

Summary
North Pacific Research Board
Science Panel Meeting
Seattle, WA
April 13-15, 2010

The Science Panel met on April 13-15, 2010, at the Sheraton Seattle Hotel in Seattle, Washington. The meeting was chaired by Doug Woodby and the following other members were in attendance: Vera Alexander, Elizabeth Andrews, Jim Berner, Michael Dagg, Bob Gisiner, Stew Grant, Pat Livingston, Seth Macinko, John Piatt, Andre Punt, Tom Royer, and Pat Tester. Dick Beamish and David Witherell joined the meeting via teleconference. Bill Wilson also attended the meeting as an ad-hoc Science Panel member. The meeting was staffed by Clarence Pautzke, Francis Wiese, Carrie Eischens and Tom Van Pelt.

1. Call to Order and Approve Agenda

Doug Woodby introduced Stew Grant as the new Science Panel member. The agenda and schedule of individual Science Panel members was then reviewed and the agenda approved. The draft Science Panel meeting summary from the November 2009 meeting was also approved as final.

2. NPRB Program Review

Clarence Pautzke introduced the panel to the planned NPRB Program Review and directed the group's attention to the "Program Review Terms of Reference" document in the meeting binder. Staff also distributed the new publication "NPRB The Foundational Years" to the Science Panel. The program review is being conducted by a Committee of Visitors, chaired by Lynda Shapiro. Dr. Shapiro joined the Science Panel meeting as an observer on Tuesday morning (April 13) and had a private lunch (staff not in attendance) with the Science Panel on Tuesday to discuss the program review.

3. Proposals Review for 2010

The Science Panel was given a quick overview on past projects regarding their status (complete or on-going) and how they parse out into eco-system priorities. It was suggested by staff that this be taken into account if faced with a choice between equally meritorious proposals.

The panel reviewed 107 proposals that responded to the 2010 RFP (4 of 112 received were rejected earlier as non-responsive and not processed further, 1 proposal was withdrawn by the investigator and not processed further). Each panel member conducted primary and secondary reviews of a total of 13-14 proposals, which included considering anonymous technical reviews and developing a summary recommendation on whether the proposal should be funded. The two members assigned to each proposal presented their findings to the full Panel, followed by questions and discussion by the entire Panel and the development of a funding recommendation for the Board. Science Panel conflict of interest procedures were reviewed and followed during the meeting.

Overall, the panel found the quality of submitted proposals to be very high this year and produced a Tier 1 recommendation of 22 proposals totaling \$3,753,188 dollars. As in previous years, the Panel created a second tier of proposals. Proposals designated as Tier 2 are ones that are scientifically sound but perhaps of lower priority OR that deserve consideration if specific concerns regarding the scientific integrity of the proposals can be clarified and satisfactorily adjusted by the PIs. The Science Panel rated 37 proposals as Tier 2 totaling roughly \$6.9 million. The remaining 48 proposals were placed in Tier 3, indicating that

they had substantial scientific flaws and should not be funded. The panel's considerations of the various sections of the RFP are presented below. This summary will be accompanied by a spreadsheet showing the proposals identified for each of the tiers, and a document which summarizes the panel comments on each of the 107 proposals considered.

Oceanography and Lower Trophic Level Productivity (RFP Section 1a – Funding cap: \$400,000): Seven responsive proposals were submitted to this section of the RFP with requests for almost three times the amount of funds allotted to this category. The panel recommended funding three proposals for \$671,660, exceeding the category funding cap. Two proposals were placed in Tier 2 for an additional \$233,262.

Fish Habitat (Section 1b – Funding cap: \$400,000): Ten proposals were submitted to this section of the RFP with a total request for funding of over \$1.8 M. The panel recommended one proposal as Tier 1 for \$57,448, substantially underfunding this RFP category. Two proposals were placed in the Tier 2 for an additional \$418,108.

Fish and Invertebrates (section 1c – Funding cap: \$800,000): Requests for more than \$7M were received under this category. The panel recommended funding four proposals for \$1,094,139, exceeding the category funding cap. Another twelve proposals totaling \$2.9 million were recommended as Tier 2.

