

Northwest Arctic Borough Science Steering Committee

August 8, 2014 Committee Meeting Minutes – Approved February 19, 2015

Members Present:

Raymond Lee, Jr., Village Representative, Buckland
Morgan Johnson, Village Representative, Ambler
Norma Ballot, Village Representative, Selawik
Stanley Hawley, Village Representative, Kivalina
Alex Whiting, Village Representative, Kotzebue
Cyrus Harris, At-Large Village Representative, Kotzebue
Michael Macrander, Shell
Molly McCammon, Alaska Ocean Observing Systems, Independent At-Large Member
Henry Huntington, Pew Foundation, Independent At-Large Member
Michael Brubaker, Alaska Native Tribal Health Consortium (ANTHC), Independent At-Large Member
Gay Sheffield, Assistant Professor, University of Alaska Fairbanks, Independent Scientist

Excused Absences:

Douglas DeMaster, Science and Research Director, Alaska Region, NOAA, Independent Scientist
Roland Booth, At-Large Village Representative, Noatak
Richard Glenn, Arctic Slope Regional Corporation, Independent At-Large Member

Guests:

Erling Westlien, Shell
Matt Baker, Science Director, North Pacific Research Board
Danielle Dickson, Program Manager, North Pacific Research Board (attended by teleconference)

Borough Staff:

Christine Hess , In-House Counsel	Noah Naylor , Planning Director
Fred Smith , Assistant to Mayor	Glenn Gray , Note Taker

1. Opening

Cyrus Harris, Committee Chair, opened the meeting at 8:30am and asked Raymond Lee to lead an opening prayer. Noah then called the roll.

2. Agenda

The Committee unanimously approved the agenda with two additions: A report by Michael Macrander on a project by the National Petroleum Council and an update on Shell's planned 2014 activities.

3. Minutes

A motion to approve the minutes by Henry and seconded by Morgan was approved unanimously.

4. Local Observing Network and EPA Water and Subsistence Grant

Mike Brubaker of the Alaska Native Tribal Health Consortium (ANTHC) began his presentation with an overview of ANTHC's "one health" program which recognizes that a healthy environment and healthy wildlife are needed for healthy people. ANTHC's Center for Climate and Health assists tribal health programs, and it has worked with the Maniilaq Association to complete climate change impact reports in Point Hope, Kivalina, Noatak, Kiana, and Selawik.

ANTHC projects in the region include an in-home water and sewer demonstration project in Kivalina,¹ community time lapse photography to document environmental changes, analysis of blood test strips taken from subsistence resources (e.g., Sisaulaq), and development of adaptive engineering designs for sanitation infrastructure (e.g., Selawik),

Mike described climate change impacts to northern communities and ANTHC's establishment of the Environmental Observing (LEO) Network. The purpose of the network is to build local capacity through reporting of environmental observations. It includes 200 tribal members from Alaska and Western Canada, including nine communities in the Northwest Arctic Borough (NAB). The local observers are often connected with experts that provide technical counsel on observations. After being vetted, observations are recorded on a map on the ANTHC website, and a link to the maps is included in the weekly Health E-News distributed by ANTHC.

Committee members discussed monitoring needs for issues such as asbestos in Ambler, abnormal fish sightings, more frequent observations, and future analysis of trends related to local observations.

5. Symposium Summary – Draft Final Report

Glenn Gray provided a brief overview of the *April 2014 Science Symposium Summary of Presentations*. He welcomed suggested edits from the Committee and said the summary will be finalized after speakers have had a chance to review the synopsis of their presentations. In answer to a question, Glenn said the Chukchi College compiled abstracts from the Western Alaska Interdisciplinary Science Conference and Forum that was held concurrently with the NAB symposium, but the document is incomplete.

6. Village Survey Update

Christine provided an update about the village survey that was sent to local tribal organizations to obtain information that could be used by the Steering Committee when it prioritizes research projects. She said a subcommittee of the full Committee developed the written survey building upon questions developed by the Subsistence Mapping Project anthropologist. Each person who completed the survey received a \$75 honorarium, and 21 responses have been received so far.

