



**North Pacific Research Board
Meeting Summary
Spring Science Panel
March 26 – March 28, 2019**

The Science Panel (SP) met March 26-28, 2019, at the Inn at the Market in downtown Seattle, WA. The meeting was attended by panel members Milo Adkison, Carin Ashjian, Courtney Carothers, Colleen Duncan, Melissa Haltuch, Brad Harris, Phil Mundy, Josep Planas, Chris Siddon (Chair), Leandra de Sousa, Suzann Speckman, Diana Stram and Tom Weingartner. David Hill, Tuula Hollmen, Matt Reimer and Polly Wheeler were absent for the entirety of the meeting. Leandra de Sousa was absent March 26th. Brad Harris was absent March 28th. Attending staff: Betsy Baker, Matt Baker, Danielle Dickson, Jo-Ann Mellish, Brendan Smith and Kayla Wagenfehr. Danielle Dickson attended opening and closing sessions on March 26th.

1. Call to Order/Approve Agenda

After welcomes and panel introductions, the chair introduced the agenda. The Executive Director and many panel members provided some reflections on the service and contributions of Lloyd Lowry, whose passing in November 2018 was marked by a celebration of his life at the 2019 AMSS. Conflict of interest declarations were signed by all panel members with disclosures and recusals noted on the electronic agenda. It was noted that this would be the last meeting for Carin Ashjian and Tuula Hollmen.

MOTION: Approve spring meeting agenda.

Action: Motion passed with no objections.

MOTION: Approve fall meeting summary.

Action: Motion passed with no objections.

2. Budget Overview

The Executive Director provided a brief update on the current status of the EIRF and projected approximate funding amounts for the next two years (\$6.5 million post-sequestration for Grant 9, years 1 and 2).

3. Graduate Student Research Awards

The GSRA Senior Program Manager provided a short review of the submission process and evaluations. The 2019 applicant pool included 18 Master's students and 29 Doctoral students. The Panel was given an hour to coordinate with review partners and finalize their recommendations. The rankings were reviewed by the Panel as a whole to develop a cutoff level for full discussion. A minimum rank of two very good reviews for Masters and one excellent for PhD students was agreed upon. This moved six Masters and nine PhD students for further discussion and evaluation of the student ability and research merit. Final recommendations were to move forward four Masters applications (1827, 1846, 1849, 1850) and seven PhD applications (1818, 1821, 1833, 1836, 1840, 1854, 1861).

After discussion of the Core program, the Panel returned to the GSRA to discuss further the role and intent of the program. To better evaluate the ability and potential of the students, the Panel requested that a new section be added to the proposal:



Personal Statement. Provide a personal education and career goal statement emphasizing your abilities, initiative and experience. How would this award support your graduate degree and advance your career? (500 words).

Revisions were made to existing language for the 2020 RFP. Changes in language are noted below in bold:

5. Background. Applications will be evaluated on their understanding of the problem being addressed, the present state of knowledge in the field, **and the need for this research.** (500 words)

13. **Letters of Recommendation** (formerly Letters of Support). A letter of **recommendation** must be provided by the primary Advisor and the additional Reference noted in the Contacts section. Letters should note the abilities, accomplishments, and motivation of the student.

After discussion, it was agreed that the detailed evaluation of each applicant will continue to stand at 50:50 for the student ability and research merit. The review criteria for panelists will also be adjusted to replace the word 'hypothesis' with 'objective' to better mirror the application structure. One panelist remarked that the student applicants were outstanding.

4. Core Program

The Core Senior Program Manager provided a review of the submissions to date and the evaluation process, noting that this was the first batch of submissions since the move to rolling submissions. A total of 21 proposals received two or more external peer reviews in adequate time to be considered by the Panel at this meeting. The Panel was given an hour to coordinate with their partners and discuss proposals with other panelists as necessary. The Panel discussion resulted in the following distribution: Tier E (2), Tier 1 (5), Tier 2 (9), Tier 3 (5).

The Panel was given assignments for the evening to consider the proposed Tier E proposals. Selected volunteers were identified to read proposal #2 by request of the assigned review team. The Panel was asked to consider what types of Focus Section topics they would like to develop. The afternoon session ended at 4pm to allow sufficient time to work on assignments.

The Panel reconvened in the morning and revisited and confirmed the Tier 2 rank for proposal #2. It was noted by the panel that rolling submissions freed up time to allow for extended discussions where warranted. The Panel also discussed the two Tier E candidates at length (20-30 min each, #10 and #17) and confirmed their intent to recommend both at that level to the Board. Approximately one hour of discussion was required to complete the proposal rankings.

