

Summary  
North Pacific Research Board  
Science Panel Meeting  
Alaska SeaLife Center  
Seward, Alaska  
August 25-26, 2003

**1. Call to Order**

The Science Panel convened at 9:00 a.m. on Monday, August 25, 2003. Present were Vera Alexander, Shannon Atkinson, Dick Beamish, Don Bowen, Dan Goodman, Anne Hollowed, Gordon Kruse, Tom Royer, David Witherell, and Douglas Woodby. Jim Berner arrived at 8:30 a.m. on August 26. Panel Chairman Rich Marasco was unable to attend, as was Ed Houde and Patricia Tester. The meeting was staffed by Clarence Pautzke, Two Crow (aka Jim Schumacher), and Cathy Ferrar Schumacher. Also attending as a presenter was Molly McCammon, Executive Director of the Alaska Ocean Observing System (AOOS).

Welcoming comments were given by Tylan Schrock, Executive Director of ASLC and Interim Chair of NPRB. After approving the agenda, the Panel unanimously elected Rich Marasco and Vera Alexander as chairman and vice-chairman, respectively. The meeting summary for March, 2003 was approved. There was a brief discussion of which members had one or two- year terms, and when the first one-year term would actually expire. The Executive Director was requested to provide clarifications on that issue in the near future.

Molly McCammon presented a status report on AOOS. AOOS is now a functional entity, has a Governance Committee of agencies and institutions which are providing operational funds, and is likely to get funds from an NOS proposal. A draft memorandum of agreement between cooperating agencies is now being developed. An implementation plan for AOOS will be developed over the next two years.

**2. North Pacific Science Plans**

Overview of Science Plans. Two Crow, who is contracted by the Board to help in science planning, presented his draft report on science plans and agencies and organizations with research programs off Alaska, entitled: "A Report to the NPRB on Developing a Science Plan and Associated Protocols." He then outlined a draft science plan which identified several key issues: (1) need for a synthesis of biology and physics of the Chukchi-Beaufort Sea region; (2) sponsorship of a bi-annual Status of Alaska's Oceans report, similar to that produced by EVOS (2002); and (3) identification of potential funding partners, including ongoing programs as well as those in line to be funded.

Panel members noted that some group, such as NPRB, should take the responsibility for keeping track of the various science programs being conducted or envisioned off Alaska, particularly those that are providing funding. The coordinating activity could be established in the NPRB office. Meetings need to be sponsored for program managers from various agencies and science programs to communicate and coordinate, most likely on an annual basis. Panel members were asked to review the list of science plans and pertinent research-sponsoring agencies and provide additions and revisions. Several additional programs were identified during discussion: Oil Spill Research Institute (OSRI), Coastal Marine Institute, Sea Grant, ONR Arctic Program, AYK Initiative, and PICES.

### 3. 2004 Request for Proposals

#### a. Overview of funding situation

The Panel was given an overview of the current funding situation. Because of low interest rates on the Environmental Improvement and Restoration Fund, the Board decided in May 2003 to limit the 2004 RFP to \$3 million. The Board's intention is to be in a position to provide at least \$3 million annually in 2005 and 2006.

#### b. Structure of the 2004 RFP

The Panel reviewed a draft RFP for 2004 that incorporated various changes suggested by the Board in March and May 2003 and by staff. A central issue is whether to retain an exhaustive list of priorities (as in FY03) or focus efforts for more effective funding. This is particularly relevant given that funding for FY04 is less than half of last year's amount. Two Crow presented recommendations on revising the RFP, based on his review of the Board's enabling legislation and input from NRC site visits, and other relevant information. These fell into three categories: General, for the RFP, and for Protocol.

General recommendations. Two Crow made four general recommendations:

1. *Focus efforts on the BSAI region for about 10 years via an integrated ecosystem program (IEP) in concert with the NRC science planning initiative.*

Science Panel: Include as focus area for the 2004 RFP.

2. *Establish a Management Advisory Panel (MAP) to provide direction on research priorities, particularly pressing fishery management issues, assess progress of research projects relevant to a given agency, and provide input for generating requests for proposals and project selection.*

Science Panel: If a MAP is established, it should be advisory to the Science Panel and comprised of mid-level managers from agencies that manage natural resources. The MAP would help to define pressing management issues for incorporation in the annual RFP. The MAP should include fish, marine mammal, and marine bird managers.

3. *Promote potential cooperative research programs.*

Science Panel: As discussed under Tab 2 on Science Plans, NPRB should strive to provide for coordination and communication among major funded science programs, and leverage its funds by supporting cooperation with other funded programs.