Noah said comments addressed local concerns such as sewage systems, earthquakes, and changes to subsistence use. Christine said it has been a long time since a survey like this has been done, and it may be useful to determine research needs. Fred Smith said the surveys provide useful information, but it

¹The Kivalina project will develop in-home water and sewer systems for 10 homes using rain catchment and grey water disposal systems.

will be important to ensure communities are represented by people who are actually going out into the field. Chris said they did ask tribes to target the heavy subsistence users.

Noah said his staff will continue to work with the communities to obtain additional surveys, and the results will be tabulated in a spreadsheet. The village representatives on the Committee offered to work with their communities to obtain more responses.

7. Budget Update

Noah provided an overview of the amended budget approved by Shell. One change includes allocation of \$230,000 for research this calendar year as a result of project savings from the delayed hiring of a science director. Another budget amendment included additional funding for travel. In answer to a question, Noah said the \$500,000 of funding through the Shell agreement for the NAB Subsistence Mapping Project has been fully allocated and is being expended. In answer to another question, Christine clarified that the funding is based on a calendar year.

8. State of Knowledge Update

Henry Huntington and Mike Macrander reported on the State of Knowledge proposal they have been working on. Henry said the Committee needs to think through what we know and what we think we want to know. He said there is a lot of information and it will be important for the committee to identify priority questions about what we don't know. He said large research projects in the Arctic haven't answered all of the questions, so it is important to focus on relevant issues.

In an effort to hone in on key information, this project would have experts provide short reports on key questions. Henry provided an overview of the one-page summary in the packet that identified potential key questions, nine topic areas and potential authors. An honorarium of \$3,000 per author would be provided, and Henry would compile the information. He said this effort would be helpful to lay the groundwork for a set of indicators or an annual State of the Northwest Arctic Borough Report.

The proposal generated discussion by Committee members summarized in the following bullets.

- Would community impacts and vulnerabilities (infrastructure) be part of the scope?
- It might be good to include Yuri Gorokhovich, an expert on coastal processes in Alaska.
- The Western Landscape Conservation Cooperative is working on a similar project.
- Research should be driven by management questions or obligations.
- Questions could be added about what has changed in the environment.
- It will be important to take a multidisciplinary approach that addresses how individual components work together.
- New species in the region should be addressed.
- Information is needed about caribou (e.g., ratio of bulls to cows, animals that prey on caribou).
- The Committee should get out in front of science to identify research that addresses community concerns and what experts predict will occur over the next 20 years.
- Changing river channels and siltation from erosion are local concerns.

- The effort should focus on what is going on now and new science in the region, and it should provide a forum for updates to communities.
- Recent earthquakes centered near Noatak make it important to test the Red Dog Mine dam to ensure it will withstand future earthquakes.

During this discussion, and later in the meeting, several people expressed a need to put sideboards on the Committee's work through a list of priorities or perhaps through a mission statement. Christine explained that the Committee will be given an opportunity to set its mission and priorities at the next meeting after the village surveys are completed.

Henry said these comments were helpful but there is a danger that the Committee's work will be "all over the map." He said the Borough's priorities could set the context for this exercise (i.e., food security, marine transportation and responsible resource development). He asked whether community infrastructure was within or outside the scope of the Committee's work. Gay said infrastructure would be important when talking about food security.

Noah said the discussion on this agenda item has mixed up future projects the Committee may wish to fund with the state of knowledge inquiry which focusses on research that has been completed. Regarding future funding, Christine said the Committee may wish to establish a subcommittee to address the Request for Proposals (RFP) process. Alex added that research priorities could be discussed in an RFP. Chris said it could be addressed under the permafrost/hydrology/erosion topic.

Cyrus emphasized the importance of the village survey, and he noted that surveys have been received from only five of the 11 Borough communities.

Michael Macrander said Shell is funding this research effort for a reason. He emphasized the importance of documenting the current baseline so this information can be used to measure change related to resource development. He said it is important that research addresses questions that may be raised in a future EIS about offshore development. He said that while all of the topics being discussed are interesting, some of them may be a stretch (e.g., health and seismic projects). Henry said he would amend the State of Knowledge description to reflect the discussion.

9. North Pacific Research Board (NPRB) Update

Matt Baker, science director for the NPRB, said the NPRB supports scientific research in the Gulf of Alaska, the Bering Sea, the Aleutians, and the Chukchi and Beaufort seas that informs management and promotes the sustainable use of marine resources. Focal areas include oceanography, plankton, habitat, fish and invertebrates, marine mammals, seabirds, humans, and local and traditional knowledge.

