work, S.D.

**1987 Alaska Native Claims Settlement Act: An Illusion in the Quest for Native Self-Determination, The.** Or. L. Rev. 66:195.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Worl Associates

**1978 Assessment of Change in the North Slope, Beaufort Sea Region Sociocultural Systems.** Anchorage: U.S. Department of the Interior/Bureau of Land Management/Alaska OCS Office.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** The analysis contained within this report attempts to assess the overall effects on traditional values and sociocultural systems to determine whether the Inupiat can integrate modernizing influences without disrupting their unique sociocultural system.

Worl Associates

**1978 Beaufort Sea Region Sociocultural Systems.** Anchorage: U.S. Department of the Interior/Bureau of Land Management/Alaska OCS Office.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** The objective of the following report is to promote an understanding of the sociocultural dynamics of the Beaufort Sea Petroleum Development Region. The report attempts to demonstrate that the social, cultural, and psychological values are as important as the economic values of the environment to the regional population.

Worl, Rosita

**The Arctic Slope socioeconomic subsistence complex.**17-26.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Worl, Rosita

**1979 Sociocultural assessment of the impact of the 1978 International Whaling Commission quota on the Eskimo communities.**1-61.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Worl, Rosita

**1983 The reality of self determination: the NANA regional strategy plan.** Alaska Native News:23-25.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Worl, Rosita

**1998 Competition, confrontation, and compromise: the politics of fish and game allocations.** *In* Cultural survival quarterly. Pp. 77-8, Vol. 22.

**ABSTRACT:**

**KEYWORDS:** Descriptor: Alaska

The State

Law and legislation

Subsistence economy

Management

CULTURAL ETHNOGRAPHY

AMERICAS

NORTH AMERICA

Document Type: article

**NOTES:** Using Smart Source Parsing  
no. 3 (), p. Journal Code: Cult Survival Q

Worl, Robert, Rosita Worl, and Thomas Lonner

**1981 Beaufort Sea Sociocultural Systems Update Analysis.** Anchorage: U.S. Department of the Interior/Bureau of Land Management/Alaska OCS Office.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:** The objectives of the Beaufort Sea Region Sociocultural System Update Analysis are to update previously collected SESP information about contemporary conditions in the sociocultural systems of Barrow and Nuiqsut and to forecast trends in the sociocultural systems without OCS development from Sale No.

Worm, Boris, Edward B. Barbier, Nicola Beaumont, J. Emmett Duffy, Carl Folke, Benjamin S. Halpern, Jeremy B. C. Jackson, Heike K. Lotze, Fiorenza Micheli, Stephen R. Palumbi, Enric Sala, Kimberley A. Selkoe, John J. Stachowicz, and Reg Watson

**2006 Impacts of biodiversity loss on ocean ecosystem services.** Science 314(5800):787-790.

**ABSTRACT:** Human-dominated marine ecosystems are experiencing accelerating loss of populations and species, with largely unknown consequences. We analyzed local experiments, long-term regional time series, and global fisheries data to test how biodiversity loss affects marine ecosystem services across temporal and spatial scales. Overall, rates of resource collapse increased and recovery potential, stability, and water quality decreased exponentially with declining diversity. Restoration of biodiversity, in contrast, increased productivity fourfold and decreased variability by 21%, on average. We conclude that marine biodiversity loss is increasingly impairing the ocean's capacity to provide food, maintain water quality, and recover from perturbations. Yet available data suggest that at this point, these trends are still reversible.

**KEYWORDS:**

**NOTES:**

Worm, Boris, Edward B. Barbier, Nicola Beaumont, J. Emmett Duffy, Carl Folke, Benjamin S. Halpern, Jeremy B. C. Jackson, Heike K. Lotze, Fiorenza Micheli, Stephen R. Palumbi, Enric Sala, Kimberley A. Selkoe, John J. Stachowicz, and Reg Watson

**2007 Response to Comments on "Impacts of Biodiversity Loss on Ocean Ecosystem Services".** Science 316(5829):1285d-.

**ABSTRACT:** We show that globally declining fisheries catch trends cannot be explained by random processes and are consistent with declining stock abundance trends. Future projections are inherently uncertain but may provide a benchmark against which to assess the effectiveness of conservation measures. Marine reserves and fisheries closures are among those measures and can be equally effective in tropical and temperate areas--but must be combined with catch-, effort-, and gear restrictions to meet global conservation objectives.

