

Meeting Summary
North Pacific Research Board
Science Panel Meeting
Marina, California
April 10-12, 2012

The Science Panel met on April 10-12, 2012, at the Sanctuary Beach Resort in Marina, CA. The meeting was attended by panel members Vera Alexander, Carin Ashjian, Dick Beamish, Jim Berner, Don Bowen, Stew Grant, Tuula Hollmen, Pat Livingston, André Punt, Cheryl Rosa, Tom Royer, Pat Tester, Polly Wheeler, Bill Wilson, David Witherell and Doug Woodby. Seth Macinko joined the meeting via teleconference on April 12. The meeting was staffed by Danielle Dickson, Carrie Eischens, Cynthia Suchman, Tom Van Pelt, and Francis Wiese (via teleconference).

1. Call to Order and Approve Agenda

Doug Woodby introduced Polly Wheeler as a new Science Panel member. The agenda and schedule of individual Science Panel members were reviewed and the agenda approved with the addition of the Fukushima marine debris topic to the Other Matters section of the agenda. The Science Panel meeting summary from the August 2011 meeting was also distributed. This meeting summary had previously been approved by the panel and no further action was necessary.

Election of officers: Doug Woodby and David Witherell officially stepped down as chair and vice-chair, respectively. Tom Royer was elected as the chair and Cheryl Rosa was elected as vice-chair. Stew Grant agreed to serve as vice-chair alternate. These terms are for a one-year period. Royer assumed chairman responsibilities immediately following the election.

During the election of officers' discussion, the panel also discussed the possibility of having a team of members attend the spring Board meeting to represent the Science Panel's recommendations. The panel was in full agreement that this would be a positive change and it was agreed that, in addition to chairman Royer, Cheryl Rosa and Stew Grant would also attend the May 7-10, 2012, Board meeting in Anchorage. Other science panel members were also welcome to attend.

2. NPRB Conflict of Interest Policy

Staff reviewed the draft of the new CoI policy that will be presented to the Board in May for their final approval and asked for questions and input.

The panel felt that the policy should be explicit about panel members leaving the room when they are recused from a specific proposal discussion due to a direct participation conflict, but felt it was appropriate to leave it open on whether the panel member should remain out of the room for discussion of other proposals in the same category. Staff noted that Science Panel members are never asked to be primary or secondary reviewers for proposals within the same category for which they have a direct participation conflict and have not left the room for the entire category in past.

Panel members also stated that members should not be requested to answer questions or otherwise participate in any discussion regarding proposals for which they are in conflict at the recusal level.

The panel also discussed situations where industry or others donate ship time and questioned if this was considered a monetary conflict. Questions were also raised on the issue of panel members having made

donations over \$10K to specific institution in the past, and staff indicated this would not be seen as a conflict as the financial benefit was not to the individual science panel member.

There was some discussion that the relationship of close collaborator was not well defined in the current list of recusal scenarios. The panel also felt it was important to add “Past member of graduate student committee” to the list of situations in which one would disclose a conflict and “Current member of a graduate student committee” to the list of situations in which one would disclose and recuse. The panel further noted that the terms adjunct and affiliate faculty may have different definitions depending on the institution, particularly where foreign universities are concerned, and suggested that a more general term such as “documented relationship” or “similar formal relationship” be included.

Staff noted that it would be the role of the panel/board chair to enforce the conflict of interest policy and stated that he/she may consult with staff for clarification if needed.

One panel member suggested that SP members (only) should disclose their sources of financial support (grants received) and collaborators each year. This was not deemed necessary as part of the formal policy, but rather as a practice that helps staff and fellow SP members understand the context of their partner SP members. It was agreed that staff would develop a web-based form that will provide space for SP to make this disclosure prior to the August 2012 meeting. This would be a trial form this summer and, if successful, would be updated every January before proposals are assigned to Science Panel for review.

Staff next reviewed the current conflict of interest policy in place for the current meeting and reiterated that SP members would only have to leave the room if listed as a PI, co-PI or collaborator (with CV included in proposal). Staff also noted that all proposals were considered confidential.

3. Science Panel Roles, Responsibilities and Review Instruction for 2012

As requested by the Board, staff reviewed the roles and responsibilities of the Science Panel as stipulated in the Board’s standard operating procedure document.