The NPRB supports integrated ecosystem research that furthers coordination, collaboration and communication. It has completed two such efforts, including the Bering Sea Project and the Gulf of Alaska Project, and it is currently initiating the Arctic Program. Questions will address how the

ecosystem is structured, key linkages among ecosystem components, key mechanisms driving ecosystem processes, and how the ecosystem may change from natural variability and human activities.

Matt described two recent Arctic Science initiatives.

- **IARPC:** The Interagency Arctic Research Policy Committee (IARPC) was established to set federal research priorities to improve the understanding of ecological and physical processes and to increase the accuracy of assessing and forecasting impacts of ecological change. IARPC targeted scientific questions, including information about winds, currents, sea ice, timing and location of species, habitats, ocean acidification, subsistence and role of humans within the marine ecosystem.
- **PacMARS:** The NPRB administered this project which was funded by Shell and ConocoPhillips. It focused on compiling the best available scientific and local knowledge about: 1) Sea ice cover, 2) timing of biological cycles, 3) exchange and energy transfer between water column and seafloor, 4) current knowledge of hotspots of production, 5) contaminants, and 6) subsistence in the context of climate change. Community meetings were held in five northern communities.

Arctic Program: In May 2014, the NPRB board committed \$6 million for the Arctic Program which will build off of existing research projects. Through partnerships with other agencies and organizations, the total funds leveraged will be \$10 - \$15 million. Potential research themes include: 1) how changes in sea ice and current affect when and where animals are found, and 2) how ecosystem changes affect subsistence species and communities that rely on them. Areas of interest include timing of sea ice retreat, strength and temperature of water and flow from Bering Strait, water column changes and plankton blooms, changes in timing and location of subsistence species, coastal erosion, and vessel traffic. Partners include state and federal agencies and the two northern boroughs. The program framework is currently being developed and the NPRB welcomes new partners. Research direction will be confirmed in September and an RFP is expected to be issued in May 2015.

In answer to a question about coordination, Matt said the intent will be to route funds through a large RFP for different research projects rather than the single large program approach that was used for the Gulf of Alaska. The NPRB will coordinate research to eliminate duplication. Henry described the Bering Sea Project which included an annual meeting of principal investigators where cooperation occurred organically from the opportunity to spend time together. He said it is important to develop a flexible process to take advantage of opportunities no one expects. Morgan suggested distribution of a newsletter to enhance communication.

10. Overview of the National Petroleum Council's Arctic Research Study

Michael Macrander reported that the National Petroleum Council (NPC) has initiated the Arctic Research Study at the request of the Secretary of the Department of Energy (DOE). Established in 1946 at the request of President Truman, the NPC provides a link between the petroleum industry and the federal government. The NPC has about 200 members, the chair rotates among the major companies, and ExxonMobil is the current chair.

The purpose of the study is to prepare for the upcoming U.S. Chairmanship of the Arctic Council. The study will identify research the DOE should pursue, as well as, technology constraints that must be addressed to ensure prudent development of oil and gas resources while advancing U.S. economic security and ensuring environmental stewardship. The study focusses primarily on the U.S. Arctic, and it is based on the assumption that energy security is a core component of the U.S. Arctic policy. The study will identify actionable recommendations. It is scheduled to be completed in March 2015 with an initial draft to be completed by mid-November. Michael welcomed input on the two sections of the report he is preparing on the ecological and human environments.

Michael answered a number of questions as summarized in the following bullets.

- Health will be addressed as an aspect of the human environment, but an in-depth analysis of economic impacts of oil and gas may be beyond the scope of the study.
- Reports from Arctic Council working groups will be used although there is not a lot of literature on the actual human impacts of Arctic oil and gas development.
- The study authors will look into infrastructure needs, regulatory hurdles, and technological responses to reduce impacts, including sound impacts on marine mammals. It will also address mitigation of oil spills, including information from the recent National Academies of Science.

11. Update on Shell's 2015 Plans

Erling Westlien of Shell updated the Committee on the company's plans for 2015. An exploration plan will be filed with the Bureau of Ocean Energy Management (BOEM) shortly. He said Shell supports prudent development, and it places an emphasis on understanding the environment that will be used to minimize potential impacts of its activities.

