

**JSOST Alaska Briefing
Hilton Anchorage
August 23, 2006**

Comment-The Great Lakes region currently has zero discharge plans in place. Will this be enacted in the Arctic? The region needs actionable plans.

Comment-There is a need for applied research, particularly for Alaska, the ocean state. The USCOP acknowledged that Alaska is a region in of itself. A national plan needs to look at regions and interstate issues.

-Alaska develops its own actions, can't wait for Washington-based efforts.

-One of the key recommendations from the Ocean Commission report was the coordination of federal efforts. There must also be integration of research efforts, including how those efforts will apply to federal agency allocation. The document needs to have measurable goals to satisfy OMB and Congress, but Alaska also expects that as part of the effort, there will be direct financial support for the issues.

-How will the budget for the research efforts be considered? Will there be a master budget or will it go through the agencies? We need to see an emphasis on research priority setting.

-How can the feds support state and regional priority setting?

-One of the concerns is that of stovepiping-need to ensure that research and management coordinate, and have the resource managers come forward and participate.

-Need to have support for forums to bring folks together to share information and needs.

-The three major messages from these comments are: the need for priority setting for research needs; the need for priority setting for management needs; and the need to support forums for discussion.

Response (J. Kendall)-A new committee is being formed to improve communication between managers and scientists, between the federal and state levels.

Response-There has also been the input of the FSTT during this process.

Comment-Need to save a place for regional efforts in the document or at least have an allusion to regional efforts.

-Two themes that don't seem to have a place in the document: national defense/homeland security, which cannot be ignored; and maritime commerce. Much of the discussion seemed to focus on living resources, but also need to remember non-living resources.

-One way to jump start the effort is the implementation of the regional associations-recommend pushing the RAs as a near-term priority. Another focus over the next two years is the International Polar Year.

Response-DoD has a presence on the JSOST from both ONR and the Joint Chiefs. The JSOST also believes in regional approaches-some of the near-term priorities have an emphasis on regions.

Comment-The Arctic Council has several working groups; the foci include large marine ecosystems and regional aspects. The Arctic Council is an international effort consisting of 8 nations.

Comment-It's important to focus on regional expertise.

-Two areas of effort should be emphasized-marine operations-specifically, risk assessments for shipping; and climate change-specifically ocean acidity and temperature.

Question-Will the public comments from past and future comment periods be available on the web?

Response-The public comments from the first public comment period are available on the web now. It's likely that the comments from the next comment period will also be available on the web.

Comment-NPRB-comment sheet is attached

-The North Pacific Research Board has a diverse array of research. A recent focus is on the international ecosystem research program, first with an emphasis in the Bering Sea, then in the Gulf.

-The themes of the document align well with the current research efforts of the NPRB.

-Seven recommendations were provided by the NPRB

increase the emphasis on Bering Sea ecosystem research

support integrated programs

encourage agencies to work together

support long-term monitoring

support the Alaska Ocean Observing System

support assessments for healthy fish stocks

support sharing of data

Comment-Barriers exist working with state government-currently have reduction of state programs.

-Need to address the difference between large and small boat fisheries, and examine how the difference can be addressed in the state/federal system.

-Have looked at the Seagrant program but don't see a real priority for education. Need to look at what's really needed for the next generation.

-Also need to work on tribal involvement. EPA is a good model to use.

-Public radio is a good venue for communication.

Comment-Need to have acknowledgement of impacted communities during the research priority process. Many of the issues outlined are critical to the livelihood of some of the communities, such as the salmon fisheries, climate change (sea level rise).

-Need to consider the human aspect of the decisions.

Comment-IPCMM

-Alaskan natives are the only group that is allowed to have subsistence use of marine mammals. Fifteen organizations are part of IPCMM.

-One of the IPCMM programs is the harbor seal harvest monitoring program, which includes stock assessments.

-Another program is the biological sampling program, in which samples from subsistence harvesting are archived for research.

