

Summary
North Pacific Research Board
Science Panel Meeting
Seattle, WA
March 31 – April 4, 2014

The Science Panel met on March 31 – April 4, 2014, at the W Hotel in downtown Seattle, WA. The meeting was attended by panel members Vera Alexander, Carin Ashjian, Dick Beamish, Jim Berner, Don Bowen, Stew Grant, Tuula Hollmen, Pat Livingston, Andre Punt, Cheryl Rosa, Tom Royer, Chris Siddon, Pat Tester, Bill Wilson, and David Witherell. Seth Macinko and Polly Wheeler participated by teleconference for portions of the meeting. The meeting was staffed by Denby Lloyd, Matt Baker, Carrie Eischens, Danielle Dickson, Abigail Enghirst and Susan Dixon. Tom Van Pelt and Mike Sigler attended the meeting on Thursday afternoon to present the Bering Sea Project update.

1. Call to Order and Approve Agenda

The meeting was called to order at 1:00pm. The new NPRB Executive Director and Science Director were introduced to the panel and staffing updates provided. All Science Panel members introduced themselves to the new staff. This was followed by a review of term dates for all panel members. It was noted that this would be the final meeting for four long-time panel members (Richard Beamish, Seth Macinko, Andre Punt, and Cheryl Rosa). Following this, Tom Royer was re-elected as the chair. Tuula Hollmen and Stew Grant were elected as co-vice chairs. It was noted that officer terms are for a one-year period. The agenda was then approved with the modification of shifting the Gulf of Alaska update to Thursday afternoon and the Social Science discussion being split between Thursday afternoon and Friday morning to accommodate SP member schedules and absences.

2. NPRB Conflict of Interest Policy and Proposal Review Process

Conflict of Interest: The revised COI Policy, modified and approved by the Board in September 2013, was in effect for this meeting. This policy requires that, at the beginning of the first regular meeting of every calendar year, the policy be reviewed by meeting attendees. The Executive Director reviewed the current policy in brief, noting that recusals other than personal conflicts no longer require panel members to leave the room during discussion.

Panel members raised a question about the different treatment of recusal for letters of support vs. unfunded collaborators. The panel suggested that letters of support written by a panel member's organization trigger disclosure, not recusal. Panel members also noted that “collaborative relationship” is poorly defined in the policy, specifically for projects with a large number of co-PIs such as BSIERP, and suggested more guidance could be provided. There is also a vague phrase on page 11, under Collaborative Conflicts, regarding “unnamed, unfunded collaborator” which the panel asked to be clarified.

As required by the policy, panel members each signed an annual statement indicating that they have read, understand and agree to comply with the policy.

Spreadsheets indicating the conflicts (both disclosure and recusal) for all Science Panel and staff members for the RFP proposals, LTM proposals and GSRA applications were included in the meeting material. Staff noted that recusal conflicts would be announced at the start of discussions for each individual proposal or application and those individuals with a personal recusal conflict would need to leave the room while the individual proposal was discussed.

Proposal review process: Staff went over the proposal review process approved by the Board in September 2011 and reviewed the Tier designation categories used by the Science Panel when ranking proposals. Panel members reiterated their wish to nuance the Tier 1 proposals into Tier 1a and Tier 1b categories for this year's recommendation to the Board. It was decided that 1a and 1b would be assigned at the end of the discussion of each proposal, with a review of all Tier 1a and Tier 1b ratings at the end of each RFP category and again when all proposals had been reviewed.

Staff reminded panel members that the primary Science Panel reviewer for each proposal was responsible for composing the SP summary paragraph using the template provided. It was noted that the summary paragraphs should explain differences in rankings among reviewers, noting any cursory reviews that are not representative. Summary paragraphs are seen by the Advisory Panel, the Board and the proposer. Summary paragraphs should be sent to the Science Director by Tuesday, April 8, 2014.

3. Long-term Monitoring Program

The panel reviewed the 6 long-term monitoring proposals, and their associated technical reviews, that were received in response to the invitational request for full proposals. Each proposal was assigned a primary and secondary Science Panel reviewer with the primary reviewer leading the panel discussion of the proposal to develop the funding recommendation for the Board.

