Documenting Our Way of Life through Maps

NORTHWEST ARCTIC BOROUGH Subsistence Mapping Project
Volume 1
On behalf of the Northwest Arctic Borough, I invite you to read Subsistence Mapping Project or Iñuuniaqi qput Iḷiḷugu Nunaŋ̝uqanun (Documenting Our Way of Life with Mapping).

The Northwest Arctic Borough Subsistence Mapping Project was a five-year research project documenting local traditional knowledge and scientific information depicting subsistence use (where people hunt, fish, and gather by season) and important ecological areas (where animals feed, breed, raise young, and migrate by season) surrounding seven communities including Kivalina, Noatak, Selawik, Noorvik, Deering, Buckland, and Kotzebue.

The project produced updated and scientifically defensible maps showing subsistence use and important ecological areas surrounding these communities for use in land use planning and commenting on federal plans, including but not limited to, offshore oil exploration and oil spill response. The project was conducted in fulfillment of Northwest Arctic Borough Assembly Resolution 11-04 to improve subsistence information to aid in permitting, zoning, and land use decision-making; and in support of Title 9 of the Borough code, specifically Chapter 9.28, which recognizes the importance of protecting subsistence resources critical to the quality of life of all residents in the Borough.

The project was made possible with the support of many Borough residents; tribes; cities; staff; consults; and decision makers, including the two previous administrations of Mayor Siikauraq Martha Whiting and Mayor Reggie Joule; and with funding provided by the Coastal Impact Assistance Program (CIAP), the Oak Foundation, ConocoPhillips, and Royal Dutch Shell.

Taikuu,

Clement Richards, Mayor
Iñuuniaḷiqput Iḷiḷugu Nunaŋŋuanun:
Documenting Our Way of Life through Maps
FOR CALEB:

You grew up living off the land and sea with your People,
A student of everything they taught you.
With humility and respect,
You returned the favor,
And taught so many others.
May we now,
Bring this full-circle,
To protect and partake in,
What you found was so beautiful.
Quyaana.

Caleb Pungowiyi with his wife, Gladys.
This atlas began as his vision.
Acknowledgements

Many thanks to our funders without whose support this project could not have been realized:

• U.S. Fish and Wildlife Service, Coastal Impact Assistance Program (CIAP)
• Oak Foundation
• Shell Oil
• ConocoPhillips

Caleb Pungowiyi of Oceana approached the Borough with the original concept for this project and provided guidance through its initial stages. Former Borough Planning Director Ukallaysaaq Tom Okleasik worked hard to secure funding for the project and led a team consisting of Chris Krenz, John Chase, Annabelle Alvite, and Glenn Gray to write the proposal. As the Planning Director through much of the project, and as the Science Department Director, Noah Naylor provided guidance through the end of the project.

Thank you to the IRAs and city governments in each of the villages who have supported the project in myriad ways. Thank you also to Susan Georgette, Henry Huntington, Sveta Yamin-Pasternak, and David Driscoll for serving as our scientific reviewers, and for their many thoughtful suggestions and contributions to the methods. An additional thank you to Susan Georgette for aiding in the identification of numerous bird and plant species, when only Iñupiaq names were known, and for aiding in providing Iñupiaq names for multiple species. The project staff takes responsibility for any errors that may remain.
Contributors

Authors

Damian Satterthwaite-Phillips, PhD, Anthropologist and Data Analyst
Northwest Arctic Borough and Phillips Research & Analytics
As the atlas’ lead author, Dr. Satterthwaite-Phillips designed the research methods and conducted just over half of the interviews with study participants in the villages. He designed and conducted statistical analyses of completeness and data sufficiency and aided Oceana’s scientists in developing methods for identifying important areas for species. He authored early drafts of the chapter 1 introductory text, wrote Methods Part 1, found later in that chapter, and prepared the maps that accompany the narratives in chapters 1 and 5. For chapter 2, he synthesized study results and ADF&G data in the tables and narratives in each village section, and made substantive corrections and additions to the village subsistence histories. He wrote all of chapter 3, designed innovative methodology to quantify findings and make projections, and made all of that chapter’s graphs. Damian designed and constructed the mapping database (except digitization of geographically referenced objects—points, lines, and polygons—which was done by Oceana staff) and generated all of the village search area maps in chapter 2, part 1, and study-area-wide maps in chapter 2, part 2. He reviewed all atlas text to correct Iñupiaq spelling errors and to ensure consistent usage. Beyond his technical work on the atlas, Dr. Satterthwaite-Phillips also spoke at and participated in a number of conferences and forums, sharing this study’s methods and findings with the broader scientific community.