- Alaskan natives want to be involved in future efforts. Co-management efforts will bring managers together with scientists.
- Tribal involvement is crucial in any of the coastal regions.
- Two of the themes really stood out-stewardship of natural and cultural resources and human health.

Comment-The Arctic Ocean monitoring program needs more support at a higher level.

- Each of the assessments conducted by the Arctic Research Council produces a large research agenda-each identifies what we don't know.
- Assessments include those on oil and gas, biodiversity, IT, and shipping.
- With regards to national ocean literacy, the research priorities document itself must be literate. Should determine what the official figures and basic facts are for the regions and provide them in the document-for example, there is approximately 1000 nautical miles of Arctic coastlines.

Comment-Is global warming a national security issue? Documents on global warming should be declassified and released.

Question-Are international partnerships outlined in the document?

Response-Specific partnerships are not outlined in the document.

Comment-We need to have political partnerships at the federal level.

Comment-Many of the questions can only be addressed in a global context. The problems and the solutions will be international in nature.

- The US needs to take a leadership role.
- We need a baseline to address issues.
- A good example of an international effort is the Census on Marine Life.
- Long-term monitoring is necessary. We must have a follow-up to exploration with monitoring.

Response-International efforts are in place or being pursued, for example, the work of CCSP.

Comment-Curiosity-driven science has a place in the document. Questioning whether basic science is being divorced from applied science.

Response-Basic science is extremely relevant and integral to the efforts in the plan.

Comment-With regards to the marine transportation network, many of the charts do not have current soundings and must be updated. The soundings are collected using multi-beam techniques. The data collected can also be used for other purposes, such as fisheries.

Comment-AOOS-comment sheet is attached

-A challenge is trying to get folks involved in ocean research and monitoring. Need to have an attention-getter to bring the public in. Climate change is currently grabbing public attention.

North Pacific Research Board
Clarence Pautzke, Executive Director

Introduction

The North Pacific Research Board (NPRB) was created by Congress in 1997 to recommend marine research activities to the Secretary of Commerce for projects on or relating to the fisheries or marine ecosystems in the north Pacific Ocean, Bering Sea, and Arctic Ocean. The Board has funded 138 projects totaling \$24 million as a result of five requests for proposals released starting in 2002.

The NPRB completed its science plan in 2005 (available at www.nprb.org) with guidance from the National Research Council. Our next major milestone will occur this coming October with the release of a \$13-15 million request for proposal for a major integrated ecosystem research program for the Bering Sea. It is intended to cut across scientific disciplines and begin to answer critical questions regarding the Bering Sea and how it is being influenced by human use of resources and natural variability, most prominently, climate change and the anticipated continued reduction and eventual loss of seasonal sea ice cover over the next 30 years.

The integrated program derives in large part from discussions of an interagency working group representing nine major organizations: the Alaska Fisheries Science Center, Alaska Ocean Observing System, NPRB, National Science Foundation, Pacific Marine Environmental Laboratory, University of Alaska Fairbanks, U.S. Fish and Wildlife Service, U.S. Arctic Research Commission, and U.S. Geological Survey. Each organization has distinct missions and areas of interest, but all currently support and/or perform research in the Bering Sea. This collaboration is necessary to leverage individual technical and fiscal resources to achieve the maximum gain in understanding, insight, and prediction for the Bering Sea ecosystem. No organization has the financial resources to support this comprehensive program alone.

The NPRB will launch an integrated ecosystem research program for the Gulf of Alaska next year, and will continue to fund other marine research activities off Alaska. We believe these programs will help achieve the Board's long-term vision to build a clear understanding of marine ecosystems that will enable effective management and sustainable use of marine resources.

Recommendations

In reviewing the planning document from your public workshop in Denver, I believe the goals, programs, and ambitions of NPRB align closely with your research themes, particularly those dealing with improving ecosystem health, sustaining natural resources, and the ocean's role in climate change and variability.