The Panel was tasked with developing a bank of Focus Section topics for consideration in future RFPs. The group, as a whole, used approximately one hour to create a list of the following general topics:

- Aleutians
- Cold pool, oceanic heat waves
- Cook Inlet
- Effects of reduced survey efforts
- Hatchery versus wild



-
- Forage fish
 - Northern Bering Sea
 - Indigenous stewardship of marine ecosystems
 - East-West Pacific interactions
 - Reproductive potential
 - Myctophids and cephalopods
 - Resource access, environmental and management impact

The Panel broke into smaller groups by interest and provide some description for the topics discussed. Given the large list, some were deferred to the fall meeting. The text completed at the meeting is as follows:

Aleutian Islands: The marine ecosystems of the Aleutian Islands (AI) are among the least-studied in Alaska. These ecosystems, in which the physics are dominated by boundary currents, tides, winds, and complex topography, are characterized by substantially higher pelagic energy flow than those of the eastern Bering Sea (EBS), Gulf of Alaska (GOA), or Arctic Ocean. The physical environment results in large and convoluted gradients in habitats, biomass, and species richness and diversity. The complexity has enormous implications for the management of the AI's marine resources. To assist in understanding the AI ecosystem we suggest holding a multi-day, interdisciplinary and international workshop as part of the 20XX Wakefield Symposium. The purposes of the workshop are to identify existing data sets and their status and to develop research themes pertinent to better understand the AI ecosystem as it functions now and as it may evolve under a changing climate.

Cold pool: Recent large-scale anomalies in the Northern Bering Sea, such as the disappearance of the Bering Sea cold pool, or dramatic reductions in sea ice, may have major effects on ecosystems and commercial fisheries. There is concern that global warming will make these effects more frequent or even more permanent. We encourage proposals that analyze, synthesize, or forecast the frequency of occurrence of anomalies. This may include, effects on species distribution, ecosystems interactions, recruitment, abundance, and productivity of upper trophic level species.

Effect of reduced survey effort: Informed decision-making by fishery managers often relies upon the quality of the information used in fishery stock assessments. In turn, stock assessments commonly rely on fishery-independent surveys that are generally viewed as the most reliable sources of data to inform trends in fish stock size, year class strength, and time-varying life-history parameters. Surveys are designed to use consistent sampling approaches and collect accurate geo-referenced catch data as well as biological information for species according to needs for stock assessment and associated research. Increasingly limited budgets are making it important to consider tradeoffs between retaining original survey designs and reductions. The impacts of reduced survey effort and frequency, both within and across surveys, on stock assessments should be addressed. This includes quantifying how changes in estimates of interest to fishery managers and their associated uncertainty impact harvest specifications, including overfishing limits (OFLs). Extension of analyses to include, economic impacts, post-survey laboratory work, and data analysis is encouraged.

Interactions of wild and hatchery salmon: Large-scale salmon hatcheries in Japan, Russia and Alaska provide obvious economic benefits but have raised concerns that less-obvious effects on wild salmon and



other ecosystem components might be occurring. Competition for food at sea and in the near-shore or estuarine environments has been one public concern. Another is damage to the fitness of wild stocks arising from interbreeding. We encourage proposals that examine the types and magnitude of interactions between hatchery salmon and wild salmon, or other components of the ecosystem. While correlative studies are not precluded, we are especially interested in studies of the mechanisms underlying these interactions.

The fall Science Panel meeting will include:

- new proposal review
- 2020 RFP development
- update on the rolling submissions process
- continued Focus Section development

5. Gulf of Alaska IERP

Dr. Carol Ladd of the GOA IERP science steering committee provided a presentation highlighting the results of the GOA IERP synthesis and applications of the results to management. She illustrated how scientific advancements were achieved that extend far beyond the capacity of any single discipline and noted that GOA IERP involved multiple disciplines (e.g., oceanography, fisheries biology, atmospheric science) and Principal Investigators (PIs) who apply a variety of research approaches (e.g., field observations, laboratory experiments, modeling). She concluded her presentation by sharing some thoughts about the unique value of the IERP approach to science, including: fostering collaboration across disciplines that broadens the perspectives of all scientists involved, bringing fresh perspectives to science by facilitating collaboration among PIs who wouldn't collaborate otherwise, allowing achievement of results that transcend disciplines and provide insights into processes that influence ecosystems broadly, applying those results to resource management, and creating lasting collaborative relationships among members of the scientific research community that continue beyond the scope of any given IERP.

Among the important results that Dr. Ladd presented was the realization that in the Gulf of Alaska, regional and local-scale environmental drivers are important. A panel member asked how that information might inform the design of a hypothetical similar program in the Aleutian Islands. Dr. Ladd explained that the Bering Sea is comparatively homogeneous with respect to bathymetry, whereas the bathymetry and topography of the Gulf of Alaska is highly variable. Based on the bathymetry and what we know about ocean circulation in the Aleutian Islands, Dr. Ladd hypothesized that the Aleutian Islands would represent a much more complex system than the Gulf of Alaska, and careful thought would be required in formulating a sampling design. The Aleutian Islands would be an interesting system in which to conduct this type of work. Dr. Ladd noted that some have hypothesized that the subarctic gyre recirculation may be changing with climate change, and that could have consequences for the Aleutian Islands marine ecosystem.