After deliberation, the panel rated two proposals as Tier 1a (#915 & #925 totaling \$856,292), two proposals as Tier 1b (#923 & #926 totaling \$1,950,277), one as Tier 2 (#924 for \$158,780) and one as Tier 3 (#917 for \$854,196). This summary will be accompanied by a spreadsheet identifying the details and tier rating for each of the proposals, and a document which summarizes the panel comments for each of the 6 proposals considered.

4. Overview of current research funded and 2014 proposals

Current research funded by NPRB: The Science Panel was given an overview of previously funded projects regarding their status (completed or on-going) and how they parse out into ecosystem priorities. It was suggested by staff that this be taken into account if faced with a choice between equally meritorious proposals. The panel was also updated on the accumulation of metadata and data files from completed projects and on the 454 peer review publications that have come out of NPRB funded projects (including BSIERP, GOAIERP & GSRA projects) since 2002.

2014 Request for Proposals and proposals received: Staff noted the more significant changes made to the 2014 RFP by the Board after the Science Panel had last seen the document. Specifically, the revision of the focus section to the topic of AYK Chinook salmon and the increased funding level to this section was noted. Staff noted that 87 proposals requesting \$17.1 million had been received with 82 proposals going on to the peer review process. The details regarding the five proposals that were disqualified due to formatting or responsiveness were provided in the meeting material.

5. Proposal Review for 2014

The panel reviewed the 82 proposals that were sent out for peer review. All panel members in attendance conducted primary or secondary reviews of a total of 9-11 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 tweak") recommendation of 28 proposals

totaling \$5.6M. Tier 1 proposals were further considered to indicate scientific nuances amongst them that might be relevant to the Board when making final funding decisions. This resulted in 17 proposals being rated as Tier 1a (\$3.2M) and 11 as Tier 1b (\$2.4M). A Tier 2 category of proposals (“fund if extra money is available or if proposal is tweaked slightly”) was also established containing 22 proposals requesting a total of \$3.6M. The remaining 32 proposals were placed in Tier 3, indicating that they had substantial scientific flaws or omissions and should not be funded.

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 identifying the Tier for each of the proposals, and a document which summarizes the panel comments for each of the 82 proposals considered.

Oceanography and Lower Trophic Level Productivity (RFP section 1a – **Funding cap: \$200,000**): Only one proposal was submitted to this section of the RFP, requesting \$135,827 of funding allotted to this category. The panel rated this proposal as Tier 2.

Fish and Invertebrates (RFP section 1b – **Funding cap: \$1.2M**, individual proposals capped at \$500,000): Requests for \$5.7M, encompassing 22 responsive proposals, were received in this category. Three proposals were given a Tier 1a ranking, totaling just over \$1.0M. Five proposals (\$1.4M) were given a Tier 1b rating and another nine proposals (\$1.5M) ranked as Tier 2. The remaining 5 proposals were given a Tier 3 ranking.

Marine Mammals (RFP section 1c – **Funding cap: \$200,000**): Thirteen responsive proposals were submitted to this RFP category, requesting over \$1.4M in funding (7 times the category budget). The panel recommendation includes one Tier 1a proposal for (\$30K) and one Tier 1b proposal (\$200K). Another three proposals (\$212K) ranked as Tier 2 by the Science Panel with the remaining 8 proposals given a Tier 3 ranking.

Seabirds (RFP section 1d – **Funding cap: \$500,000**): Seven proposals were submitted to this section of the RFP with a total funding request of \$1.4M. The panel’s recommendation includes four Tier 1a proposals totaling \$869K and three Tier 1b proposals totaling \$525K.

Humans (RFP section 1e – **Funding cap: \$200,000**): Four proposals were submitted to this section of the RFP with a total funding request of \$591K. Two proposals were given a Tier 1a ranking, totaling \$293K. Another proposal for \$199K was given a Tier 2 ranking with the remaining proposal given a Tier 3 ranking.

Other Prominent Issues (RFP section 1f – **Funding cap: \$300,000**): Five proposals, requesting over \$750K in funding, were sent out for review in this category. The panel ranked all proposals in this category as Tier 3 noting significant scientific issues with all proposals.