Staff also reviewed the new proposal review process approved by the Board at their September 2011 meeting. The new process defines and clarifies the Tier designations the Science Panel uses to rank submitted proposals and also removes the requirement that the Science Panel fit the Tier 1 proposals to the RFP budget.

Panel members discussed the nuances in the new policy and after most issues were clarified asked whether the instructions to not worry about overall budget considerations implied that they should not comment on the budget of the individual proposals – for example their thoughts on proposals that are unusually high or low cost, or proposals that seem to be good bargains given the level of in-kind or leveraged resources. Staff responded that it was still appropriate for the panel’s opinions of the budget and cost effectiveness of individual proposals, and clarified that it was the overall RFP budget that was no longer a consideration of the panel’s tier ranking.

4. Proposal Review for 2012

The Science Panel was given a quick overview of past projects regarding their status (completed or on-going) and how they parse out into ecosystem priorities. The panel was also updated on the accumulation of metadata and data files from completed projects and on the 297 peer review publications that have come out of NPRB funded projects since 2002.

It was noted that there were three conflicts of interest in this year's SP proposal reviews with Carin Ashjian, Tuula Hollmen and André Punt each being involved in a submitted proposal. When these proposals came up for review and discussion the associated SP member left the room and was not privy to the discussion or outcome.

The panel reviewed a total of 97 proposals that responded to the 2012 RFP (3 of 108 were rejected due to formatting issues, 7 were rejected as non-responsive and 1 was withdrawn by the investigator). Each panel member conducted primary and secondary reviews of a total of 11-12 proposals, which included considering anonymous technical reviews, leading the panel discussion on their proposals and development of a funding recommendation for the Board.

As in the past few years, the panel again found the quality of submitted proposals to be very high and produced a Tier 1 ("should fund or fund with non-science conditions) recommendation of 34 proposals totaling \$5.9M. The Tier 2 category of proposals ("fund if extra money is available or if proposals amended to address minor scientific issues) contained 24 proposals requesting a total of \$5.4M. The remaining 39 proposals were placed in Tier 3, indicating that they had substantial scientific flaws and should not be funded. The SP then considered reviewing all Tier 1 proposals a second time to determine if there were any scientific nuances amongst them that might be relevant to the Board when making final funding decisions. After some discussion, and in part due to time constraints, the panel chose not to nuance the Tier 1 proposals as all proposals in this category were deemed to scientifically fit in the "should fund" category.

The panel's consideration of the various sections of the RFP and the final recommendations are presented below. This summary will be accompanied by a spreadsheet and document describing the Science Panel discussion and their tier designation.

Oceanography and Lower Trophic Level Productivity (RFP section 1a – **Funding cap: \$200,000**): Seven responsive proposals were submitted to this section of the RFP with requests for almost five times the amount of funding allotted to this category. The panel's funding recommendation includes one Tier 1 conditional proposal for just under **\$200,000**. Two other proposals for just over \$178,000 were given Tier 2 rankings. The remaining four proposals in this category were ranked as Tier 3.

Fish and Invertebrates (RFP section 1b – **Funding cap: \$1.3M**, individual proposals capped at \$500,000): Requests for more than \$8M, encompassing 31 responsive proposals, were received in this category. Eleven proposals were given a Tier 1 ranking and totaled **\$2.69M**, twice the category funding cap. Another eleven proposals (\$3.1M) ranked as Tier 2. The remaining 9 proposals were given a Tier 3 ranking.

Marine Mammals (RFP section 1c – **Funding cap: \$200,000**): Eleven proposals were submitted to this RFP category, requesting \$1.2M in funding (six times the category budget). The panel recommendation consists of four Tier 1 proposals totaling **\$415,451**, exceeding the category funding cap by \$215K. All other proposals in this category were ranked as Tier 3, with no proposals in this category receiving a Tier 2 ranking.

Seabirds (RFP section 1d – **Funding cap: \$500,000**): Five responsive proposals were submitted to this section of the RFP with a total funding request of over \$1.3M. The panel's recommendation includes two Tier 1 proposals for **\$465,484**, two Tier 2 proposals for \$388,658, and one Tier 3 proposal.