4. *Support continued development of ecosystem-based fisheries management plans.*

Science Panel: There must be continued development of ecosystems information that eventually would underpin future fisheries ecosystem plans. Several research initiatives are included in the Panel's recommendations for RFP focus areas.

RFP recommendations. Two Crow made four recommendations for revising the RFP for 2004:

1. *Fund workshops to generate a specific research/implementation plan for the BSAI IEP.*

Science Panel: This initiative should be delayed until 2005 when the Board will have a better idea of research directions from the NRC report.

2. *Fund a monitoring project that supports AOOS, most likely in northern Gulf of Alaska to coordinate with GEM/GLOBEC.*

Science Panel: NPRB's contribution to AOOS should emphasize the biological component and possibly fund development of associated technologies. The timing may be premature on this issue because AOOS is just now being planned, but the Science Panel decided to include such a technology initiative in its recommendations for the 2004 RFP presented below.

3. *Co-sponsor production of a State of the Oceans Report 2004 with GEM and other entities as appropriate.*

Science Panel: This is a good idea and the report's findings should be briefed to the public/press. It would be more effective to fund it directly rather than through the RFP.

4. *Fund synthesis of existing knowledge regarding the physical and biological components of the Chukchi and Beaufort Sea ecosystems.*

Science Panel: This is a very timely recommendation, particularly with respect to climate change issues. The emphasis should be on synthesizing biology, including Russian research, and how biology relates to factors in the physical environment. A conference may be held. Results could be published by Alaska Sea Grant. The Panel included this as a focus area in the RFP.

Protocol recommendations. Two Crow made four protocol recommendations:

1. *Define and implement a protocol for data management and communications.*

Science Panel: NPRB should set aside about \$25,000 for a workshop on data protocols.

2. *Evaluate present RFP and proposal selection process.* (Discussed under Tab 4)

3. *Evaluate present approach for outreach.*

Science Panel: Instead of identifying \$1500 in each proposal for outreach and education, the Board should identify an overall amount as a focus area in the RFP and have professionals bid on covering all projects based on guidelines developed by the Board.

4. *Establish approach to platform (ship, aircraft) time.*

Science Panel: Under project costs, the applicant should indicate if additional funds are needed for ship time or whether it is already incorporated in the budget or matching funds.

Other Science Panel recommendations on revising the 2004 RFP:

The Panel recommends dividing the 2004 RFP into two major components:

(1) Directed component (~\$1.1M). This component would address three main goals.

Goal 1: Lay foundation for integrated BSAI study while supporting research in all regions (\$525k). Develop methods for assessing the following important understudied species:

- Forage fish: squid, capelin, eulachon, sandlance      \$250K
- Bathylagids, myctophids      \$250K
- Data Protocol workshop      \$25K

Goal 2: Build infrastructure for NPRB (\$500k)

1. Develop methods for remote sensing of upper trophic level abundance in the context of long-term monitoring of ecosystem structure and functioning. (\$100k)
2. Evaluation of ocean circulation models. (\$50k)
3. Evaluate the utility of ecosystem indicators in explaining processes underlying marine production. (\$150k)
4. Education and Outreach (\$100k)
5. Alaska Ocean Information System – virtual network (\$100k)

Goal 3: Bring Arctic Ocean scientific background up to the status of other Alaskan waters by completing a synthesis of biological and oceanographic information, including Russian research, available on the Chukchi-Beaufort Region. (\$75k)

(2) General component (~\$2M). Standard RFP with revised set of research priorities.

Given the anticipated reduced funding levels, and considering the existing NPRB projects, the Science Panel recommends revising the RFP research priorities as follows:

**a. Marine Ecosystem structure and processes**

1. Climate variability and other factors affecting benthic and pelagic marine productivity, including nutrient transport and availability, water column stability, and the role of sea ice.

Rationale: Items 1 and 2 from last year were combined into one item. The ecosystems model item 3 was removed since some aspects will be addressed in Directed Item II.3 and GEM may be funding an ecosystem modeling workshop. NPRB should wait for the results before funding further studies. A similar rationale applies to former Item 4: the State of Alaska has a new invasive species program that will give direction to future NPRB research. Item #5, long-term monitoring of biophysical parameters and phytoplankton and zooplankton, is now incorporated into directed research (I.1 forage fish).

**b. Marine Mammals and Seabirds**

1. Factors, including fisheries, affecting the population dynamics of pinnipeds, seabirds (including sea ducks), and cetaceans. Research focused primarily on Steller sea lions will not be considered because of availability of other funds.

Rationale: Need to focus overall research agenda given limited funds.