Christopher Krenz, PhD, Marine Scientist
Oceana
As Arctic Campaign Manager and Senior Scientist at Oceana, an international nonprofit ocean conservation organization, Chris Krenz managed Oceana’s involvement in the project. Dr. Krenz played a key role in developing the methods used for identifying important areas for species and helped to gather, analyze, and interpret scientific data from this study and outside sources that are included in chapter 4. He wrote chapter 4 and the relevant methods section in chapter 1, along with Appendix H. Dr. Krenz served on the project’s planning team from the project’s inception and also helped organize and lead the community-based expert workshop in Kotzebue.

Glenn Gray, Contributor and Project Evaluator
Glenn Gray and Associates
In addition to acting as liaison between contributors and the Borough and assisting with administrative tasks and document drafting, Glenn Gray reviewed and corrected all of the atlas narratives and wrote most of chapter 5. He also contributed to chapter 1 and the introduction to chapter 2. As Project Evaluator, Mr. Gray led the quarterly project team meetings, provided independent oversight and offered considerable expertise, support, and feedback to the atlas team at every step of the way.

Liz Dodd, Editor
IDTC
Liz Dodd edited the atlas and drafted the Foreword and Afterword and parts of the Introduction. Ms. Dodd researched and wrote the seven village subsistence histories in chapter 2, part 1, which incorporated summaries of modern-day village life prepared earlier by Sarah Betcher. Liz also coordinated with project scientists, borough staff, and the project evaluator to establish the atlas organization and worked with S360 on the atlas design.
GIS Specialists

Brianne Mecum, GIS Analyst
Oceana

Brianne Mecum digitized many of the geo-referenced data for the project. She generated all the maps that contain the Oceana logo. Working with Chris Krenz, Ms. Mecum prepared portions of the Methods Part 2 section of chapter 1 and Appendix H explanations for how data were processed for the analysis maps in chapter 4.

Kristie Livingston, GIS Analyst
Oceana

Ms. Livingston digitized many of the geo-referenced data for the project, including data compiled for the project on subsistence use areas and place names.

Photographers

Sarah Betcher, Photographer/Videographer
University of Alaska Fairbanks

Sarah Betcher visited the seven villages in the study over a period of two years. She conducted the interviews that became the “Voices” sections in chapter 2, prepared summaries of demographic and other data that informed the village history sections, and took many of the photos in the atlas. She also prepared a video for the Borough, titled “The Effects of Weather and Climate on Subsistence Communities,” as part of this project.

Local photographers who submitted images for the atlas included Wendie Schaeffer, Lance Kramer, Maija Katak Lukin, Karmen Monigold, Rebecca Wesley, Leanne Viveiros, Polly Agnik Schaeffer, Elizabeth Ferguson, Jaime Ikaaq Lambert, Leanne Schaeffer, Damian Satterthwaite-Phillips, Alysha Nanouk, Dolly Sheidt, Myra Wesley, John Chase, Myra Upicksoun, Martha Whiting, Ray Schaeffer, Norma Ballot, Roberta Moto, Iva Smith, Kelly Saxie, Claude Wilson, Zach Stevenson, Stephen Schaeffer, Molly Sheldon, Marceline Lee, Qutan Lambert, Lena Ferguson, and others.

Graphic Designer

Strategies 360

Strategies 360, an Anchorage-based graphic design and public relations firm, designed the atlas, often under intense time constraints. The design team, led by Bryan Cox, worked extensively with Damian, Zach, and Liz to correct map legends and design map layout throughout the atlas.