Shell plans to stage its vessels in Kotzebue Sound just west of Deering which will also serve as a potential place of refuge during extreme weather. After several attempts, Shell held meetings in Deering last month. While Barrow will be used as the logistics base, with Atqasuk as a backup, some crew changes will occur through Kotzebue (25-30 crew per week and 7-10 cargo totes per week).

Shell has been working with the federal government on the proposed Arctic offshore regulations and in development of the second Supplemental EIS for Chukchi Lease Sale 193, both of which will be needed before resuming drilling. Oil spill response vessels include the *Guardsman*, *Klamath* and *Nanuq*. Vessels will also be secured for tanker and drill discharge monitoring.

Shell plans to drill at least one well at the Burger Prospect in the Chukchi Sea between July and October. The wells are in shallow water and are not high-pressure. Erling provided a detailed overview of vessels that will be used in the operation, including two drilling rigs (*Noble Discoverer* which is currently getting an upgrade and the *Polar Pioneer*, a semi-submersible), barges (*Arctic Challenger*, *Arctic Endeavor*, *Tuuq*, *American Trader*), tugs (*Corbin Foss*, *Point Oliktok*, *Lauren Foss*, *Barbara Foss* or similar, and two additional ocean-going tugs), Landing Craft/Crew Boat (*Arctic Seal* or similar). Ice management will be

provided by the *Nordica* and *Fennica*. Anchor management will be provided by the *Aiviq*, *Ross* and *Tor Viking*. Fleet resupply will be provided by the *Siuqaq*, *Champion* and *Supporter*.

Erling provided an overview of mitigation measures including collaboration with subsistence users, use of communication centers and subsistence advisors, community meetings twice each year, local contracting, and use of community liaison officers. He then summarized the 2014 science program and the planned 2015 program.

Lunch: The Committee broke for lunch and returned at 1:00p.m.

12. Research Funding Options

Chris explained that the afternoon session would involve presentations on four projects that could be funded this year with the \$230,000 allocated for that purpose. She said the Committee would then vote on whether to fund each project.

a. Presentations of Proposals

Funding Option #1: Buckland Beluga Whale Project: This proposal would add \$7,600 for participation by Henry Huntington in the Buckland Beluga Whale Project. The North Slope Borough is providing funding for other aspects of the project. Henry was asked to participate in the project because of his experience working on a similar previous project with Buckland. Raymond, a Buckland resident, expressed support for the project.

Funding Option #2: State of Knowledge: This proposal, discussed during the Committee's morning session, would involve scientists with Arctic expertise to develop brief papers about the state of knowledge in their area of expertise. A cap of \$45,000 would be used to provide honorariums for the scientists. Henry would coordinate the effort and provide editing without compensation.

Funding Option #3: Using Acoustics Moorings to Study Belugas in Kotzebue Sound: Alex Whiting, of the Native Village of Kotzebue (NVK) distributed a written summary of the project and its budget. The requested \$40,776 would fund salaries for Robert Small (ADF&G) and Alex (20 days), production of a newsletter (Kathy Frost), purchase of supplies, and participation of local captains and crews to assist in deployments. This funding is for one-year.

Funding Option #4 – Bearded Seal Hearing Project: Alex Whiting distributed a second proposal from the NVK with a project description and budget summary. This \$18,800 projection would fund purchase of acoustic recording instruments for use by the NVK. The instruments would be used to establish baseline noise levels that will be useful in the future investigations of the contribution of shipping and industry activity. It will also help fund participation of local crews and captains. This funding is for one-year.

Funding Option #5 - 2014 Kotzebue Sound Ambient Noise Monitoring Project: Alex Whiting handed out a summary of the third NVK project and budget. This request for \$48,830 would fund a study that complements laboratory experiments by the University of California, Santa Cruz (UCSC) about the sensory capabilities of seals by measuring baseline, year-round acoustic habitat of Kotzebue Sound. The

funds would be used for purchase of acoustic recording instruments and acoustic release mechanisms, costs of local boat time, fuel, shipping, UCSC analysis support, and 10 days salary and benefits for Alex. This funding is for one-year.

The Committee members discussed the three NVK projects. Michael Macrander offered to provide acoustic data from the project to Shell contractors for analysis. Michael also said it will be important to check data for quality assurance/quality control. Alex agreed to follow up on these issues in the near future. In answer to a question from Gay, Alex said the Ice Sea Committee supports these projects.

