

DRAFT Summary  
North Pacific Research Board  
Science Panel Meeting  
NPRB Conference Room  
Anchorage, Alaska  
March 2-4, 2005

The Science Panel met on March 2-4, 2005 to review proposals, to review NRC comments on the draft science plan, and to consider other issues as identified below. The meeting was chaired by Rich Marasco and the following other panel members were in attendance: Vera Alexander, Shannon Atkinson, Dick Beamish, Jim Berner, Don Bowen, Dan Goodman, Anne Hollowed, Tom Royer, David Witherell and Doug Woodby. The meeting was staffed by Clarence Pautzke and Misty Ott.

Review of Proposals

The Panel reviewed 98 proposals that responded to the 2005 RFP (5 of 103 received were rejected earlier as non-responsive and not processed further). Each panel member did a primary or secondary review of about 14-16 proposals, which included considering anonymous technical reviews and developing a summary recommendation on whether the proposal should be funded. The two members presented their findings to the full Panel which then proceeded to develop funding recommendations for consideration of the Board. Science Panel conflict of interest procedures were reviewed and followed during the meeting.

For Component 1 (specific project needs), the Panel recommended funding 15 proposals for just under \$2.6 million, which is less than the \$3.1 million ceiling assigned to that component (see Table 1 in Board notebooks). The Panel noted that no proposals were received for an ecosystem modeling conference or BSAI LME planning under Project Need 1 or for Project Need 2 on plankton monitoring methods. Proposals were received for Project Need 6 (Humans), but the Panel did not recommend funding any of them.

For Component 2 (general research priorities), the Panel recommended funding 12 proposals for just under \$2.0 million. The target level for that component was \$1.45 million, but the Panel added to that amount: (1) \$200,000 previously assigned to AOOS, but released by its executive director because other grants had been received for AOOS administration, and (2) \$200,000 previously directed by the Board in September 2004 to support Bering Sea shelf moorings M2 and M4, but whose support was now included in proposal 57. This action brought the total amount available for Component 2 up to \$1.85 million with \$900,000 assigned to ocean monitoring.

Again this year, the Panel concluded that there were many high quality, competitive proposals, and wanted to fund more than was allowed by the funding targets listed in the RFP. As with last year, to fit more proposals under the funding ceiling, the Panel reduced the funding of some proposals from the amounts requested, and also created a second tier of five high quality proposals that deserve consideration if the Board chooses to exceed the original cap.

**Component 1 – Specific Project Needs**

Project Need 1: Planning for Integrated Ecosystems Research Programs

The Panel recommends three proposals: 1, 7, and 10. Proposal 1 on harbor seal vital rates responds to upper trophic level tagging and counting. It builds on project R0313 funded by the Board in 2003 to study the feeding ecology and distribution of harbor seals in Prince William Sound. Proposal 7 by PICES

addresses the need for a Bering Sea ecosystem indicators workshop and Proposal 10 addresses the need for an Arctic Ocean synthesis.

### Project Need 3: Fish and Invertebrates

Analysis of ongoing salmon programs. The Panel considered the pros and cons of the three proposals received, choosing proposal 12 over the other two because it provided a more detailed, accessible database of projects.

Methods for spatially-specific assessment of pollock. The Panel recommends funding two complementary proposals 16 and 17, which together, would determine the statistical feasibility of mark-recapture techniques to estimate movement patterns, develop a spatially-explicit stock assessment of BSAI pollock, and then evaluate the feasibility and mortalities associated with using a modified trawl net to capture coded-wire tagged pollock.

Crab life history and ecology. The Panel recommends funding for 18, 21, and 22. Proposal 18 is phase 2 of research that NPRB currently funds at the NOAA Kodiak lab on habitat requirements for blue king crab (R0316). The applicants requested \$221,388 over two years in this follow-on proposal, but the Panel recommends only \$172,948, which will cover all of year 1 studies of embryonic development and effects of temperature, and partial year 2 studies on physiology of hatching relative to temperature and oxygen consumption and determining whether hatch timing is controlled by embryos or the parent crab. Proposal 21 on snow crab in the eastern Bering Sea and proposal 22 on Kodiak red king crab were recommended for full funding.