**c. Fish habitat**

1. Habitat mapping and substrate classification, including studies of factors affecting habitat such as physical forcing and variations in energy flux.
2. Impacts of fisheries and other human influence on habitat and its capacity to support communities of organisms, including adaptive management research.
3. Fishery management tools to facilitate fish habitat protection.

**d. Pressing fishery management issues**

1. Economic implications of fishery management approaches.
2. Studies that assess the impacts of bycatch, especially in the groundfish fisheries, including gear designs to improve selectivity.
3. Management strategies for rebuilding depleted stocks.

Rationale: Combination of former Items d and e with some revised wording for clarity.

**e. Stock assessment and recruitment processes**

1. Studies to develop or improve abundance estimation and fish stock assessment techniques.
2. Studies of factors affecting fish and invertebrate stock dynamics, recruitment, mortality, and distribution.
3. Effects of fishing on fish and invertebrate life history traits and genetic composition.
4. Delineations of stock boundaries for groundfish, salmon and shellfish.

Rationale: Salmon item deleted because of the large amount of funds already allocated. In addition, the NRC is now evaluating the AYK science and restoration plan and those results will guide future research.

**Former Item g. Contaminants**

Rationale: Deleted for this year due to shortage of money and relatively less importance.

**Proposed New Item h. Education and Outreach Projects**

Rationale: Deleted in favor of alternative approach to include it in directed part of RFP.

**Other RFP Revisions**

Confidentiality of proposals: Keep Science Panel recommendations on each proposal confidential, except to applicant. (The Board in March 2003 approved release of the 250-word proposal summary page that will accompany future proposals.)

Scoring of proposals: Only the Science Panel will give quantitative scores to each proposal and a new scoring system is proposed.

Rationale: A problem that arose in grading the 2003 RFP proposals was the large variations in scores for a specific proposal. Three or more reviewers, starting from their own reference levels, were asked to score each proposal. Some proposals received widely disparate scores, for

example, 49, 53, and 90. This variance can significantly impact where a proposal ends up relative to other proposals and whether it ends up in the green, yellow or red bins used to highlight high, medium and low proposals in this last RFP.

To address the issue of large variations in scores from independent reviewers for a specific proposal, the Science Panel plans to approach their review differently this coming year. Each proposal will receive three independent reviews, regardless of size or requested amount of the proposal. In choosing technical reviewers, preference will be given to reviewers who have not submitted proposals. If necessary, Science Panel members will be contacted for suggestions for technical reviewers. Reviewer names also may be obtained from the AFS database for citation lists. Technical reviewers will not be asked to provide quantitative scores. Instead they will give overall qualitative scores of excellent, good, fair, etc., and written comments for each category, and an overall summation. The qualitative reviews will be supplied to the Science Panel.

Science Panel members will meet in March, ahead of the Board meeting to review proposals. Primary and secondary Panel members will be assigned to each proposal and will be given at least two weeks for their reviews. Panel members will be made aware if a reviewer suggested by the applicant actually provided a technical review of the proposal. No names of reviewers will be supplied to the Panel during the actual review cycle.

For 2003, scores were developed based on the following weightings:

- |    |   |     |
|----|---|-----|
| a. | Project Responsiveness to NPRB Research Priorities                | 15% |
| b. | Soundness of Project Design/Conceptual Approach                   | 40% |
| c. | Project Management and Experience and Qualifications of Personnel | 20% |
| d. | Project Costs   | 15% |
| e. | Coordination and collaboration                                    | 10% |

For 2004, the Science Panel recommends the following revised weightings:

- |    |  |     |
|----|--|-----|
| a. | Project Responsiveness to NPRB Research Priorities | 5%  |
| b. | Soundness of Project Design/Conceptual Approach    | 60% |
| c. | Project Management                                 | 25% |
| d. | Project Costs                                      | 10% |

The Science Panel believes there should be more emphasis on soundness of project design and conceptual approach. The 60% may be split out approximately as follows: 10% Background and need, 10% statement of problem or question, 20% study design, 20% analysis. A score for dissemination of results needs to be incorporated here also.

Less weight is given to responsiveness to research priorities, because, in general, most applicants know how to write their proposals to address one or more priorities. Those that do not, would be rejected by staff without further processing. Project costs also were given less weight in the new scheme, because in reviewing proposals and budgets for 2003, most comments were along the lines that the reviewer thought the applicants could accomplish the work for the amount requested. There were very few occurrences of what looked to be egregious budgets or other reasons to score the budget low. Therefore, the Panel believes that some of the budget points should go to other areas of greater importance such as soundness of design or project management.

## Other Recommended Changes to Draft RFP:

### General Instructions

1. Require line and page numbers in each proposal.
2. Include page limits for each section of the proposal.
3. Curriculum vitae must be limited to two pages.