LTK and Community Involvement (RFP section 2 – **Funding cap: \$200,000**): Four proposals were received in this category requesting just under \$680K. The panel’s recommendation places two proposals in the Tier 1a category for \$335,740. The two remaining proposals were placed in the Tier 3 category.

Cooperative Research with Industry (RFP section 4 – **Funding cap: \$300,000**): Six responsive proposals were submitted to this category of the RFP, requesting just under \$1.0M. One proposal, requesting just under \$140K, was given a Tier 1a ranking by the panel. Two proposals (\$277K) were ranked as Tier 2 and the remaining three proposals were ranked as Tier 3.

Technology Development (RFP section 5 – **Funding cap: \$300,000**): Twelve responsive proposals were received to this section of the RFP, requesting over \$2.0M. The panel recommended two proposals in the Tier 1a category for just under \$226K with another two proposals in the Tier 1b category for an additional \$237K. Two proposals, requesting \$333K, were ranked as Tier 2 and six were ranked as Tier 3.

Data Rescue (RFP section 6 – Funding cap: \$100,000): Three proposals, requesting \$247K, were submitted to this RFP category. The panel recommends two proposals at the Tier 1a level for a total of \$199,976 with the third proposal being ranked as a Tier 2 for \$47K.

Focus Section: Arctic-Yukon-Kuskokwin Region Chinook Salmon (Funding cap: \$750,000): Five responsive proposals were received under this category, requesting \$1.4M in funding. The panel ranked three proposals, requesting a total of just under \$810K, as Tier 2. The two remaining proposals were placed in the Tier 3 category.

OSRI Collaboration: Five proposals (12, 14, 21, 38 and 52) were considered to be of potential mutual interest to NPRB and OSRI. Scott Pegau, the OSRI Research Program Manager joined the Science Panel meeting by teleconference to discuss these proposals. OSRI representatives indicated that their scientific review did not support OSRI funding for any of these proposals. Tom Royer, who sits on both the OSRI and NPRB Science Panels noted that proposal 81 may be of interest to OSRI and provided a brief summary of the project to Scott Pegau. Scott indicated that if the NPRB Science Panel review was positive he would forward that proposal to his Science Panel for consideration, with the intent of indicating OSRI support before the Board meeting at the end of April. This proposal and its reviews have now been forwarded to Scott given the Tier 1a ranking by the NPRB Science Panel.

6. Arctic Program

Update and status report on PacMARS: Staff provided an update on Phase I of the Arctic Plan and the Pacific Marine Arctic Regional Synthesis (PacMARS) project which is expected to produce their final report by June 15, 2014. This group met at the AMSS meeting in January and again at the Ocean Science Meeting to discuss progress and work on in their report. All of the data that has been gathered and compiled for synthesis has been archived at the National Center for Atmospheric Research (NCAR) with its appropriate metadata and will become publically available in June of this year.

Update on planning for an Arctic program: Staff gave a presentation updating the panel on the progress of developing partnerships with various federal and state agencies. A letter of intent was received from the Bureau of Ocean Energy Management (BOEM) indicating their intent to collaborate in a partnership for an arctic program and the insertion of a \$1million placeholder in their FY2015 budget for this purpose. The North Slope Borough/Shell Baseline Studies program has also indicated their support by approving a budget with \$1 million set aside for an Arctic partnership with NPRB. Panel members voiced concern regarding Shell oversight and veto power of proposals and also noted that there was a potential administration shift coming for the NS Borough which might curtail Borough spending and commitments. The draft IARPC Arctic Conceptual framework document was also provided to the Science Panel at this time.

Panel members voiced concerns over the slow progress being made to get an Arctic program moving forward and suggested that they need to highlight a clear path forward for the Board. There was general agreement that the Science Panel should have more input into the central processes and Arctic program development than they have had up to this point. With this in mind, a sub-group of the panel (Cheryl Rosa, Tom Royer, Vera Alexander, Pat Livingston, Don Bowen and Carin Ashjian) met separately for an evening work session to draft a Science Panel recommendation on how to proceed with the Arctic initiative. This recommendation was subsequently presented to the full panel and is included as an appendix to this meeting summary. The Science Panel will present this recommendation to the Board during their upcoming meeting.