Socio-economic and policy issues (RFP section 1e – **Funding cap: \$200,000**): Six proposals were received in this category for a total request of \$925,132. One proposal, requesting **\$56,998**, was ranked as

Tier 1 by the Science Panel. Another proposal for \$199,329 was ranked as Tier 2 and the remaining 3 proposals were ranked as Tier 3.

Other Prominent Issues (RFP section 1f – Funding cap: \$300,000): Six proposals, requesting over \$1.3M in funding, were submitted to this RFP category. The panel ranked one proposal as Tier 1, with a funding request of **\$193,223**. Three proposals were placed in the Tier 2 category (\$770,305), and the remaining two proposals were given a Tier 3 ranking.

LTK and Community Involvement (RFP section 2 – Funding cap: \$200,000): Three proposals were received in this category requesting just over \$300K. The panel's recommendation places one proposal in the Tier 1 category for **\$115,004**, one proposal in the Tier 2 category for \$129,979, and one proposal in the Tier 3 category.

Cooperative Research with Industry (RFP section 4 – Funding cap: \$400,000): Three proposals were submitted to this category of the RFP, requesting \$580,404. Two proposals, totaling **\$333,787**, were given a Tier 1 ranking by the panel. The one remaining proposal was ranked as Tier 3.

Technology Development (RFP section 5 – Funding cap: \$200,000): Ten proposals were received in response to this section of the RFP, requesting over \$1.2M. The panel recommended six proposals in the Tier 1 category for **\$578,725**, almost three times the budgeted amount for this category. Two other proposals, requesting \$296,344, were ranked as Tier 2, and two were ranked as Tier 3.

Data Rescue (RFP section 6 – Funding cap: \$100,000): Five proposals, requesting a total of \$384,476, were submitted to this RFP category. The panel recommends two proposals at the Tier 1 level for a total of **\$194,112**. Three proposals in this category were ranked as Tier 3.

Arctic Focus (Funding cap: \$400,000): Ten responsive proposals were received under this category, requesting over \$2.3M in funding. The panel placed three proposals in Tier 1 for **\$635,018**. Two proposals, requesting \$379,479, were ranked as Tier 2 and five proposals were ranked as Tier 3.

OSRI Collaboration: Seven proposals (22, 29, 63, 93, 94, 97 and 102) were considered of mutual interest to NPRB and OSRI. Scott Pegau, the OSRI Research Program Manager, and Tom Royer (who sits on both panels) met jointly with the NPRB Science Panel to discuss these proposals. After this joint consideration the NPRB Science Panel placed proposals 63, 93 and 94 in the Tier 1 category. Two other proposals, 22 and 29, were placed in the Tier 2 category, while proposals 97 and 102 were placed in Tier 3. If any of these proposals are funded, a total of \$100K would be available from OSRI for leverage. The exact contribution to each proposal will be determined in consultation with OSRI staff after the Board has made its funding decisions.

5. Bering Sea Project

Staff gave a status report and update on developments in this program since the panel last met in August 2011. Highlights of this include:

1. The "in press" status of the first Bering Sea Project special issue of Deep Sea Research II, which has been dedicated to Clarence Pautzke. This special issue contains 24 articles stemming from research conducted as part of the NPRB-NSF partnership in the Bering Sea. A second special issue in the same journal is also being organized, and will include articles from both the Bering Sea Project and those stemming from the May 2011 ESSAS meeting special Bering Sea session; 28 articles are currently undergoing peer-review for the second special issue.

2. Five new “synthesis” projects funded by NSF are being integrated into the overall Bering Sea program.
3. The final full Bering Sea Project Principal Investigator meeting was held in Anchorage March 28-30, 2012. Approximately 80 attendees took part in this 3 day meeting of plenary and breakout sessions.
4. Integration of the NPRB-funded data archive together with the NSF-funded BEST data archive at NCAR/EOL facility in Colorado has been completed.
5. Integrated modeling projects are continuing to move forward, with good communication between the modelers and the field biologists over the last several months to compare data to model outputs.
6. A special workshop on the Management Strategy Evaluation project was held in October 2011. As an outcome from this meeting the team selected control rules and performance measures for multi-species and ECOSIM assessment models. This work is contingent on receiving the FEAST model output and the team is poised to move forward with this work.
7. Looking ahead, the staff and Panel had a brief discussion about future planning, including plans for additional special issues, an ‘open science meeting’, and producing executive-summary “headlines” or distillations of key program findings. The Panel also expressed continuing support for ensuring data availability as a key legacy of the program.
8. Vera Alexander, representing the Science Advisory Group, shared her impressions from the March PI meeting with the panel.