Funding Option #6: Northwest Arctic Data Portal: Molly McCammon handed out a summary of a proposal for a Northwest Arctic Data Portal that would be hosted on the AOOS website. The project would include three objectives: 1) Identify and assess the status of relevant data products, 2) ingest data into the AOOS data system including a low bandwidth option, and 3) develop a data integration platform. The project would cost \$30,000-\$100,000 depending on the number of datasets included. The portal could include any kind of spatial data. The existing AOOS portals visualize the ocean in four dimensions (latitude, longitude, water column depth, and data over time).

Funding Option #7: Circulation and Hydrographic Structure in Kotzebue Sound: Molly McCammon distributed a summary of a second proposal for \$30,000-\$63,200 a year. Snap shots of nearshore circulation and water column using satellite-tracked drifters and a portable conductivity-temperature-depth profiler. The drifters could be deployed, collected and redeployed by a local field crew or students. It would provide information on circulation and wind patterns. The project would be implemented by Seth Danielson of the University of Alaska, Fairbanks.

b. Committee Discussion

Funding Option #6: The Committee members had a number of comments and questions on the data portal project summarized below.

- Regarding analysis of use of other AOOS portals, Molly said there have been some analyses, but it is difficult to determine community use. She said generally community use focusses on real-time data.
- The Committee discussed how local residents might use a portal versus distribution of a newsletter.
- Michael Macrander said a portal like this would be important for researchers to access data and metadata.
- Christine said this project would provide a site to store data funded by the Committee and one approach would be to fund the portal at a lower level this year, and task a data subcommittee to work on what will be stored on the portal.
- The portal could be hosted on the Borough or AOOS websites.
- Erling said it is difficult to download some data from the existing portals so it would be important to design the portal for low bandwidth use. He also said it might be useful to include a CD with a newsletter until the portal is developed.

- In answer to a question from Gay, Molly said AOOS hosts the information at no cost (other than changes or upgrades).
- AOOS is able to include terrestrial information since ocean processes are connected to watersheds.
- Henry suggested starting with a workshop (or subcommittee) to get a sense of what would be useful to local residents.
- Molly said \$10,000 would be enough to get local feedback and develop a rough prototype, but it would not be enough to develop a portal.

Funding Option #7 - Drifters: In answer to questions about this project, Molly said the drifters could be reused if they were captured. Michael Macrander suggested that it may be useful to not retrieve the drifters to see where they go once they exit Kotzebue Sound. In answer to a question about the local deployment of drifters, Molly said she would look to the Committee to provide advice. In answer to a question from Henry about the timing of the project, Molly said information from drifters could be timely considering Shell's upcoming exploration plans. Henry suggested postponing this project until more is known about Borough and local priorities. Gay said data from drifters are important, there is little information for this region, and the data can be used for managing maritime transportation and responsible development.

c. Committee Deliberation

Christine said the Committee will vote separately on each proposal, and she asked if the Committee wished to vote by secret ballot or by voice vote. After a short discussion about the pros and cons of each method, the Committee agreed to vote by voice vote. Erling suggested using a scoring system for review of future proposals.

Christine raised the question of conflicts of interest since some of the committee members could benefit financially from the projects. She said the Committee could waive the conflict or it could recognize the conflict and the affected member would abstain from voting. The Committee agreed that the affected member should recuse themselves from voting and leave the room during the vote. The Committee discussed what would constitute a conflict of interest and decided that there would need to be a direct financial benefit for the person or organization.

In response to a request to clarify the record, Christine said the Committee is considering funding \$230,000 for projects at this time because of savings made to the original budget. She said at the first Committee meeting, the Committee discussed the possibility of funding projects this year. Staff looked at opportunities to improve existing projects by adding targeted funding. Michael Macrander said he supported funding research this year. He said that Shell is already funding similar projects to the ones being considered by the Committee.

Mike Brubaker suggested the Committee establish an award and review subcommittee and put out an open RFP. Alex suggested funding these projects without an RFP because some of them are time sensitive, no public money is involved, and the projects fit Shell's research needs. Gay suggested that

the Committee vote on the current proposals and make it clear in the meeting minutes that a process will be developed for solicitation and review of future proposals. Christine noted that the Native Village of Kotzebue is the only entity in the region currently able to conduct research.