Marine Mammals (section 1d – Funding cap: \$475,000): Although 21 proposals were received under this category, the panel recommended funding for only one proposal totaling \$311,768. Eight proposals were placed in Tier 2 for an additional \$1.6 million.

Seabirds (section 1e – Funding cap: \$275,000): The panel recommended two seabird proposals for Tier 1, totaling \$271,418. One additional proposal was placed in Tier 2 for an additional \$89,574.

Humans (section 1f – Funding cap: \$275,00): Three proposals were received in this category for a total request of \$501,752. One proposal was rated as Tier 1 for \$274,816. A second proposal was rated as Tier 2 for \$127,415.

Other Prominent Issues (section 1g – Funding cap \$275,000): Seven proposals were received under this category requesting over \$1.4 million. The panel recommended two proposals as Tier 1 for a total of \$298,035. Three proposals were place in Tier 2 for an additional \$616,444.

Local and Traditional Knowledge (section 2 – Funding cap: \$100,000): Only one proposal was received under this category. The panel evaluated this proposal and placed it in the Tier 3 category.

OSRI-NPRB Collaboration (section 3 – Funding cap: \$200,000 (\$100,000 from NPRB)): Two proposals were submitted under the OSRI-NPRB collaboration section of the RFP. These proposals were evaluated by both the NPRB and the OSRI science panels. The OSRI science panel recommended funding for both proposal #89 and #90. The NPRB Science Panel differed in their ratings, placing proposal #89 in Tier 3 (should not fund) and proposal #90 in Tier 2 (conditional funding) for \$100,000 (half of which would come from NPRB).

Cooperative Research with Industry (section 4 – Funding cap: \$400,000): Six proposals were submitted under this category, all with respect to cooperative research with the fishing industry. No proposals were received for cooperative research with the oil industry. The panel recommended funding two proposals under Tier 1 for \$331,364. Two proposals were placed in the Tier 2 for an additional \$381,066.

Community Involvement (section 5 – Funding cap: \$100,000): Four proposals were submitted under this RFP category requesting a total of \$303,658. The panel recommended funding two of these proposals for a total of \$108,904.

Technology Development (section 6 – Funding cap: \$100,000): Four proposals were received in response to this section of the RFP, requesting almost four times the funds allocated by the Board. The panel recommended funding two proposals for a total of \$99,894. The two remaining proposals were placed in Tier 2.

Ecosystem indicators and data rescue (section 7 – Funding cap: \$100,000): Seven proposals were received under this RFP category requesting funding of \$516,899. The panel recommended funding four proposals for \$233,742, exceeding the funding cap of \$100,000. The three other proposals received in this category were placed in the Tier 2 category for an additional \$250,237.

4. 2010 Graduate Student Research Awards

Twenty-eight applications were received in response to the NPRB 2010 Graduate Student Research Award solicitation. One application was subsequently rejected because their research topic was outside of the scope funded by the North Pacific Research Board. The science panel reviewed the remaining 27 applications. Each panel member conducted a primary or secondary review of 3-4 proposals, and rated the proposals as poor, fair, good, very good or excellent.

Recognizing that the aim of these awards is to foster new marine scientists in the areas of interest of the Board, the Panel set up a process slightly different than that used when evaluating the regular proposals. The Science Panel first limited discussion to those applications that had received at least two “Very Good” rankings from the Science Panel member’s independent reviews. This narrowed the field down to 13 applicants. The Panel then gave two separate rankings (out of 5) on proposal merit and student qualification, recognizing that for these type of graduate awards, student qualifications should be weight just as high, if not higher than the scientific merit of the proposal.