7. Graduate Student Research Awards

Fifty-seven applications were received in response to the 2014 NPRB Graduate Student Research Award solicitation. All proposals (21 from Masters students and 36 from doctoral students) were reviewed by the Science Panel. Each panel member conducted a primary or secondary review on 5-8 applications and rated the proposal 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, as in past years, followed a slightly different process from that used for evaluating regular proposals. For Masters level applications, the panel first limited discussion to those applications that had received at least two “very good” ratings from the Science Panel member’s independent reviews. This narrowed the field of master level applicants from 21 to 9 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” rating or two “Very Good” rankings. These criteria narrowed the field of applicants from 36 to 21. The Panel then gave two separate 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 2013 GSRA to:

Masters level:

Tied for first place:

1. #913 – Courtney Shuert, University of Alaska Fairbanks - *Steller sea lion survivors: A retrospective on the impact of alternative research methods on an endangered species*
1. #956 – Emma Elliott Smith, University of New Mexico - *A historical perspective on the ecology and behavior of *Enhydra lutris* in southeastern Alaska: implications for future management and conservation efforts.*

Tied for third place:

3. #943 – Tanja Schollmeier, University of Alaska Fairbanks - *Effects of sea ice algal loss on benthic communities using biomarker analysis*
3. #960 - Amy Kirkham, University of Alaska Anchorage - *Molt and reproduction in ice seals: Examining physiological interactions in the annual life cycle through an Antarctic analog*

Doctoral level:

Tied for first place:

1. #914 – Anthony Pagano, University of California, Santa Cruz - *The effects of declining sea ice on polar bear behaviors and energetic demands*
1. #941 - Alexandra Ravelo, University of Alaska Fairbanks – *Growth and production of the dominant Alaskan Arctic brittle stars: *Ophiura sarsii* and *Ophiocten sericeum**
1. #944 – Katharine Studholme, Dalhousie University - *Non-breeding distributions and carryover effects in the rhinoceros auklet: integrating multi-colony tracking, genetic, physiological, and environmental data to identify management concerns.*
1. #953 – Jennifer Meredith – University of Washington - *Fish or Flight: Analyzing the Migration Decisions of Fish Harvesters in Rural Alaska*

8. Social Science Update: The panel reviewed the workshop report produced by the Pacific Marine Analysis & Research Association which was hired by the Board to conduct a half-day social science workshop during the 2014 AMSS. Several panel members noted that the report was unclear and several of the recommendations for “next steps” did not make sense. Panel members noted that they would have liked to see more detailed recommendations to the Board regarding how to move forward. With regards to the specific recommendations noted on page 3 of the report, the Panel supported steps:

1) *Encourage scientists to take advantage of existing NPRB mechanisms.* The panel noted that this seemed to already be occurring with the large number of social science nominees for the available Science Panel seat and the increased number of quality social science proposals coming into the annual RFP over the past two cycles.

4) *Articulate the Board’s commitment to social science integration.* The panel agreed that the Board needs to be clearer regarding their goals with respect to social science and not treat social science as an add-on to the natural sciences research. It was noted that there is currently no social scientist on the Board itself and such an addition would be beneficial.

6) *Consider revisions proposed for the RFP process.* The panel discussed several possible ways to revise the RFP to include social science in a more integrated way. These included allowing for the ability to combine funding between two or more categories or creating a new social science/natural science integrated category within the RFP.

8) *Define and produce a common framework for effective and meaningful integrated studies.* The Science Panel recommends something less formal than producing an actual framework. The staff could write up a sample/example of successful integrated project design (e.g., BSIERP walrus/wind/ice project) that could be published on website and linked from RFP.

and

9) *Review other initiatives within and beyond a fisheries context.* The Science Panel noted that the phrase “but *within the mission of NPRB*” should be added to this next step. Panel members also suggested that the Board look to NSF ArcSS solicitations for an example of a solicitation for integrated social science projects that go beyond a fisheries context.