**KEYWORDS:**

**NOTES:**

Worm, Boris, Ray Hilborn, Julia K. Baum, Trevor A. Branch, Jeremy S. Collie, Christopher Costello, Michael J. Fogarty, Elizabeth A. Fulton, Jeffrey A. Hutchings, Simon Jennings, Olaf P. Jensen, Heike K. Lotze, Pamela M. Mace, Tim R. McClanahan, Coilin Minto, Stephen R. Palumbi, Ana M. Parma, Daniel Ricard, Andrew A. Rosenberg, Reg Watson, and Dirk Zeller

**2009 Rebuilding Global Fisheries.** Science 325(5940):578-585.

**ABSTRACT:** After a long history of overexploitation, increasing efforts to restore marine ecosystems and rebuild fisheries are under way. Here, we analyze current trends from a fisheries and conservation perspective. In 5 of 10 well-studied ecosystems, the average exploitation rate has recently declined and is now at or below the rate predicted to achieve maximum sustainable yield for seven systems. Yet 63% of assessed fish stocks worldwide still require rebuilding, and even lower exploitation rates are needed to reverse the collapse of vulnerable species. Combined fisheries and conservation objectives can be achieved by merging diverse management actions, including catch restrictions, gear modification, and closed areas, depending on local context. Impacts of international fleets and the lack of alternatives to fishing complicate prospects for rebuilding fisheries in many poorer regions, highlighting the need for a global perspective on rebuilding marine resources.

**KEYWORDS:**

**NOTES:**

Worm, Boris, Marcel Sandow, Andreas Oschlies, Heike K. Lotze, and Ransom A. Myers  
**2005 Global Patterns of Predator Diversity in the Open Oceans.** Science  
 309(5739):1365-1369.

**ABSTRACT:** The open oceans comprise most of the biosphere, yet patterns and trends of species diversity there are enigmatic. Here, we derive worldwide patterns of tuna and billfish diversity over the past 50 years, revealing distinct subtropical "hotspots" that appeared to hold generally for other predators and zooplankton. Diversity was positively correlated with thermal fronts and dissolved oxygen and a nonlinear function of temperature ( $\sim 25^{\circ}\text{C}$  optimum). Diversity declined between 10 and 50% in all oceans, a trend that coincided with increased fishing pressure, superimposed on strong El Niño-Southern Oscillation-driven variability across the Pacific. We conclude that predator diversity shows a predictable yet eroding pattern signaling ecosystem-wide changes linked to climate and fishing.

**KEYWORDS:**

**NOTES:**

Woshner, V. M., T. M. O'Hara, G. R. Bratton, and V. R. Beasley  
**2001 Concentrations and interactions of selected essential and non-essential elements in ringed seals and polar bears of arctic Alaska.** Journal of Wildlife Diseases 37(4):711-721.

**ABSTRACT:** In this study, we evaluated concentrations of twelve essential and non-essential elements (As, Cd, Co, Cu, Pb, Mg, Mn, Hg, Mo, Se, Ag, and Zn) in tissues of ringed seals (*Phoca hispida*) and polar bears (*Ursus maritimus*) of arctic Alaska (USA). All samples were collected between 1995-97 in conjunction with subsistence harvests. The essential elements are reported to help develop reference ranges for health status determination and to help assess known or suspected interactions affecting toxicoses of cadmium (Cd) and mercury (Hg). In some tissues, Cd, Hg, and selenium (Se) were present at concentrations that have been associated with toxicoses in some domestic animals. Nevertheless, tissue levels of all elements were within ranges that have been reported previously in other pinnipeds and polar bears. Significant associations included: Cd with Zn or Cu; Cu with Zn or Ag; and Hg with Se, Zn, or Cu. This study found hepatic Hg: Se molar ratios to be lower than unity and different between the two species. Based upon significant differences in mean tissue elemental concentrations for polar bear versus ringed seal, we concluded that biomagnification factors (bear/seal) were significant for: Cu in liver and muscle; Pb in kidney; Se in kidney and muscle; Zn in liver and muscle; and Hg in liver. Possible explanations for observed elemental correlations (i.e., interactions) and ancillary mechanisms of Cd and Hg detoxification are discussed.