The Science Panel also considered the criteria that two of the five awards be given to each degree level (master’s and Ph.D.), with the 5th award being a wild card with respect to degree level. Additionally, at their September 2009 meeting the Board passed a motion that two of the five awards be reserved for students pursuing quantitative stock assessment research, to help address the projected shortage of stock assessment scientists in the future. Based on these criteria and ranking system, the Science Panel recommended awarding the 2010 GSRA to:

Hannah Voorhees – Ph.D. student, University of Pennsylvania - *Cultural and social impacts of environmental co-management in Northwest Alaska: an anthropological study of Inupiaq participation in scientific monitoring of “at risk” subsistence marine mammals*

Julie Raymond-Yakoubian – Ph.D. student, University of Alaska Fairbanks - *Salmon and Identity in Alaska's Bering Strait Region*

Janelle Mueller – Master’s student, University of Alaska Fairbanks - *Effects of the age-composition of spawning sockeye salmon on future returns of sockeye salmon to Bristol Bay, Alaska*

Jory Stariwat – Master’s student, University of British Columbia - *Lewis Point, a seasonal subsistence fish camp in transition: Negotiations in a mixed cash/subsistence economy 1980-2011*

Jonathan Richar – Master’s student, University of Alaska Fairbanks - *Recruitment mechanisms of the Tanner crab in the eastern Bering Sea*

If an additional award becomes available, this sixth award was recommended to go to Ph.D. student Matthew Sexson from University of Alaska Fairbanks whose project was entitled: Spatiotemporal Variation in the Non-Breeding Habitat Use of Spectacled Eiders.

5. Arctic Strategies

Dr. Sue Moore (NOAA Fisheries) gave a presentation to the Science Panel on the “Development of a Distributed Biological Observatory (DBO) in the Pacific Arctic” which was followed by a discussion on planned arctic research activities by NOAA and other agencies. NPRB staff presented a draft discussion paper outlining NRPB’s possible contribution to Arctic research.

6. Bering Sea Integrated Ecosystem Research Program

Over lunch, staff presented a partial summary of BSIERP status, and in the interest of time referred the panel to the BSIERP action memo for further details, with any follow-up questions welcome after the meeting. Doug Woodby and staff then introduced Dr. Phyllis Stabeno (PMEL); lead PI of the BSIERP Biophysical Moorings project and member of the BEST- BSIERP Science Advisory Board. Dr. Stabeno presented an overview of program findings to date, and fielded follow-up questions from the Science Panel. Dr. Seth Macinko, chair of the BSIERP Science Advisory Group (composed of members from the NRPB Science Panel, Advisory Panel, and Ecosystem Modeling Committee), provided a verbal summary of the Group’s impressions of the program so far. A written report will be provided to the Board at its 4-6 May meeting.

7. Gulf of Alaska Integrated Ecosystem Research Program

Staff reviewed the GOAIERP implementation process to date. Revised proposals to the three field components (UTL, MTL and LTL) were received at the NRPB office on March 31, 2010 and sent to the Science Panel members for review prior to the meeting. The two competing proposal to the modeling component were received by NRPB on March 22nd and sent to the EMC as well as to the Science Panel for review.

Field Components

Staff reviewed each revised proposal, highlighting the changes that had been made to each proposal and the overall budgetary ramifications of the modifications. The Science Panel then discussed each field component separately to formulate their recommendations to the Board.

Upper Trophic Level component:

The Science Panel felt that the PIs had still not done a sufficient job in explaining the linkage between the Steller sea lion and seabird work and the recruitment question for the five focal fish species (walleye pollock, pacific cod, arrowtooth flounder, Pacific ocean perch, and sablefish). Some panel members felt that this portion of the program was not responsive to the main recruitment questions of the UTL proposal, noting that the mortality to YOY fish caused by seabirds and marine mammals was tiny compared to the mortality caused through predation by adult fish.

As a result, the Science Panel recommends that:

1. *The Board ask for clear justification of the sea lion and seabird diet studies. Specifically the PIs must provide data showing why they believe SSL and seabirds account for a significant portion of the predation on YOY fish that are recruiting into the population.*

If clear justification cannot be, or is not, provided, the Science Panel questions the inclusion of the SSL and seabird portions of this proposal *and recommends that it be removed*. The Science Panel would like to review the justification received for the inclusion of the seabird and marine mammal portions of the UTL component before giving final approval of these sections of the program.

2. The Science Panel noted that the 2012 work planned for seabirds should be removed as there is no other field work occurring in 2012.
3. Regarding data management, originally planned to be incorporated into the UTL scope of work, the Science Panel agreed that it would be in the best interest of the program to have NPROB hold back \$350,000 - \$400,000 and deal with data management through a separate RFP process.