Northwest Arctic Borough Administrators

Clement Richards, Sr., Borough Mayor
Reggie Joule, Former Borough Mayor
Fred Smith, Former Planning Director
Noah Naylor, Former Director, Science Department, and Current Planning Director
Ukallaysaaq Tom Okleasik, Former Planning Director
Siikauraq Martha Whiting, Former Borough Mayor
NWAB Project Team

Zach Stevenson, Project Coordinator

Mr. Stevenson provided overall project coordination throughout the project, including supervision of project staff and contractors and performance of other administrative duties.

Traditional Knowledge Specialists

Lance Kramer, Traditional Knowledge Specialist

Lance Kramer conducted nearly half of the data-gathering interviews. He provided considerable guidance in developing methods for documenting important ecological areas and defining the range of animal activities to be investigated in the study. He frequently led discussions with advisory groups and in the expert workshop to ensure information was being clearly communicated to all project participants. Beyond the content of this atlas, Mr. Kramer also wrote content for regular project newsletters, which were periodically circulated to the communities involved.

John Goodwin, Traditional Knowledge Specialist

The project’s first traditional knowledge specialist, John Goodwin was instrumental in constructing lists of species hunted and gathered in each season throughout the region. He provided essential support in guiding the methods so that they would be culturally appropriate and was instrumental in determining the base maps and geological landmarks that were to be used for geo-referencing.

Anthropologists

Damian Satterthwaite-Phillips, PhD

Dr. Satterthwaite-Phillips was the project anthropologist beginning in 2012 and continuing through the end of the project.

Brandon Chapman, PhD, Social Scientist

As the anthropologist for the first year of the project, Dr. Chapman aided in the early stages of gathering community support for the work and consulted with communities to determine appropriate base maps to be used in the interviews.

Project Staff

Jaime Lambert, Program Officer

Ms. Lambert worked tirelessly to connect the Borough’s people with this project. She coordinated an array of youth and other community activities related to subsistence and marine safety, with Elizabeth Ferguson, ran both the photo and essay contests and wrote content for project newsletters. She gathered photos and provided captions for most of the photos in the atlas. She and Ms. Ferguson also reviewed and provided feedback on chapter 2 narratives, especially the “Voices” sections.

Annabelle Alvite, CIAP Grants Coordinator

Yiyuk Henry, CIAP Grants Coordinator

Elizabeth Ferguson, Intern

Elizabeth Ferguson worked with Jaime Lambert on the community activities in the villages and Borough-wide contests, drafted material for project updates, and provided edits on atlas drafts.
**Village Coordinators**

The Village Coordinators were responsible for assisting in recruiting participants in their villages, scheduling interviews and meetings, aiding in the interviews, and communicating project updates to the local city and tribal governments. Beyond the content provided in this atlas, village coordinators also organized and led subsistence-related educational activities in their villages.

**Raymond Lee, Jr.**  
Village Coordinator for Deering and Buckland

**Alvin Ashby, Sr.**  
Village Coordinator for Noatak and Kivalina

**Ellenore Sunii Jackson**  
Village Coordinator for Noorvik and Selawik

**Lee Ballot, Sr.**  
Village Coordinator for Noorvik and Selawik

**Village Contributors**

Residents of the Northwest Arctic Borough who contributed data:

**Buckland**

*Advisory Group Members*—
Irene E. Armstrong, Beulah Ballot, Chester H. Ballot, Steven Ballot, Amil E. Carter, Charles Foster, Sr., Jimmy Geary, Sr., Denise Hadley, Eunice Hadley, Nathan D. Hadley, Sr., Florence Nolton, Dennis Jones, Sr., Eva Lee, Glenna Parish, Mike Sheldon, David Thomas, Jr., Edward Thomas, Glenn Thomas, Sr., Floyd H. Ticket, Jr., Grace Washington, Laura Washington

*Individuals*—

**Deering**

*Advisory Group Members*—
Don Booth, Sr., Steven Booth, Calvin D. Moto, Jr., Emerson Moto, Jim Moto, Ronald Moto, Marlene Moto-Karl, Paul Norton, Sr.