9. Bering Sea Project

Programmatic Update: Tom Van Pelt, contracted program manager for the Bering Sea project, provided an update on the status of the Bering Sea Project, noting that the fiscal project period has now ended and final reports are coming in and being reviewed. Final reports for the NPRB funded portion of the project go through a thorough review with Mike Sigler, as lead BSIERP PI, conducting an initial scientific review, followed by a review by Tom and NPRB staff. The regular NPRB final report template has been modified to highlight specific features of the IERP including an evaluation of the overall IERP experience and management implications. Data from this project are being archived and published with EOL and that process is proceeding well.

Communications and Outreach Efforts: Staff outlined the various outreach products that have been developed for this IERP. This includes approximately thirty 2-page Headline articles, of which 2000 have been distributed to date; a very successful photo contest with images from the project being featured in the 2014 NPRB calendar and a display at Snow City Café during the month of January; and a 100-page magazine publication that is still under development. A poster on the Bering Sea Project was also presented at the North Pacific Marine Science Organization (PICES) 2013 Annual Meeting in Nanaimo, British Columbia.

Scientific Results Presentation: Mike Sigler, lead PI for the BSIERP portion of the Bering Sea Project, joined the Science Panel and presented an overview of the scientific findings from the overall project. The PowerPoint presentation will be made available to Science Panel members upon request.

Highlighted results included

- primary production does not limit secondary production in cold or warm years (net community production is similar in warm and cold years). Nor does there appear to be top-down control in secondary production as krill production may outpace Pollock consumption
- timing is more important than the amount of primary production: cold years with extensive sea ice result in an early and punctuated bloom with higher daily primary production in spring, higher ingestion rates for zooplankton feeding on ice algae as opposed to water column phytoplankton, earlier egg production, larger crustacean zooplankton, and higher age-0 pollock survival
- a mechanistic understanding of why walleye pollock abundance dramatically fell in the early 2000's, leading to a 40% drop in the quota for the largest single fishery in the US, and then rebounded,
- prediction that fishermen would travel farther north in warm years was not realized, instead the opposite occurred, due to the movement of target species northward and off-shelf in response to an expanded cold pool in the middle Bering Sea shelf during cold years,
- models predict that ice cover in the northern Bering Sea will remain relatively constant (cold and dark in winter) and therefore subarctic fish will not expand into northern Bering Sea shelf,
- the northern Bering Sea will stay cold for the foreseeable future (differs from SE Bering pattern, which will experience more frequent warm years), and
- the first coupled, spatially explicit ecosystem model of the eastern Bering Sea that successfully recreated past conditions (effective at hindcasting).

This presentation also reflected on results that would not have been accomplished without the IERP approach. Some examples of these are:

- An estimate of the proportion of primary production consumed by mesozooplankton
- Timing more important than amount of primary production for secondary and age-0 pollock production; role of top-down control
- The pollock story
- Trip lengths, prey energy, and spatial distribution for fur seals, thick-billed murres and black-legged kittiwakes
- Primary production, carbon export and net community production (Moran et al., 2012, Cross et al., 2012, Mordy et al., 2012, Lomas et al., 2012)
- Sea-ice, pelagic-benthic coupling and spectacled eiders (Cooper et al., 2013)
- Wind, ice and walrus (Huntington et al., 2013)

10. Gulf of Alaska Project

Staff gave a status report and update on developments in this program since the panel last met in August 2013. Highlights include:

- a successful PI meeting held the week of March 25, 2014 at AFSC Building 4 in Seattle. PIs are proceeding with data analysis now that the final field season for the project has been completed,
- the 2013 federal government shut down curtailed much of the 2013 field season and has had serious effects on seasonal and interannual comparative studies that were central to the project,
- the production of the first Gulf of Alaska special issue in Deep Sea Research II is underway; three special issues are expected to result from this project
- Andre Punt has been enlisted to oversee and serve as an advisor for the modeling component of the project, a role previously filled by Francis Wiese. Model development is proceeding on schedule, however some inputs expected from the other components of the project have not materialized as expected. As a result, limited information on predator fields is available and the team will not be able to include predation in the IBM models, and
- A working group composed of a sub-set of the project PIs has been established to develop an updated conceptual model of the Gulf of Alaska ecosystem using knowledge acquired as a result of the project