6. 2012 Graduate Student Research Awards

At the Board’s September 2011 meeting, a motion was passed to increase the number of Graduate Student research awards to six/year (3 for master’s level students and 3 for doctoral level students). In addition, the amount of individual awards was increased from \$20,000 to \$25,000. Perhaps in response to these changes, a record sixty-one applications were received in response to the NPRB 2012 Graduate Student Research Award solicitation. Two applications were subsequently rejected because their research topic was outside of the scope funded by NPRB. The Science Panel reviewed the remaining 59 applications (21 from master’s students and 38 from doctoral students). Each panel member conducted a primary or secondary review on 5-7 applications, and rated each application as poor, fair, good, very good or excellent.

Recognizing that the aim of these awards is to assist young marine scientists in their professional development, the panel set up a slightly different process from the one used to evaluate regular proposals. For master’s level applications, the panel first limited discussion to those applications that had received at least two “very good” or “Excellent” ratings from the Science Panel members’ reviews. This narrowed the field of master level applicants from 21 to 10 applicants. For doctoral level applicants, the quality of applications was sufficiently high that the Science Panel chose to limit the discussion to those applications that received at least one “Excellent” ranking from the Science Panel member reviews. This criterion narrowed the field of applicants from 38 to 13. The Panel then gave two additional rankings (out of 10) to each remaining application. The first ranking was for student qualification and the second was for proposal merit, recognizing that for graduate awards, student qualifications should be weighed just as high, if not higher than, the scientific merit of the proposal.

Based on the criteria and ranking system stated above, the Science Panel recommended awarding the 2012 GSRAAs to:

Master's level:

1. Daniel Cushing, Oregon State University - *Decadal-scale abundance patterns in the marine bird community of Prince William Sound, Alaska.*
2. Kalyn MacIntyre, University of Washington - *Investigating the role of sea ice conditions on bearded seal ecology in the Bering, Chukchi, and Beaufort Seas using year-round passive acoustic monitoring.*
3. Alexis Will, University of Alaska Fairbanks - *Linking parental foraging, diets and nutritional stress of a sentinel seabird species to environmental variability in the Gulf of Alaska.*

Doctoral level:

4. Rachael Blevins, University of Alaska Fairbanks - *Using Interdisciplinary Techniques to Investigate the Effects of Noise on Endangered Cook Inlet Beluga Whales, Delphinapterus leucas*
5. Jannik Schultner, Norwegian University of Science and Technology - *Seabird physiological responses to changes in food availability: a comparison between Atlantic and Pacific colonies*
6. Samuel Hirt, Auburn University - *Determination of calving interval and pregnancy rate of bowhead whales (Balaena mysticetus) via analysis of stable isotopes, hormones, and minerals in baleen*

7. Gulf of Alaska Project

Staff gave a status report and update on developments in this program since the panel last met in August 2011. Highlights included:

1. The first field season was successfully completed in fall 2011 and investigators have started to analyze the collected data. A lessons-learned meeting was held in November 2011, and decisions were made to implement these lessons for 2013.
2. Gulf of Alaska Project PI meeting held in Juneau, March 6-8, 2012. The meeting was well attended and composed of a series of integrated plenary talks on the first day, followed by smaller "speed dating" component sessions on day two which allowed PIs to discuss issues specific to the interactions between their relative components. This meeting format provided PIs time to discuss a variety of issues ranging from field data collection protocols to ideas for integrating analyses.
3. Data management: In September the Board decided to re-issue the call for GOA data management proposals deeming the earlier submission of just one proposal non-competitive. A second RFP for GOAIERP data management was issued in October 2011 with a deadline of December 14, 2011. Five proposals were received in response to this call. A special data management review panel, chaired by Tom Royer, reviewed the proposals and made recommendations to the Board. The Board met by teleconference in February 2012 and endorsed the panel's recommendation to award the data management project to the AOOS-Axiom team. Members of the data management team attended the PI meeting in March, and the process of integration and data flow to the new team has begun and is going well.
4. While no formal field season is planned for 2012, the UTL component may be able to do some sampling with funds from the Alaska Fisheries Science Center. Plans for this will be finalized in late April with input from the GABI and NPRB staff.
5. Modeling component: Staff reported the modeling component is being well managed by co-PIs Sarah Hinckley and Georgina Gibson. In response to the Science panel concern and request last fall regarding the lack of EMC oversight for the modeling, the PIs prepared a document/letter addressing how the earlier concerns of the EMC were being addressed.