**KEYWORDS:**

**NOTES:** Times Cited: 25

Wright, John M., and Molly B. Chythlook

**1985 Subsistence harvests of herring spawn-on-kelp in the Togiak District of Bristol Bay.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report provides information on the subsistence use of Pacific herring spawn-on-kelp in the Togiak District of Bristol Bay by residents of Togiak, Twin Hills, Manokotak, Aleknagik, Dillingham, and other Nushagak Bay communities. Information was gathered during the May 1983 herring season through interviews with kelping groups and from a survey of commercial spawn-on-kelp fishers. Yu'pik place names in the Kukukak-Togiak area are also presented. Data include harvest estimates, the composition of kelping groups, the location of camps, the methods of preservation, and the patterns of sharing.

**KEYWORDS:**

**NOTES:**

Wright, John M. , and Molly B. Chythlook

**1985 Subsistence harvests of herring spawn-on-kelp in the Togiak district of Bristol Bay:** Alaska Department of Fish and Game, Division of Subsistence Technical Paper Series. Technical Paper No. 116.

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Wright, John M., Judith M. Morris, and Robert F. Schroeder

**1985 Bristol Bay regional subsistence profile.** Juneau, Alaska: ADF&G Division of Subsistence.

**ABSTRACT:** This report summarizes patterns of subsistence hunting, fishing, trapping, and gathering by the residents of 36 communities of 7 subregions of Bristol Bay, Southwest Alaska. The 7 subregions are Togiak, Nushagak Bay, Nushagak River, Iliamna Lake, Upper Alaska Peninsula, Chignik, and Lower Alaska Peninsula. Data include inventories of species used, harvest estimates, and seasonal rounds of harvest. Accompanying the report is a set of 12 maps illustrating subsistence use areas for these 36 communities, plus communities of the Aleutian-Pribilof islands and Kodiak Island. The report demonstrates the continued high reliance on subsistence harvests in the Bristol Bay Region.

**KEYWORDS:**

**NOTES:**

Wu, Xianli, Jie Kang, Chenghui Xie, Ramona Burris, Matthew E. Ferguson, Thomas M. Badger, and Shanmugam Nagarajan

**2010 Dietary Blueberries Attenuate Atherosclerosis in Apolipoprotein E-Deficient Mice by Upregulating Antioxidant Enzyme Expression.** Journal of Nutrition 140(9):1628-1632.

**ABSTRACT:** Protective effects of blueberries (BB) against atherosclerosis and potential underlying mechanisms in reducing oxidative stress were examined in apoE-deficient (apoE-/-) mice. ApoE-/- mice were fed an AIN-93G diet (CD) or CD formulated to contain 1% freeze-dried whole BB for 20 wk. The mean lesion area for apoE-/- mice fed BB was reduced by 39% (P lt 0.001) in the aorta sinus and 58% (P lt 0.001) in the descending aorta compared with CD-fed mice. These atheroprotective effects were independent of the serum lipid profile or total antioxidant capacity (as measured by oxygen radical absorbance capacity). The concentration of a biomarker of lipid peroxidation, F2-isoprostane, was lower in liver of BB-fed mice (P lt 0.05). Genes analyzed by RT-PCR array showed that 4 major antioxidant enzymes in aorta [superoxide dismutase (SOD) 1, SOD2, glutathione reductase (GSR), and thioredoxin reductase 1] were upregulated in BB-fed mice. Enzyme activities of SOD and GSR were greater (P lt 0.05) in liver and/or serum of BB-fed mice than those of CD-fed mice. In addition, serum paraoxonase 1 activity in serum of BB-fed mice was also greater than that of CD-fed mice (P lt 0.05) at the end of the study. These results suggest a protective effectiveness of BB against atherosclerosis



in this apoE-/- mouse model. The potential mechanisms may involve reduction in oxidative stress by both inhibition of lipid peroxidation and enhancement of antioxidant defense.

**KEYWORDS:** diet; heart disease; health

**NOTES:**

Wunderlich, Gooloo S., and Janet L. Norwood, eds.