I offer the following seven recommendations:

1. Increase emphasis on Bering Sea ecosystem research: The Bering Sea likely will serve as a bellwether for climate change impacts on marine ecosystems. As such, there

needs to be additional research funds focused on this region and how anticipated changes may impact the robust fisheries which are critical to the food security of the nation and its balance of trade. The North Pacific Fishery Management Council had done an outstanding job sustainable management, and its decisions must continue to be supported by robust research.

2. Support integrated programs: There must be support for integrated programs that work across disciplines and provide ecosystem-level answers. In reviewing our science plan, the National Research Council noted that the new comprehensive understanding, integrated at an ecosystem level, will provide one of the most enduring long-term legacies of the Board. More broadly, integrated ecosystems research should be a national goal in all regions.

3. Encourage agencies to work together: To support these integrated programs, there must be a concerted effort by relevant agencies to coordinate and pool resources as much as possible. We are all aware that this is not a time of plenty in terms of research funding. Every dollar needs to be leveraged to its maximum. Agencies need to start thinking out of the normal agency box and making adjustments in procedures so that funding sources can work together toward a seamless program, in soliciting proposals, providing technical reviews, making funding decisions, and managing the resultant program.

4. Support long-term monitoring: Process studies and ocean exploration may be sexy, but monitoring needs to be sustained. Many agencies with research funds like to jump on the latest hot topic which often includes dynamic process studies or ocean exploration in exotic places. While I have some empathy for that, we must not underestimate the critical need for basic long-term monitoring. It likely will be the key to identifying long-term trends, assessing the variability of the marine ecosystem and its primary components, and improving our prediction capabilities for economically important species.

5. Support the Alaska Ocean Observing System: A corollary to the above recommendation is that it is time for the ocean observing systems to be funded. Recommendations from other commissions and boards have pointed in that direction and now it is time to step up to the plate to support these monitoring systems, particularly the Alaska Ocean Observing System which will help detect climate change impacts on our northern marine ecosystems.

6. Support assessments for healthy fish stocks: Assessing fish stocks is another example of long-term monitoring, in this case, crucial to sustainable resource management. This must be continued even in areas such as Alaska where fish populations are in good shape. Some people in high positions have argued that stock assessment funds should be diverted from healthy regions to areas where stocks are overfished. That would be a pound foolish, penny-wise decision-our stocks are in good shape because of wise management decisions based on sound science provided by the Alaska Fisheries Science

Center and other resource agencies. This support must be continued and not put in jeopardy.

7. Support sharing of data: Our capabilities to store, retrieve, and analyze data must be expanded. Our data systems must be able to handle a wide variety of data types and ensure rapid delivery to investigators in the region and around the world. A typical 2-3 year field program followed by a year of analysis another 1-2 years of reporting can result in delayed and poor availability of crucial scientific information. We must ensure rapid processing and timely sharing of data to increase its intrinsic value in improving ecosystem understanding and helping shape future programs.



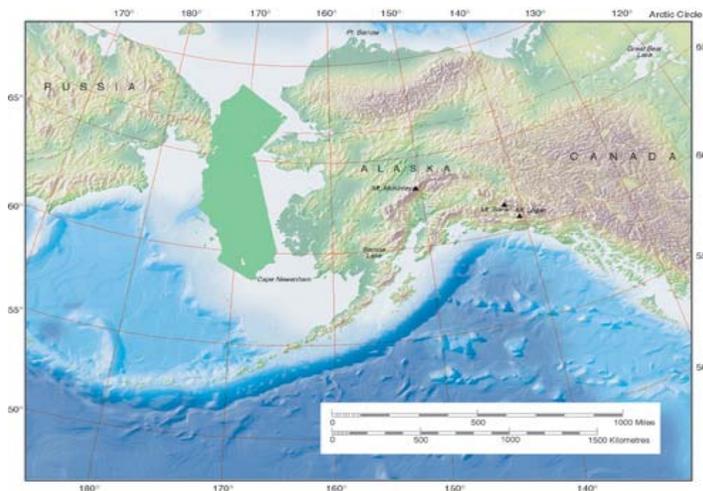
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RE: AOOS testimony on the Ocean Research Priorities Plan

Members of the Joint Subcommittee on Ocean Science and Technology:

We in Alaska are pleased that you have traveled to our state to listen to Alaskans as part of your process in developing a national Ocean Research Priorities Plan (ORPP). As you may well know, the ocean and its resources are essential to the lives and livelihoods of Alaskans. Alaska's marine resources are inherently diverse along a coastline that extends from latitude 54N to 71N and covers some 43,000 miles. This marine system is larger than the rest of the U.S. marine systems combined, containing one of the most productive marine fisheries in the world, valued in 2003 at approximately \$1.5 billion, extensive marine oil and gas reserves, and a major transportation corridor from North America to Asia. These resources attract many stakeholders including commercial and recreational fishers and boaters, subsistence users, coastal community residents, and the shipping, mining, oil, and gas industries – important not only to Alaska, but also to the nation.



The eastern Bering Sea shelf is one of the world's broadest continental shelves. It is far larger than the state of California as shown above. The vast size of the continental shelf of Alaska makes systematic observations a challenge.

The Alaska Ocean Observing System (AOOS) is the umbrella regional association for three Alaska regional observing networks (Gulf of Alaska, Bering Sea/Aleutian Islands and Arctic) that

are being developed as part of the national Integrated Ocean Observation System (IOOS). More than 100 stakeholders and user groups of Alaska's marine resources have already been identified. Through individual and group presentations over the past year, we know these stakeholders believe they will greatly benefit from improved ocean and coastal forecasts, better access to real-time observational data, improved informational products for search and rescue and oil spill response operations, forecasts of significant wave height and storm surges that affect coastal erosion, and information on ecosystem health and fisheries. Delivering the necessary real-time ocean observations and forecasts to meet the needs of this large and diverse user community is a challenge not only for AOOS, but for the nation as a whole, and should be a key component of the Ocean Research Priorities Plan. For that reason, we strongly urge you to make implementation of the Integrated Ocean Observing System one of the highest priorities in this plan.

Alaska waters are the only U.S. waters that lie in the Arctic. The Arctic offers special challenges due to its remoteness and its amplified role in climate change shown by sea ice decline and accelerated coastal erosion. Global climate modeling studies consistently show the Arctic to be one of the regions most sensitive to climate change. Arctic ecosystems in general are challenged by the large-scale warming trend of approximately 2°C over the last 100 years. Additionally, many of the recently observed global changes suggest rapid and dramatic shifts in the Arctic environment with some of the most striking associated with the Arctic sea ice, a key indicator of climate change. Many Alaska stakeholders are affected by sea ice because of its role in marine shipping, oil and gas development, subsistence hunting, and coastal erosion. The sea ice trend over the past decade shows decline, with a record low sea ice extent and concentration in the past decade.

These changes naturally lead to questioning whether such changes are part of a long-term trend, either natural or anthropogenic or both, or are part of the natural, periodic variations and oscillations of the earth's climate system. Answering these questions will not be easy since the ecosystems of the Arctic Ocean and Bering Sea are poorly known compared to most U.S. oceanographic regions because of their remoteness and the extensive seasonal and permanent ice coverage that interferes with physical and biological sampling efforts. However, ecosystem changes in these regions could be profound, and in fact, could radically alter populations of fish and marine mammals and impact the people dependent on these resources. Alaskans feel a strong sense of urgency to acquire baseline information to observe and understand these changes. This can only be done with a commitment to continued sampling and data acquisition, by consistent methods, year-round, at a consistent set of locations.

We recommend that you challenge the nation and the scientific community to meet several grand challenges within the next decade as the centerpiece of the Ocean Research Priorities Plan. For Alaskans, one grand challenge would be to develop the tools and technologies to document the climate changes we're seeing in the Arctic and answer these questions: Is global warming a reality? What are the causes of the changes we are seeing? How will changes in the Arctic impact conditions elsewhere in the U.S.? What are the predictions for the future, and how can we improve these predictions? What tools are needed for Americans to be able to respond to these changing conditions?

Again, thank you for coming to Alaska and listening to our concerns and issues.