In answer to a question from Henry, Noah said that funding for the village survey would be addressed through a budget amendment rather than being included in the current project approvals.

Vote on Funding Option #1: Morgan made a motion to fund \$7,600 for Option #1 which was seconded by Molly. Henry declared a conflict of interest and left the room for this vote. By voice vote, the Committee unanimously approved the motion. Henry was called back into the room.

Vote on Funding Option #2: Henry made a motion to fund \$45,000 for Option #2 which Norma seconded. By voice vote, the Committee unanimously approved the motion.

Vote on Funding Option #3: Molly made a motion to fund \$40,776 for Option #3 which was seconded by Morgan. Alex left the room after recusing himself from voting on this and the next two projects. By voice vote, the Committee unanimously approved the motion.

Vote on Funding Option #4: Henry made a motion to fund \$18,800 for Option #4 which was seconded by Raymond. By voice vote, the Committee unanimously approved the motion.

Vote on Funding Option #5: Molly made a motion to fund \$48,830 for Option #5 which was seconded by Morgan. By voice vote, the Committee unanimously approved the motion. Alex was escorted back into the room.

Michael Macrander said his role was not to direct the committee, but while he supported both projects, it might make sense to fully fund the drifter project (Option #7) rather than partially funding both options #6 and #7. Molly suggested funding a single drifter deployment at a cost of \$49,000 and a data management scoping workshop using the remaining \$19,000. Michael recommended holding off on Option #6. Henry supported initiating the money left over after funding Option #7 to start an effort that would be managed by a subcommittee and include initial work by AOOS on a prototype. Henry offered a compromise where Noah and Christine would determine how to move forward with Option #6.

Vote on Funding Option #6: Henry moved to approve funding \$19,000 for the data management exercise with the precise funding details to be worked out by Noah, Christine and Molly. Molly recused herself from the vote and left the room. The motion was seconded, and by voice vote, the Committee unanimously approved the motion. Molly was called back into the room.

Vote on Funding Option #7: A motion was made and seconded to approve \$49,000 for the drifter project. Gay recused herself from the vote because Seth Danielson and she share a supervisor. Molly did not recuse herself because the project would not fund AOOS. By voice vote, the Committee unanimously approved the motion.

Table 1 summarizes the funding requested and awarded for research projects at this meeting.

Table 1: Funding Requested and Awarded for Research Projects

#	Project	Recipient	Amount Requested		Amount Funded
			Low	High	
1	Buckland Beluga Whale Project	Henry Huntington	\$7,600	\$7,600	\$7,600
2	State of Knowledge	Honorariums for Scientists	\$36,000	\$45,000	\$45,000
3	Beluga Acoustics in Kotzebue Sound	Native Village of Kotzebue	\$40,776	\$40,776	\$40,776
4	Bearded Seal	Native Village of Kotzebue	\$18,800	\$18,800	\$18,800
5	Ambient Noise in Kotzebue Sound	Native Village of Kotzebue	\$48,830	\$48,830	\$48,830
6	Northwest Arctic Data Portal	AOOS	\$30,000	\$100,000	\$19,000
7	Circulation and Hydrographic Structure in Kotzebue Sound	University of Alaska	\$30,000	\$60,000	\$49,000
Total			\$212,006	\$321,000	\$229,006

13. Next Meeting

A two-day committee meeting was tentatively scheduled for the week of December 8. By that time, information from the surveys will be available as well as the State of Knowledge paper. At that meeting, the Committee will establish a mission statement and set its goals. If this meeting can be coordinated with the NSB, it may be held in Anchorage with time provided for a joint meeting.

14. Subcommittee Establishment

The Committee established two subcommittees.

- **Data Subcommittee** will address how to get information to the villages that works for them.
 - Noah (lead), Molly, Rob Bochenek (Shell), Alex, Raymond, Mike Brubaker, and Norma.
- **RFP Subcommittee** will establish a formal process and procedures to develop RFPs to solicit research and evaluate responses. The lead will be determined later, and Molly will provide models for RFP processes for consideration along with the NSB process.
 - Alex, Henry, Gay, Michael Macrander, and Morgan.

15. Adjournment

After a few closing comments, the Committee adjourned.