**2006 Food insecurity and hunger in the United States: An assessment of the measure.**

Washington, D.C.: National Academies Press

**ABSTRACT:**

**KEYWORDS:**

**NOTES:**

Yesner, David R.

**1996 Human adaptation at the Pleistocene-Holocene boundary (circa 13,000 to 8,000**

**BP) in eastern Beringia.** Humans at the End of the Ice Age: the Archaeology of the Pleistocene Holocene Transition.

**ABSTRACT:**

**KEYWORDS:** Descriptor: Pleistocene-Holocene transition -- Bering Land Bridge.

Broken Mammoth Site (Alaska)

Alaska -- Antiquities.

Excavations (Archaeology) -- Alaska.

Subsistence economy

Prehistoric -- Bering Land Bridge.

Bering Land Bridge -- Economic conditions.

**NOTES:** Using Smart Source Parsing

pp. 255-276. Additional Info: New York Plenum Press

ill.

Source of data: Anthropological Literature, Harvard University.

David R. Yesner.

Young, Oran R., Milton M. R. Freeman, Gail Osherenko, Raoul R. Andersen, Richard A. Caulfield,

Robert L. Friedheim, Steve J. Langdon, Mats Ris, and Peter J. Usher

**1994 Subsistence, sustainability, and sea mammals: reconstructing the international whaling regime.** Ocean & Coastal Management 23(1):117-127.

**ABSTRACT:** The international regime that has regulated whaling for almost half a century is in serious danger of disintegration. The whaling regime (a set of rules, principles, and decision-making procedures governing the interaction of whaling nations) began in 1946 when 15 whaling nations signed the International Convention of the Regulation of Whaling. This group of whaling states created the regime to regulate an industry facing declining demand for whale oil and severe depletions of some whale stocks. By the mid-1960s, with fewer nations engaged in whaling and the addition of new non-whaling members, the regime's focus had shifted from regulation of an industry to conservation of whale stocks. Since the early 1970s, the International Whaling Commission (IWC), the principal organization of the regime, has become a stage for airing conflicts between preservationists, who oppose almost all consumptive use of whales, and those in favor of conservation measures necessary to protect stocks for a variety of consumptive and non-consumptive human uses. In response to the crisis in the international whaling regime, a group of social scientists with extensive experience in whaling issues and international resource management more generally began a dialogue in 1992. This article is based on the report from this working group (which included the authors of this essay) and addresses some (but by no means all) of the pressing impediments to constructive dialogue among parties involved in the international regulation of whaling.

**KEYWORDS:** Artisanal fishing ; Fishery management ; International cooperation ; International policy ; Marine mammals ; Nature conservation ; Potential yield ; Quota regulations ; Rare species ; Resource management ; Whaling ; Whaling regulations

**NOTES:**

Zellen, Barry Scott

**2009 Arctic doom, Arctic boom: The geopolitics of climate change in the Arctic:** Praeger.

**ABSTRACT:** A growing number of scientists estimate that there will be no summer ice in the Arctic by as soon as 2013. Are we approaching the "End of the Arctic?" as journalist Ed Struzik asked in 1992, or fully entering the "Age of the Arctic," as Arctic expert Oran Young predicted in 1986? *Arctic Doom, Arctic Boom: The Geopolitics of Climate Change in the Arctic* looks at the uncertainty at the top of the world as the shrinking of the polar ice cap opens up new sea lanes and the vast hydrocarbon riches of the Arctic seafloor to commercial development and creates environmental disasters for Arctic biota and indigenous peoples. *Arctic Doom, Arctic Boom* explores the geopolitics of the Arctic from a historical as well as a contemporary perspective, showing how the warming of the Earth is transforming our very conception of the Arctic. In addition to addressing economic and environmental issues, the book also considers the vital strategic role of the region in our nation's defenses.