*Individuals*—
Connell A. Barr, Douglas J. Carter, Sr., Lilian Cleveland, Alvin Iyatunguk, Sr., Denise R. Iyatunguk, Calvin Moto, Sr., Jerry Moto, Robert Moto, Taylor Moto, Jr., Brian Weinard

**Kivalina**

*Advisory Group Members*—
James Adams, Leroy J. Adams, Jr., Leroy T. Adams, Oran C. Knox, Sr., Andrew Koenig, Jack Koenig, Austin Swan, Sr., Genny Swan, Replogle Swan
Individuals—

Kotzebue
Advisory Group Members—
Cyrus Harris, James McClellan, Elsie Naylor, Virgil F. Naylor, Victor Onalik, Bob Schaeffer, Daniel Thomas, Mahlon Uhl, Dempsey Woods, Lorena Williams

Individuals—

Noatak
Advisory Group Members—
Charlie Barger, Whittier Burns, Walter W. Downey, Fred Luther, Enoch Mitchell, Benjamin Sherman, Sr., Herbert Walton, Martha M. Woods

Individuals—
Alice E. Adams, James T. Adams, Alvin Ashby, Sr., Wilfred R. Ashby, Donald Booth, Sr., Ivan Booth, Thurston Booth, Jerry L. Jones, Sr., Robert Kirk, Roger D. Mitchell, Sr., Paul Norton, Sr., Frank Onalik, Sr., Evelyn Shy, Matthew Walton, Martha M. Woods

Noorvik
Advisory Group Members—
Howard Ferreira, William Field, Rodney Hunnicutt, Joshua Melton, Charlie Nazuruk, Sr., Homer Wells, Sr., Robert T. Wells

Individuals—
Caroline Barr, Roy Barr, Sr., Edward Coffin, Jr., Doris Davis, Hannah Field, Wallace Field, Jr., Carl H. Foster, Sr., Carrie E. Garfield, Agnes Hailstone, Edward V. Hailstone, Wilbur M. Howarth, Sr., Clarence H. Jackson, Bessie Johnson, Lloyd M. Morris, Angeline Newlin, Thomas Outwater, Ed Pungalik, Matilda Pungalik, Pauline Pungalik, Aurora Sampson, Caldon Sampson, Valeria Sheldon, Glenn D. Skin, Jordan Snyder, Marla M. Stone

Selawik
Advisory Group Members—
Norma Ballot, Douglas Brown, Sr., Melissa Brown, Harry Clark, Jr., Randy Davis, Shannon Davis, Oran Walton, Jr.

Individuals—

... and many others who wished to remain anonymous or whom we were unable to contact to obtain consent to share their names.
Other Contributors

Jim Magdanz, Subsistence Specialist
Alaska Department of Fish and Game

Jim Magdanz provided the bibliography that will accompany the online portion of this project—a comprehensive listing of research articles pertinent to subsistence in Northwest Alaska. He also provided a data gap analysis for the project.

Nicole Braem, Arctic Area Subsistence Resource Specialist
Alaska Department of Fish and Game

Ms. Braem provided guidance in developing the methods and essential feedback to the team throughout the course of the project.

John Chase, Community Development and Flood Program Specialist for the Northwest Arctic Borough

Chad Nordlum, former Deputy Director of Planning for the Northwest Arctic Borough
## Project Timeline

### 2009 – 2011

Oceana advisor Caleb Pungowiyi approaches Borough with project idea. CIAP and Oak Foundation funding secured, agreements with ADF&G, Oceana, and Project Evaluator signed, Project Coordinator hired, and project team assembled.

**Spring 2011**

First Traditional Knowledge Specialist, Social Anthropologist, and Village Coordinators hired; project team meets for the first time in Kotzebue and project evaluation and monitoring plan adopted.

**Summer 2011**

Project staff and researchers meet with tribal councils and villagers to solicit nominations for advisory group members. Flyers and radio announcements invite participation.