The Science Panel discussed the response and issues raised in the letter and noted that the modeling group was confusing verification with validation (citing the verification of the drift patterns generated by online

versus offline ROMS as an example). Panel members asked staff if they feel that the concerns of the panel were being adequately addressed based on the monthly modeling calls in which NPRB staff participate, most specifically the validation issues. Staff responded that they are watching the progress of the validation effort carefully, and stated that they may bring in expert advice on developing quantitative validation of the float tracking experiments. Staff is open to suggestions from the Science Panel of people who might be able to lend expertise in this area. Questions were also raised about the validation of the NPZ model and it was suggested that this should include consideration of within-year dynamics, the spatial dimension, and total abundance. One panel member was encouraged by the statement in the letter from the modelers in section C6c indicating that “recruitment predictions from the IBMs can be considered useful to fishery managers if the index, or combination of indices is able to explain >50% of the variability in past recruitment (De Oliveira and Butterworth, 2005)”. However, it was noted that these indices would need to include multiple years’ worth of data to be valid. Another panel member inquired if the recruitment model was going to be run over several years, rather than over a single year for each of the patterns identified by the pattern analysis. Staff indicated that this was the plan but had not yet been done. Finally, questions were raised about the individual-based models (IBMs), including how the movement of larval fish would be handled to incorporate behavior, and how changes in the prey and predator fields (time scale, seasonal changes, etc.) would be incorporated. Staff explained the current approach and the Panel recommended to continue keeping a close eye on the issues raised.

8. Arctic Program

Brendan Kelly from the Office of Science and Technology Policy/National Science Foundation OSTP/NSF joined the Science Panel as an ad-hoc member of the panel for the discussion on the joint NPRB-NSF Arctic program.

Staff gave a brief review of the Arctic plan (phase 1& 2) and timeline, explaining the contribution of industry funds for phase one and the ongoing partnership building and planning efforts for phase two. A RFP for Arctic Synthesis and Research Needs (phase 1) was released under the auspices of the North Pacific Marine Research Institute in January 2012, and two proposals were received by the March 9, 2012 deadline.

Brendan spoke about the need for a somewhat rushed timeline and reiterated the need to move quickly on this so as to make use of the industry funds. He concurred with other panel members and NPRB staff that this was not to be done at the risk of funding poor science. Brendan also spoke of the great partnership between NSF and NPRB developed during the Bering Sea project, and stated that this Arctic work had the potential for bringing more agencies into a partnership for a joint research program in the Arctic.

Before proceeding with discussion of the two proposals received, it was noted that Science Panel member Carin Ashjian was listed as a co-PI on one of the two proposals submitted. As a result, Carin left the room at this time and was not privy to the discussion or outcome.

Staff member Danielle Dickson and SP member Bill Wilson also disclosed their previous employment history with LGL, the lead agency on one of the proposals submitted. Panel members deemed it unnecessary for them to have to leave the room, but staff noted that for perception purposes and her very recent employment with LGL (through June, 2011), Danielle Dickson had not participated in proposal and review administration and would remain silent during the discussion.

Staff gave a brief overview of both proposals and the four external reviews received for each proposal. The panel then discussed both proposals at length. Paragraphs summarizing the panel’s discussion of each proposal accompany this document.

As a result of this discussion and as summarized in the official SP recommendation paragraphs, the panel was in full agreement that the proposal submitted by Neubert et al. (DARTS) was not a viable option. The second proposal, submitted by Grebmeier et al. (PacMARS), was considered to be the better of the two proposals and presented an ecological framework the information could be structured around. One panel member felt that even though the Grebmeier proposal was better, neither proposal was sufficiently responsive to the RFP or had provided sufficient detail to be funded. Other panel members agreed that the Grebmeier proposal was lacking some information, but felt it was fundable if additional information could be provided. They noted the excellent team of researchers assembled for the proposal had the potential to increase our understanding of ecological processes in the Arctic.