**KEYWORDS:**

**NOTES: REVIEW FROM ARCTIC**

**June 2010, Vol. 63, Issue 2, p241-243, 3p**

Zellen, a former journalist and newspaper editor who worked for the Inuvialuit in Inuvik, Northwest Territories, during the 1990s, argues that the Arctic has reached a "tipping point" in terms of both climate change and consequent geopolitical (read: military, economic, and politically strategic) importance on the international stage. With the loss of sea ice, melting permafrost, warming ambient temperatures, and consequent changes in flora and fauna environments and adaptations, Zellen argues, an Arctic Spring has arrived. It is the beginning of the final chapter of the Earth's last Ice Age, which has held both the geophysical Arctic and its inhabitants prisoner to its climate—held back by the forces of cold from cultural, social, and economic modernization (read: Eurocentric cultural and economic capitalism). This view of modernization pits climate change alarmists (such as Nobel prize winner Al Gore and Inuit Nobel nominee Siila Watt-Cloutier) against climate change "optimists," such as Zellen himself, along with those who stand to benefit from Arctic resources denuded of the snow and ice that has perpetuated their inaccessibility. It will not be lost on the reader that accessing the reportedly enormous cache of oil, gas, and mineral resources beneath the melting permafrost and sea ice will be critical to proliferation of the oil economy that is responsible for much of the climate warming that the Arctic is now experiencing.

We Northerners are well aware of the potential benefits of climate change. As we watch our children play in the unfamiliar, heavy "sandy snow" piled in backyards and playgrounds around Yellowknife, wrought by temperatures hovering just below freezing well into what is historically the deep-freeze month of December, the joking refrain is: "Global warming—bring it on!" However, Zellen takes a serious tone, providing perhaps an overly capitalistic way for us to understand our situation. According to Zellen, Inuit culture will adapt and evolve to embrace its noncold climate-induced aspects; economic opportunity will abound; and Indigenous peoples, through the political and economic empowerment they have gained from land claims and self-government, will become the northern equivalent of Saudi princes (p. 163).

One only need take a closer look at the political and legal instruments structuring Indigenous rights recognition agreements, resource royalty, and own-source revenue regimes to know that the kind of power and wealth Arctic warming might unlock is likely to remain firmly in the hands of multinational corporations and national governments. For example, Zellen correctly identifies increased power of Inuit vis-à-vis national resource management interests through

co-management provisions of the Nunavut land claim as evidence that Inuit are well positioned to participate in stewarding resource use change and innovation in a warming Arctic. But he neglects to mention the realpolitik of Indigenous rights recognition that our government engages in when it comes to potential resource wealth. For example, he does not mention that in the international arena, Canada's own sovereign claims to vast oil resources beneath the Arctic Islands rest in part on the Inuit Land Use and Occupancy Study (Freeman, 1976). At the same time, Canada in devolution negotiations denies the territory of Nunavut a share in those same resources, arguing that the resources are "offshore" and therefore owned by the Canadian national government, and that the Inuit through the government of Nunavut have no right to them (Okalik in Bell, 2006). But this is nothing new in Canada: the Northwest Territories, for example, is rife with examples of Indigenous peoples who live closest to oil fields and gold mines that produce hundreds of millions of dollars of federal royalties, but continue themselves to subsist in thirdworld conditions. And some of those communities are signatories to land-claim agreements.

The book is presented in six chapters, with two forewords: the first by a former Republican governor of Alaska [Wally Hickel], and the second by a professor of national security studies. The book promises to "apply several theoretical concepts and ideas, including concepts from the fields of geopolitics and international relations theory" (p. 3). This is done, more journalistically than systematically, in order to define first how the Arctic was and is perceived in strategic terms (as a desert, a frozen Cold War buffer, a climatically impenetrable store of resources) and then how the post-cold Arctic should be imagined and understood (as a Mediterranean, Maginot line, Lenaland, Rimland, or resource frontier ripe for plundering). The author is at his best in chapter two, which presents an overview of military and strategic analyses of the Arctic's historical geopolitical importance on the world stage.