Life history information gaps for groundfish and non-crab invertebrates. The Panel recommends funding for 25, 27, and 29. Proposal 25 concerns age and growth determination of skates and will collaborate with NPRB current project F0415 on skate nursery areas in the eastern Bering Sea. Proposal 27 on spiny dogfish constitutes the second and third years of current NPRB project F0418. The Panel recommends funding at a level of \$200,000, versus the \$305,235 requested, which will provide support for a full second year (\$156k) and partial third year. Proposal 29 is phase 2 of a juvenile Pacific ocean perch genetics study funded as F0420 by NPRB.

### Project Need 4: Marine Mammals

Northern fur seals. The Panel recommends funding proposal 44 which will continue the Springer and Ream project F0414 on the foraging strategies of northern fur seals at Bogoslof Island and in the Pribilof Islands. (The original budget of \$441,539 was adjusted to \$420,339 to exclude \$21,200 in salaries and fringe for NMML employees who should have been covered by matching funds from AFSC). Proposal 34 on winter movements of fur seal pups also received considerable support. Though the Panel believes this is important, if not critical, information to obtain, it placed the proposal in the second tier, noting that if funded, the project design would need improvement and the number of tagged animals would need to be increased to be more representative of the overall pup population.

Ice seal studies. The Panel recommends funding proposal 48 which will track ringed seals with satellite tags to determine movements and stock structure. The project will use local knowledge and assistance provided by the Alaska Ice Seal Working Group, the Alaska Nanuuq Commission, and the Department of Wildlife Management of the North Slope Borough.

### Project Need 5: Seabirds as Ecosystem Indicators

The Panel recommends funding proposal 49, the only proposal to address this research need, but still highly meritorious, with many of the senior seabird investigators available in the Alaska region. The Panel recommends trimming the proposal back to \$200,000 from the excessive \$286,535 requested, believing that a very substantive symposium could be held for less funding.

### Component 2 General Research Priorities

A. Ocean Monitoring. This category had a funding target of \$500,000 in the RFP. The Panel added \$400,000 to that amount based on earlier earmarks for AOOS and M2/M4 as explained above, and then selected proposals 57, 60, 61, and 62, to be funded for a total of \$900,000. Proposal 57 continues and expands Bering Shelf moorings M2 and M4, in which the Board has already invested \$611,000, and requests \$2.44 million for a multi-year program. The Panel recommends \$350,000 for the first year out of this year's funds, with the strong intent to assign \$350,000 from next year's research funds. Included within the \$350,000 for this year is the \$200,000 identified in September 2004 by the Board for M2/M4 support, i.e., the \$350,000 is not in addition to the \$200,000. Proposal 57 seeks support for two additional sites at M5 and M8, but the Panel believes that any such expansion should be supported from other funds such as AOOS. In effect, the Panel is arguing that the Board needs to determine how much of its funding will be dedicated to the M2-M8 array and set a limit on core sites it will support over the longer term, especially considering the other meritorious ocean monitoring proposals that the Board has received. The NRC committee also recommended identifying core monitoring programs that would be protected in times of funding shortages. The Board needs to determine not only the level of funding for ocean monitoring projects, but also how far up the food chain it wants to support monitoring.

Proposal 60 would continue support for a doctoral candidate's research on endangered North Pacific right and fin whales in the Bering Sea. NPRB now supports this candidate through project F0307. The Panel recommends that the project be funded at \$30,000 (rather than \$61,722 as requested) which would provide a substantial portion of salary and tuition to allow the student to complete her research.

Proposal 61 would continue monitoring along the Gulf of Alaska Seward Line, which was previously supported by GLOBEC and the EVOS GEM program. The applicants request \$543,358, but the Panel recommends only \$420,000. This will allow the program to continue at a lower scale, though some complications still need to be worked out. For example, the applicants need to ensure that a ship platform is available, and they also need to scale back the number of cruises from 3 to 2, and possibly number of days per cruise to fit within the lower amount of funding. Because of these potential revisions, if the Board accepts this recommendation to fund at a lower level, the applicants should be asked to come back with a revised statement of work that would be reviewed by the Panel. The Panel urges the EVOS GEM program to resume funding this research and other complementary studies in 2006.

Proposal 62 would design, construct, and test a new profiling echo-sounder system, specifically designed to monitor the deep vertical biomass distributions of copepods and micronekton such as myctophid fishes, cephalopods, and shrimps, which provide late summer-winter food for pelagic fishes such as juvenile salmon and pollock. The Panel recommends reducing the scope of this project from the requested \$198,340, to \$100,000, if the Board wishes to keep within the limits of \$900,000 for ocean monitoring (adjusted from the RFP \$500,000 as noted above). A revised statement of work would be needed from the applicants.