As a result of these discussions and deliberations, the Science Panel (with the exception of one member) recommended conditional funding of the PacMARS Arctic synthesis proposal submitted by the Grebmeier et al. team. The Science Panel specified that they would like to see and evaluate a revised proposal from this team before giving a final recommendation for funding.

After completing this part of the agenda item, Carin Ashjian was invited to re-join the group.

To conclude the Arctic program agenda item, staff briefed the Science Panel on the recent legislation introduced by Senator Mark Begich. If successful, this legislation would create a mechanism and funding stream for integrated marine ecosystem research and observations in the Arctic and names the NPRB as the organization responsible for administering the program in partnership with the US Arctic Research Commission. Also provided to the panel was a copy of the letter sent by Board chairman Ian Dutton to Senator Begich to ask for clarification of and dialog on aspects of this legislation before it moves forward.

9. Other Matters

Long-term monitoring: Based on the Board's decision to defer a decision of the long-term monitoring topic, staff asked if the Science Panel had any further comment or additions to their previous recommendation. The panel indicated that they did not, and strongly endorsed and reiterated their previous recommendation from August 2011.

2013 RFP Development: Staff asked the panel to discuss how they would like to participate in the development of the 2013 RFP prior to their August 2012 meeting. After some discussion the panel agreed to proceed as in 2011; that is, by forming subgroups to develop RFP topics for each category prior to the meeting. This process would begin in June, with drafts of research topics and text to describe these research requests due to staff in mid-July.

The panel also considered the usefulness of the cyclical approach used for the 2011 and 2012 RFPs and recommended continuing this approach as currently established for the 2013 RFP. The panel further requested that the Board make a final decision on how they would like to proceed with the 2013 RFP at their May 2012 meeting so that the panel would not have to develop two separate RFPs (one cyclical and one not).

Strategic Planning: Staff indicated that the Board has expressed a desire to move forward with a revision of the NPRB Science Plan as recommended by the CoV, and that this will be a topic on the agenda on the August 2012 Science Panel meeting agenda. Ideas and thoughts from the Science Panel on the revised structure of the science plan and how to proceed with this venture are welcomed by the staff. Cheryl Rosa stated that the US Arctic Research Commission is currently updating their goals report and that she would be happy to share a draft with Science Panel when available.

Social Science Workshop: Staff gave a brief update on the Social Science Workshop convened by Board members Ian Dutton and Dorothy Childers, in association with the 2012 Alaska Marine Science Symposium. This workshop aimed to address to key questions:

1. How might social science better inform and link with the ecosystem understanding mission of NPRB? and
2. How might social science better inform and link with the fisheries management mission of NPRB?

A report on this workshop is currently being prepared and will be shared with Science Panel members when available. The hope is that this report will help with the development of a Humans/Social Science section of the 2013 RFP.

Education and Outreach: Staff provided a written summary the Education and Outreach activities that have occurred since the last meeting of the Science Panel in August 2011.

Perkins Coie/Governance Developments: Staff gave a brief update on the status of the Perkin Coie facilitated discussions between NOAA, Alaska SeaLife Center and NPRB regarding the relationship amongst the three organizations and the governance of the NPRB. These discussions are ongoing and no new MOU has yet been developed or signed.

Potential Impacts of the Fukushima Tsunami Debris on North Pacific Fisheries: It was noted that debris from the Fukushima disaster has reached the West Coast of North America notably the fishing vessel, Ryou-un Maru. This vessel was declared a hazard to navigation and sunk by the U.S. Coast Guard off S.E. Alaska. Debris within the water column should arrive later this year. The problems with fishing vessel were not predicted and similar unexpected effects of the materials within the water column in the near future are possible, though they might be less visible than the surface debris. This includes radionuclides. Methods to address these potential problems include a workshop, special session at the AMSS and/or a call in the 2013 NPRB RFP. This topic will be discussed further during the August SP meeting.

Meeting Schedule: The Science Panel scheduled their fall meeting for August 14-16, 2012 in Anchorage, AK. The panel also tentatively scheduled their April 2013 meeting for April 17-19, 2013 in Seattle, WA.