Given that the book rests its key arguments on the spectre of profound and far-reaching multidimensional military, strategic, and economic effects of climate change at levels ranging from local to international, a thorough and systematic review of climate change science research and change modeling would have been in order. Such a précis would have provided factual depth to the arguments made. If geopolitics rests, as Zellen says, on the land itself, a chapter with a detailed overview of the land, including its geophysical characteristics, ice phenology, flora and fauna, and the variations in its ambient and ground temperatures would have been useful. This overview, followed by an explanation of influential and credible climate models and descriptions of how changes are being measured (How do they map the seabed? What do they look for in ice core samples?), as well as how these changes are being observed and experienced by animals and humans, would have helped readers to appreciate the connection between geophysical and political change. A quick walk through the poster hall of any Arctic science conference provides ample evidence of both climate change and the opportunities and challenges that scientists see in their findings (e.g., potentially longer berry-picking seasons in some areas of Nunavut, but alas, fewer berry plants!). That lack of distilled scientific findings and factual evidence as a basis for strategic geopolitical advice is the weakness of this book. Zellen is knowledgeable and articulate—that is not in question. But where policy makers would need lines of evidence, they are more likely to find journalistic analysis. This is not a scholarly account, nor is it really a book for those unschooled in strategic studies, Northern development, or climate change. However, I must agree with Zellen that it makes a provocative theoretical case for the potential positive impacts of climate change, which optimists of both the left and the right have begun to embrace, whether it be Obama's optimism for the economic benefits of a green innovation economy or the Real-ökonomie of new-frontier resource exploitation. Zellen has written a book that will make us think, and for that, his contribution should be lauded and welcomed as a source of important discussion among students and scholars of northern studies and northern policy makers alike.

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Zerbini, Alexandre N., Janice M. Waite, Jeffrey L. Laake, and Paul R. Wade

**2006 Abundance, trends and distribution of baleen whales off Western Alaska and the central Aleutian Islands.** Deep Sea Research Part I: Oceanographic Research Papers 53(11):1772-1790.

**ABSTRACT:** Large whales were extensively hunted in coastal waters off Alaska, but current distribution, population sizes and trends are poorly known. Line transect surveys were conducted in coastal waters of the Aleutian Islands and the Alaska Peninsula in the summer of 2001-2003. Abundances of three species were estimated by conventional and multiple covariate distance sampling (MCDs) methods. Time series of abundance estimates were used to derive rates of increase for fin whales (*Balaenoptera physalus*) and humpback whales (*Megaptera novaeangliae*). Fin whales occurred primarily from the Kenai Peninsula to the Shumagin Islands, but were abundant only near the Semidi Islands and Kodiak. Humpback whales were found from the Kenai Peninsula to Umnak Island and were more abundant near Kodiak, the Shumagin Islands and north of Unimak Pass. Minke whales (*B. acutorostrata*) occurred primarily in the Aleutian Islands, with a few sightings south of the Alaska Peninsula and near Kodiak Island. Humpback whales were observed in large numbers in their former whaling grounds. In contrast, high densities of fin whales were not observed around the eastern Aleutian Islands, where whaling occurred. Average abundance estimates (95% CI) for fin, humpback and minke whales were 1652 (1142-2389), 2644 (1899-3680), and 1233 (656-2315), respectively. Annual rates of increase were estimated at 4.8% (95% CI=4.1-5.4%) for fin and 6.6% (5.2-8.6%) for humpback whales. This study provides the first estimate of the rate of increase of fin whales in the North Pacific Ocean. The estimated trends are consistent with those of other recovering baleen whales. There were no sightings of blue or North Pacific right whales, indicating the continued depleted status of these species.

**KEYWORDS:** Distribution

Population number  
Population density  
Conservation  
Whales  
North Pacific  
Aleutian Islands  
Gulf of Alaska

**NOTES:**

Zhang, Xiaoming, A. Sathy Naidu, John J. Kelley, Stephen C. Jewett, Doug Dasher, and Lawrence K. Duffy

**2001 Baseline Concentrations of Total Mercury and Methylmercury in Salmon Returning Via the Bering Sea (1999-2000).** Marine Pollution Bulletin 42(10):993-997.

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**2003** **Stock-recruitment relationships for three major Alaskan crab stocks.** Fisheries Research 65(1-3):103-121.