The Panel also rated proposal 59 on Bering Sea whales and oceanography very highly and placed it in the second tier of proposals for consideration if the Board chooses to exceed the funding target set in the RFP for this category. The Panel recommends funding it for 1 year at \$143,000 if the Board decides to fund

tier 2 proposals. In addition, proposal 102 on dietary specialization of killer whales was moved out of this category because it really does not fit with ocean monitoring. Nevertheless, the Panel recommended that it be fully funded under “other” because it is continuing research from last year’s approved projects (see below).

B. Fish Habitat. Of the eight proposals received in this category, the Panel recommends that the Board only support proposal 67 on the reproductive ecology of Atka mackerel, but at the \$500,000 level stipulated in the RFP, not the \$584,165 requested. This proposal builds on NPRB-funded project F0417 on Atka mackerel nesting habitat which last year requested 2 years of funding, but only received one year. A revised statement of work would be required.

C. Groundfish. Of the 12 proposals received under this category, the Panel recommends funding proposals 75, 78, and 86, all at the levels requested. Proposal 75 would examine pollock recruitment and stock structure in the Gulf of Alaska, proposal 78 would evaluate data requirements for multi-species stock assessments in the Aleutian Islands, and proposal 86 would develop tools for economic valuation of critical habitat closures to commercial fisheries to benefit protected species. The three requests total over \$310,000, more than twice as much as assigned to that category by the Board in September. The Panel believes, however, that they will provide critical information and should be funded. Two additional proposals, proposal 76 on productivity of capelin and pollock and proposal 77 on modeling multispecies groundfish, were recommended for funding in tier 2.

D. Fisheries and living resource management. The Panel recommended funding proposal 90 on institutional arrangements for ecosystem-based management and proposal 91 on co-variation in seabirds and fish in Alaska. Both received top ratings. Proposal 90 would examine major federal and state management institutions with jurisdiction in waters off Alaska and their use of ecosystem-based management. Proposal 91 would test the hypothesis that seabird and fish parameters co-vary in time and may provide a predictive relationship. Both proposals would be funded at their requested level, which combined at about \$121,000 still comes in less than the \$200,000 identified for that category. The Panel placed proposal 94 on albatross habitat and fisheries interactions in tier 2.

E. Contaminants. The Panel recommends funding proposal 99 that would expand the Seabird Tissue Archival and Monitoring Project by analyzing contaminants in 110 common murre eggs to monitor trends in environmental quality in Alaskan marine environments.

#### Other

The Panel reviewed proposal 102 on dietary specialization of killer whales. This would be a second year continuation of NPRB project F0411, which was approved last year for one year, though two years of funding were requested. Last year, the Panel placed the second year of funding in tier 2, but only the first year was approved by the Board. This proposal really does not address a specific priority in the 2005 RFP. It was responsive last year, but with revisions in the priorities for this year, it no longer fits well despite it being critical research on feeding habits of the three different ecotypes of killer whales.

#### Additional Comments on Request for Proposal Process

The Panel recommends that the evaluation form for proposal reviews be updated to remove references to quantitative scoring, since points are no longer assigned by the Panel reviewers. The qualitative scoring scale should include poor, fair, good, very good, and excellent, and NSF procedures should be examined as a model for scoring proposals. Technical reviewers would need to be informed that proposals rated fair or poor likely would have little chance of being funded, those rated excellent most likely would be

recommended for funding, and those in the very good and good categories may be funded or placed in a second tier for consideration.

In addition, there may need to be a special place in next year's RFP for meritorious projects seeking a second year of funding. This year there were several proposals seeking second years, but the research priorities, read literally, precluded them from applying, so there was no home for them in the RFP. So the Panel recommends that the Board either provide continuity in RFP project needs for such second year proposals or have a separate category for proposals that were funded for only one year but needed two to really complete the project. And when submitting such a proposal, the applicant needs to clearly state what was accomplished in the first year of NPRB funding and not leave it up to the Science Panel to guess what was accomplished.

### 3. Draft Science Plan

The Panel reviewed the NRC comments on the draft science plan. The Panel discussed potential revisions to the organization of the plan, but concluded that it should not be reorganized just for the sake of reorganization to appear responsive to the NRC. Instead, efforts should be focused on developing coherent integrated ecosystem research plans (IERP) for the three LMEs, starting with the Bering Sea and Aleutians this year. The concept of IERPs could be introduced better in Chapter 1, as could the plan goals and overarching philosophy (as shown in green and blue on the staff's comparison of original and revised table of contents). There is no need, however, to move the other sections of chapters 2 and 3 around unless the staff believes it would read a lot better. The requests for proposals will be the primary vehicle for implementing IERPs and they will be far more critical in striving for ecosystems research than rearranging the draft plan.