**Fall 2011**

Local advisory groups assembled; the Project Coordinator and Anthropologist work with Oceana staff to establish regions and scales on base maps; first Subsistence Mapping Conference held in Kotzebue in November.

**Winter 2011**

Local advisory group nominees reviewed and approved by tribes, cities, and the Borough.

**Spring 2012**

Advisory groups meet to 1) identify local hunters, fishers, and gatherers to interview, and 2) review study methods; Borough assembly approves Oceana contract for scientific review of studies on coastal and marine subsistence species.

**Summer–Fall 2012**

Advisory groups meet; second Subsistence Mapping Conference held in Kotzebue in October.

**Winter 2012**

Advisory groups meet; Iñupiaq place names mapping project gets underway.

**Spring 2013**

Dr. Damian Satterthwaite-Phillips replaces Dr. Brandon Chapman as project’s social scientist and refines methods for gathering and analyzing data; study participants recruited in villages; Lance Kramer takes over from John Goodwin as Traditional Knowledge Specialist; Oceana approves mapping methodology; scientific review panel approves data gathering and analysis methods.

**Summer 2013**

Dr. Satterthwaite-Phillips interviews study participants in seven villages.

**Fall–Winter 2013**

Interim analysis of data conducted to determine representativeness and completeness of study sample. Buckland test sample conducted to verify methods.

**Spring–Summer 2014**

Additional village participants interviewed to expand sample; youth education and outreach activities conducted in the project’s seven participating communities; analysis of participants’ subsistence patterns by age, gender, and location performed.

**Fall–Winter 2014**

Interview data digitized and initial maps prepared; Oceana finishes marine and coastal literature review, analysis, and maps; with ConocoPhillips funding, project sponsors photo contest, Sarah Betcher completes film Effects of Weather and Climate on Subsistence Communities (gathering information used for “Voices” sections in ch. 2), and project supports U.S. Coast Guard “six-pack” license training for 10 borough residents; 2-day expert workshop held in Kotzebue in October.

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1. A comprehensive summary of project activities and publications is provided at Appendix K.
**Spring 2015**

Atlas editor and graphic design team hired; village subsistence histories drafted; first atlas draft presented to assembly in June; project sponsors student subsistence essay contest.

**Summer 2015**

Borough stakeholders review atlas draft; major revision prepared. Youth essay contest winners travel to Washington, D.C. and Philadelphia; President Obama visits borough region in early September.

**Fall 2015 – Winter 2016**

Online GIS database of mapped study data launched; writers’ and stakeholders’ feedback incorporated into major atlas revision; final edits checked and atlas sent to printer.
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Traditional hunting, fishing, and gathering:
“Deeply entrenched in the mind, heart, and spirit”

The people native to Alaska’s northern regions have been finding, gathering, and eating food from the land and water around them for longer than anyone can remember. The acts of going out to get food, of cutting it up, preserving and sharing it, and eating it embody the spiritual, ethical, and organizing principles of northern cultures.

When the term “subsistence” came into use among Alaska’s policymakers sometime in the 20th Century, many Natives from across the state were reluctant to incorporate it into their speech. Many thought, and still think, it wrong to try to reduce an entire way of life to one word, especially a word almost synonymous with “food” or “physical health”—as though the ongoing struggle of Alaska’s first people to protect long-treasured hunting, fishing, trapping, and gathering areas was simply about getting an Omega-rich diet.

As can be heard in the local voices that speak through these pages, what a person eats matters a lot. This atlas maps the locations local people in the Borough’s seven westernmost villages told researchers they go to get food. But the story told here is about culture, in that word’s most encompassing sense. The areas identified in this atlas are not just important to Iñupiat bellies but to Iñupiat Iliqsiat—“The Iñupiat Spirit” described by Willie Iġgiağruk Hensley as “the bonds of language, shared cultural ties, and common understanding of geography and flora and fauna . . . —still defining qualities of our people.” When encountering the word “subsistence” in this volume, readers are invited to keep in mind Iġgiağruk’s words: “Iñupiat values are not material; they are deeply entrenched in the mind and heart and spirit . . . When these qualities disappear, we as a people begin to disappear.”