**ABSTRACT:** Stock-recruitment (S-R) relationships have important implications for harvest strategies but are difficult to develop for crab stocks because crab lack retainable hard body parts to age them and lack of sufficient knowledge about complex crab reproductive biology also complicates estimating effective spawning biomass. To evaluate harvest strategies, we developed S-R relationships for three major crab stocks in Alaska: Bristol Bay red king crab, *Paralithodes camtschaticus*, Bristol Bay Tanner crab, *Chionoecetes bairdi* and eastern Bering Sea snow crab, *Chionoecetes opilio*. We used abundance and recruitment estimates from length-based models, based on growth data for recruitment age and estimated effective spawning biomass from male and female abundance, male fertilization capability, sex ratio, size and shell condition of males, molting period duration of the female population and duration of male attendance during mating. Results varied with species. For red king crab, weak recruitment was associated with extremely small spawning biomass and strong recruitment was associated with intermediate spawning biomass, suggesting possible density-dependent effects. However, the king crab recruitment trends were also consistent with patterns of decadal climate shifts. Results were equivocal and a general Ricker model fit the king crab data slightly better than an autocorrelated Ricker model. For Tanner crab, the autocorrelated Ricker model fit the data much better than the general model and most of the variability of Tanner crab recruitment can be explained by a cycle with a period of 13-14 years. For snow crab, the autocorrelated Ricker model generally fit the data much better than the general model and S-R observations formed a circular pattern. Despite the weak evidence for S-R relationships, harvest strategies must be precautionary to reduce the risk that crab stocks fall to levels so low that reproductive output is insufficient to produce large year classes when environmental conditions become favorable.

**KEYWORDS:** Stock-recruitment relationships

Red king crab

Tanner crab

Snow crab

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**KEYWORDS:** Stock-recruitment relationships

Red king crab  
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Snow crab

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Zheng, Jie, and Gordon H. Kruse

**2006 Recruitment variation of eastern Bering Sea crabs: Climate-forcing or top-down effects?** Progress In Oceanography 68(2-4):184-204.

**ABSTRACT:** During the last three decades, population abundances of eastern Bering Sea (EBS) crab stocks fluctuated greatly, driven by highly variable recruitment. In recent years, abundances of these stocks have been very low compared to historical levels. This study aims to understand recruitment variation of six stocks of red king (*Paralithodes camtschaticus*), blue king (*P. platypus*), Tanner (*Chionoecetes bairdi*), and snow (*C. opilio*) crabs in the EBS. Most crab recruitment time series are not significantly correlated with each other. Spatial distributions of three broadly distributed crab stocks (EBS snow and Tanner crabs and Bristol Bay red king crab) have changed considerably over time, possibly related in part to the regime shift in climate and physical oceanography in 1976-1977. Three climate-forcing hypotheses on larval survival have been proposed to explain crab recruitment variation of Bristol Bay red king crab and EBS Tanner and snow crabs. Some empirical evidence supports speculation that groundfish predation may play an important role in crab recruitment success in the EBS. However, spatial dynamics in the geographic distributions of groundfish and crabs over time make it difficult to relate crab recruitment strength to groundfish biomass. Comprehensive field and spatially explicit modeling studies are needed to test the hypotheses and better understand the relative importance and compound effects of bottom-up and top-down controls on crab recruitment.

**KEYWORDS:** USA

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Eastern Bering Sea  
Crabs  
Recruitment variation  
Climate forcing  
Predation

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**2001 Land use and social change among the Dolgan and Nganasan of northern Siberia.**

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**2003 Assigned territories, family/clan/communal holdings, and common-pool resources in the Taimyr Autonomous Region, Northern Russia.** Human Ecology 31(3):331-368.

**ABSTRACT:**

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Ziker, John P.

**2007 Subsistence and food sharing in northern Siberia: Social and nutritional ecology of the Dolgan and Nganasan.** Ecology of Food and Nutrition 46:445-467.

**ABSTRACT:** Traditional foraging activities and extensive food sharing are critical to the contemporary nutritional well-being of Dolgan and Nganasan people in the Taimyr Region, Russia. **Despite recent economic transformations geared toward free-market capitalism in the post-socialist era, since 1991, a native communal resource-management regime has developed.** This article outlines the social and nutritional significance of subsistence and food sharing within a remote indigenous community in Arctic Siberia. Empirical data on procurement processes and relationships, along with data on food distributions and rationales, are discussed. These data are relevant to questions about food sharing and its significance in hunting-and-gathering economies and the evolution of human sociality.

**KEYWORDS:** cooperation; kinship; reciprocity; demand sharing; communal resources; indigenous; Siberia

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