It was noted that an executive summary is needed and staff indicated they were planning to prepare one. Concerning review schedules for the draft science plan, the plan now calls for a formal NRC-type review in 10 years. The NRC committee commented that it should be reviewed more often. The Panel recommends that the plan be reviewed possibly every 5 years, but the first review may come after 7 years or so to allow some of the early programs to play out before the plan is revised. And it is not necessary that NRC always be involved in the review, so long as external reviewers are used.

On p. 33, the Panel recommended adding something about Jim Overland's comments at the January science symposium that the heat content of the water column in the Bering Sea is so warm, it will preclude returning to the ice concentrations observed in the 1970's and 1980's unless there are several back-to-back years of very cold temperatures.

### 4. Implementation Activities for 2005

The Panel recommends that NPRB become very proactive in planning for integrated ecosystems studies in the LMEs, starting with the Bering Sea, and not just depend on development of RFPs to bring about a coherent plan. A work group of representatives from the appropriate agencies and institutions needs to meet to develop the Bering Sea IERP. Indeed, the fact that no one responded to the IERP section of the 2005 RFP is further evidence that a team directed by NPRB is needed to do the planning. Planners associated with GLOBEC should be contacted for advice on how to approach this and discuss lessons learned from that science program.

In addition, NPRB should work with NSF and other entities in planning activities for IPY. This would be a great opportunity to get land-ocean-and climate players together to build a coherent program.

The Science Panel agrees that PICES should be supported to develop the 2007 marine ecosystem status report and that \$90,000 (over two years) should be identified for that endeavor. The current ecosystem status report for 2005 is an excellent example of synthesis for the North Pacific region involving many countries and should be continued every three or so years as a legacy series of ecosystem status reports for the future.

5. Other Matters

a. Potential new Science Panel members.

The Panel agrees that Michael Dagg, John Piatt, and Seth Macinko would be valuable additions and provide needed expertise on zooplankton, seabirds, and socioeconomics, respectively. The Board may also want to contact fish experts such as Milo Adkison (UAF), Tom Quinn (UW), or Andre Punt (UW).

b. Need for subcommittees or other structure within the Panel

The Panel does not see a great need for subcommittees unless there is a very focused need where committee members can have a meaningful input. In other words, if an ad hoc committee is needed to address a particular issue, then the Panel will form one.

Concerning Ocean monitoring, the panel identified Tom Royer, Vera Alexander, and Shannon Atkinson to work with AOOS and other interested parties in developing ocean monitoring activities off Alaska. For Bering Sea ecosystem planning, Anne Hollowed will be the main representative, and a synopsis of the various research components will be provided at the January meeting. For LTK, Jim Berner will be the Panel's main point of contact, but only if a need is demonstrated for a science panel member in carrying out the LTK program.

c. Review of final project reports

The Panel discussed this briefly. They do not see a need to for Panel members to review final project reports. The staff should ensure the principal investigators did what they said they would do in their proposals. In addition, PIs should be required to submit a list of publications from NPRB-sponsored research when submitting proposals. Then the Board needs to start tracking whether peer reviewed publications are resulting from its sponsored research.

Starting with the 2005 RFP, all applicants were required to list in their resumes "...up to five of (their) most recent publications most closely related to the proposed project and up to five other significant publications as appropriate. Please highlight publications that are based on research supported by NPRB funds and identify the NPRB project number (e.g., #R0201)." Over time a track record will develop that will help ensure the high quality of NPRB-related research, and also let the Science Panel and Board know whether someone publishes their research in peer-reviewed journals. This will serve the same function as seeking external review of final project reports.

d. Meeting Dates for 2005

The Panel intends to hold three core meetings each year: One in January in conjunction with the marine science symposium to address issues unresolved at other meetings; a March meeting for proposal review, and a September meeting for drafting of the RFP. The January meeting should be the one or two days just before the symposium so everyone is fresh. Another meeting could be held during the year, but only if there is a particular issue that needs to be addressed, such as focusing on an integrated ecosystem research plan or particular hot topic. This would be a special, not routine, meeting.