### Sections of the Proposal

1. Require identification of one primary and one (not two) secondary research priorities.
2. Under Statement of Work, Section 5 on project management, strike the third italicized sentence referring to the five most important contributions over the last 6 years.
3. Under coordination and collaboration, Panel agrees that there should be no letters of endorsement, but that #11 language should be retained requiring letters of support from Native communities. In addition, applicants should list the names of any person or agency that is committing resources to the proposed project and provide an affirmative statement that each party has been contacted and has agreed to participate if the proposal is funded.
4. Under special note on budget information, remove the \$1500 because of addition of the education and outreach section in the directed portion of the RFP. Under this new approach, researchers would work with professionals (videographer, writers, etc) to create public outreach products. Scientists would rough out the information piece, and professionals would translate it into English and add appeal. Scientists would review it for accuracy.
5. Under general condition 6, add statement that would require applicants to supply biophysical metadata to the north Pacific Metaphysical Data Base (Macklin and Megrey).

### Points to incorporate in introduction or elsewhere in the RFP

- The Board anticipates funding 10-20 studies in this current RFP, with a total of approximately \$2M available, and about \$1M directed at specific research topics.
- The focus of this RFP is on the BSAI and on laying the foundation for a future integrated BSAI ecosystem study. Those efforts will be coordinated and build upon other studies, such as BEST, etc. Other regions within the Board's legislative purview, however, have not been eliminated from the competition.
- The Board intends that results of the BSAI research will have potential applications to the Arctic Ocean, Gulf of Alaska, and adjacent coastal waters.
- In considering approval of proposals, the Board will emphasize the technical and Science Panel reviews and scores of the proposals; however, the Board retains its prerogative to consider other factors in judging proposals to ensure balance in research.

#### **4. Technical Review of Proposals**

The Science Panel considered the following five questions:

1. Should people that submit proposals be allowed to serve as reviewers?

Science Panel: In choosing technical reviewers, preference should be given to reviewers who have not submitted proposals. However, if there is a shortage of available reviewers, then it is permissible to use technical reviewers that have submitted proposals.

2. Should applicants be allowed to give public testimony at meetings of the Board when funding decisions are being made?

Science Panel: The Science Panel strongly recommends that the Board make decisions on which proposals to fund prior to any public input. Applicants should not be allowed to give public testimony to the Board prior to selection at the March meeting.

3. How much time should be given for technical reviews?

Science Panel: Technical reviewers should be given 30 days for review with a reminder in 3 weeks.

4. Should relative weightings for scores be changed?

Science Panel: See summary of discussion in Tab 3 above.

5. How should the Science Panel's primary and secondary review procedures be revised?

Science Panel: The panel's process worked well earlier this year, but there should be more primary reviewers assigned to each proposal and panel members must be given at least two weeks to perform their reviews.

## **5. Science Plan**

A two-day Science Panel meeting will be scheduled for the week of January 12-16 in Anchorage to review the interim NRC report and prepare comments for the Board, which is tentatively scheduled to meet the following week to review the interim report. A science plan drafting team needs to be assembled and should consist of agency representatives and scientists from academia. Science Panel members will suggest names for team members. The Board will need to set aside funds for possibly 3-4 team members from academia, most likely for about one month of their time and for travel. Some suggested institutions to help in the writing include AFSC, NPFMC, PMEL, ADFG, IPHC, and the Alaska Native science community. Writing the plan will be an iterative process, which when done will provide a living document that will require periodic updates, possibly every five years.

In the science plan, there needs to be some reference to humans as a component of ecosystem health. Suggested language is as follows:

1. The Science Panel recognizes the critical importance of the relationship of human coastal populations to the ocean ecosystem, and the impact of the status of the ecosystem on the health of the human coastal population.
2. Understanding this relationship will require integration of knowledge of the marine ecosystem with knowledge of the health status of those human populations that consume substantial quantities of North Pacific resources.

Science Panel Meeting schedule:

- January 14-15 in Anchorage to review NRC interim report
- March 2-4 in Seattle to receive update on Science Plan and review proposals

Allow 2-3 month notice for additional meetings.

**6. Data Policy**

The main discussion was that data need to be made available timely to other researchers and to the public. The Board should consider the data protocols of other science programs and agencies and work toward developing its own protocol. It is imperative that all researchers, at minimum, submit their information to a metadatabase such as that developed and maintained by Megrey and Macklin. Someone needs to be hired by NPRB to keep research databases current and accessible to the public and other users. Hiring may be put off for a year, but will be necessary in the long run.