11. Education and Outreach Update

Staff provided an update on communications and outreach activities that have occurred since their August 2013 meeting. Highlights included:

- Redesigned website launched in December 2013, debugging process still underway
- Project synopses have been developed for approximately 60 of the completed projects and are available on the “Explore the Science” section of the website and are available on thumbdrives distributed to panel members
- Poster presentations at PICES
- Participation in the AMSS Communicating Ocean Sciences Workshop

Panel members suggested that NPRB give a presentation to the North Pacific Fishery Management Council at their October meeting and to the US Arctic Research Commission at their September meeting. The presentations could include outcomes of past NPRB projects and publicize the mission and activities of NPRB.

Panel members also viewed the finalist entries in the 2014 NPRB photo contest and cast their votes for the top three photos in the adult and youth categories.

12. Other Matters

Fukushima Accident Update: Tom Royer indicated that there was nothing new to report on this topic but that monitoring was ongoing in some places. Bill Wilson indicated that Oregon is monitoring the waters four times per year and has so far found no evidence of contamination from this event; however California and Washington are not doing any monitoring which is perhaps a concern. Carin Ashjian noted that Woods Hole is crowdsourcing water sample collection and funding for analysis to track the oceanic distribution of radiation from this event. <http://www.ourradioactiveocean.org/index.html#adoptasite>

2015 RFP development: Panel members and staff discussed the process for developing the 2015 RFP. It was noted that the 2014 RFP was the final year in a 2-year cyclical research approach which allows increased funding for particular research priority categories in alternating years. The panel members felt that this approach worked well and should be endorsed for the 2015-2016 RFPs. Panel members also discussed whether research priorities should remain with a small amount of funding or zeroed out during their low year and concluded that categories should stay in with a low amount of funding as retrospective studies were still possible for these amounts and indicated the Boards commitment to these categories, even in low years.

The panel discussed the process of drafting the 2015 RFP and agreed to the sub-panel working groups developing RFP language over the summer. It was noted that by starting fresh with new language rather than simply updating the previous year's RFP language (as was done for the Seabird section in 2014) may bring in higher quality proposals and should be the goal. Tom Royer, with the assistance of staff, will contact panel members in June to begin forming sub-groups for each research priority and potentially facilitating group calls to develop RFP language.

Review of Nominations for vacant SP seats: Panel members reviewed the resumes of individuals nominated to fill the four Science Panel seats that are coming open as of June 1. The panel concurred with the Nominating Committee's recommendations to fill those seats and had positive comments regarding several of the other nominated individuals.

Don Bowen (marine mammal/upper trophic level expertise) announced his resignation from the Science Panel. The Science Panel therefore agreed upon a further recommendation to fill this spot.

The panel agreed that there was no suitable nomination to fill the stock assessment and modeling expertise spot on the panel and supports the Nomination Committee's recommendation to conduct an additional, targeted solicitation to attract candidates with strong modeling experience and background.

The panel also suggested that the panel should be expanded to include more than the current two social science expertise seats. It was also noted that it would be helpful to have more than one modeling expertise seat on the panel.

Staff participation in research and publications: Panel members were asked for their thoughts on the current restriction that prohibits staff from participating directly in research activities and from scientific publication. The panel members expressed shock and surprise that such a prohibition was in place and felt that this restriction was unwarranted and detrimental to staff. SP members agreed that staff members should not gain financially or compete for NPRB funds but that, in the spirit of professional development, publications and research by staff members should be supported. The panel discussed whether this type of activity should be permitted on work time, or personal time only, and it was determined that the Executive Director should have the purview to determine this on a case by case basis. Panel members also indicated that staff should also actively pursue publications in program management venues.

Meeting Schedule for 2014 and 2015: The Science Panel have tentatively set their August meeting for the week of August 18th in Homer; if the Board does not support this meeting location the panel would plan to meet in Anchorage the week of August 25th. The Spring 2015 meeting was tentatively set for the week of March 30th in Seattle.

Travel claim instructions: Staff provided instructions on travel claims for the current meeting and reminded panel members that original receipts were needed for all expenses over \$25. Travel claims and receipts should be sent to Susan.