6. Arctic IERP

The Arctic IERP Program Manager provided an update on the progress of the Arctic IERP and presented highlights of some exciting preliminary results that the PIs discussed during the annual PI meeting in early March. Results included, for example, analyses of significant changes in sea ice patterns and water temperatures in the northern Bering Sea and Chukchi Sea, measurements of relatively high export of primary production to the benthos as compared to other shelf seas, the importance of species-specific



respiration experiments, confirmation of hypotheses regarding environmental drivers of fish distribution, interesting results of genetic analyses of Arctic gadids, and evidence of a continued seabird die-off in 2018. panel members expressed interest in the results and asked questions throughout the presentation.

Staff described recent efforts to foster collaboration, including a half-day workshop during the Alaska Marine Science Symposium, and various instances of conversations with international scientists who conduct analogous research throughout the Arctic. NPRB is actively communicating about the intent to fund a synthesis that will apply the results of the field program in new ways and is actively seeking partners to co-fund the synthesis.

7. Research on NPRB Research

The Science Director presented results from the analyses developed with Marguerite Tibbles, an Alaska Sea Grant Fellow. These analyses were designed to document NPRB investments outcomes and impacts. The intent is to inform internal decision-making, facilitate collaboration and partnerships with parallel institutions, provide statistical data to the public, and enhance our ability to identify critical research needs. The data extracted is formatted to inform panel and board decisions on how to identify research priorities, track progress on priorities, and promote research findings. The draft report details what research priorities have been addressed and how investments have been made across a variety of categories (e.g., geographic area, discipline, institution) and uses a case study format to investigate particular research approaches (i.e., cooperative research with industry). This report addresses the Core Program. Future analyses will address other programs, including the IERP programs. Staff also solicited feedback on how to inform the development of an internal database intended to maintain records of attributes of interest and link to project support, reporting, and data management systems.

The Panel suggested revising the proposal submission system to require that PIs detail the impacts of prior research. The Panel also suggested using final reports to ask PIs to quantify the impact of monitoring programs (e.g., document how data was applied) and to document the impacts of NPRB contributions to research in remote areas. It was also noted that humans should be included as a species in any future analysis. A block of time was requested at each future meeting, to present metrics and to monitor for potential bias (real or perceived), in the proposals submitted versus those being funded. The Panel was strongly supportive of the project, with one panel member characterizing the project as being of “existential” importance to NPRB.

8. Strategic Planning

The Executive Director presented the draft Strategic Plan produced through the Board’s planning exercise with the Foraker Group at AMSS 2019. In general, the Science Panel felt this was a useful and broad approach with the right set of priorities. Specific feedback on Priority 3 indicated that the Science Panel had no hesitation in making any concerns known to the Board when they arise, and that reference in the third bullet point should be for the Advisory Panel

9. Partnerships

The Science Director presented an update on the partnerships discussions with the working group. There is currently one active partner with the Core program (Oil Spill Recovery Institute). The Board is interested in developing mechanisms to increase this number. Ideas currently being investigated by the Partnerships Working Group are individual institutional partnerships, a consortium approach, and a research set-aside program. The institutional partnership would be similar to our current arrangement with OSRI and a draft



MOU has been developed and approved to support this type of partnership. The consortium approach had been suggested by the Advisory Panel and is designed to allow multiple institutions to contribute to a joint fund directed towards certain types of research. The potential for developing a research set-aside program, similar to what is currently applied in the NMFS Atlantic region, had been proposed by the Science Panel. The details of that program were described, and it was noted that considerably more discussion would be required to further develop this idea and determine the potential to implement this in the North Pacific. There was discussion among the Panel as to the benefits of each method. Following the recommendations of the Partnerships Working Group to actively pursue the individual and consortium approaches. There was encouragement to contact potential partners to solicit their respective interest in both the individual and consortium approaches and relay that information to the Working Group. It was also suggested that it might be worth drafting an internal white paper on the potential for a research set-aside program.

10. Communications and Outreach

The Communications and Outreach section was moved to follow the Core program on Wednesday afternoon. The Program manager provided a review of the proposals funded at the fall meeting and requested feedback on some updated language for the upcoming RFP. The program will provide an opportunity to newly-awarded Core projects to apply for Outreach proposals twice a year. The panel requested to revisit the alternate exercise of communications training if they are not funded during the fall meeting. It was also suggested that language could be added to future RFPs to encourage smaller funding requests.

Panelists were asked to provide their selections for the annual photo contest.

11. Other Matters

Nominations for the Panel will be provided at the fall meeting for consideration. Areas of expertise to target are; phytoplankton, genetics, oceanography, carbon transport. The Executive Director also briefly discussed developments on legal work to clarify Board governance questions (discussed under Partnerships, above), and outside meeting support.

Carin Ashjian was presented with a plaque to recognize her service to the Panel (2011-2019).

Fall meeting dates are set for August 20-21st, 2019, in Anchorage. The spring meeting dates are currently set for the week of March 30th, 2020. The intent moving forward is to hold two-day meetings.

Adjourn Meeting 12:20pm.