Mid-trophic Level component:

The Science Panel was pleased to see the requested revisions to the mid-trophic level component accomplished. There was a discussion regarding the inclusion of spring sampling in the nearshore only. Panel members were happy with this addition and agreed that the addition of offshore work in the spring was not feasible given the budgetary constraints. The Science panel agreed that the minimal expense of supporting some pilot work in 2010 was important for the overall success of the field work in 2011. There was a question regarding the taxonomic level of diet identification needed for the modeling and asked to the staff to ensure this was discussed with the MTL and modeling PIs at the next GOAIERP PI meeting.

The Science Panel recommends that *the Board give final approval to the revised Ormseth et al. proposal for the Mid-trophic level component of the GOAIERP.*

Lower Trophic Level component:

The addition of the second field year for the LTL component in 2011 was appreciated by the Science Panel. The Panel also discussed the level of vertical sampling of zooplankton planned and agreed that it was sufficient.

The Science Panel recommends that *the Board give final approval to the revised Hopcroft et al. proposal for the Lower trophic level component of the GOAIERP.*

All three field components have smaller budgetary issues that still need to be addressed before contracts can be finalized. Staff should negotiate these during and subsequent to the May PI meeting

Ecosystem Modeling Component

Dr. Dan Goodman, chair of NPROB's Ecosystem Modeling Committee, joined the Science Panel for their discussion and deliberation of the two competing proposals to the ecosystem modeling component of the GOAIERP program. Dr. Goodman presented the EMC's consensus review of the two proposals stating that *in the opinion of the EMC neither of the revised proposals is fundable*. According to the EMC, both proposals are much better than when they were first presented six-month ago, but neither succeeded in

addressing the EMCs criteria regarding model validation for the complete suite of models proposed. The Gibson et al. proposal does not address validation for any component of their proposed modeling and is weak on the physical modeling portion. The strength of the Gibson et al. proposal is in the biology and fisheries section, although even here they do not address model validation or indicate how they will be able to assess the accuracy of their model predictions. In contrast, the Fiechter et al. proposal is very strong and sophisticated with respect to the physics and modeling of ocean circulation. This team does include model validation for the physical models they propose, however this validation does not continue through the NPZ models or IBM. In addition the Fiechter et al. proposal is very weak in their proposed biological models and do not propose to model all the way through to recruitment, stating that there is insufficient data to do so. *In summary the EMC recommends not funding either proposal and suggests funding additional field work to fill in some of the data gaps needed to model the ecosystem.*

The Science Panel continued discussing the two modeling proposals. Various scenarios were debated including going forward without modeling, delaying the modeling component until after the first field year, picking one of the two proposals and stipulating strong EMC involvement to improve the overall product, or creating a new modeling team with the physical modelers from the Fiechter team and the biology modelers from the Gibson team. Such a merged team would still require active participation with the EMC and someone to act as an overall modeling manager. Overall, however, the SP felt that a modeling component is needed to carry out the intent of the GOAIERP and that re-competing the component would not result in different or better proposals.

After a lengthy discussion, the Science Panel recommends:

- 1) Staff should attempt to merge the two modeling groups – using the 4D ROMS data assimilation physical modelers from the Fiechter et al. group and the biological modelers from the Gibson et al. group.
- 2) If a merger is not possible, the SP recommends approving the Gibson group.
- 3) Whether merger or not, the NPPB Ecosystem Modeling Committee must be involved in further development of the modeling scope of work to ensure proper validation of the models.
- 4) Funds should be allocated for a modeling manager who will oversee and ensure that the modeling effort stays on track and encompasses the broader questions asked by the GOAIERP program. This should not be added to the workload of current NPPB staff.

8. Other matters

The Science Panel's meeting schedule was reviewed for the remainder of 2010. Location for the August 2010 meeting is still to be determined but the date of the meeting was set for the week of August 23rd. The Science Panel asked that the next meeting be 4 days in duration (if warranted by amount of material to cover) rather than 3, as the current meeting was very full and some panel members felt they were rushing to complete all tasks.