

Request for Letters of Intent

Deadline: September 26, 2016



The [Pollock Conservation Cooperative Research Center \(PCCRC\)](#) at the University of Alaska Fairbanks announces an opportunity for funding of marine research in the North Pacific Ocean and Bering Sea. The PCCRC was established to improve knowledge relevant to the commercial fisheries of the Bering Sea and Aleutian Islands through research and education. Funding for the PCCRC is provided by members of the [Pollock Conservation Cooperative \(PCC\)](#), a private sector initiative by the Bering Sea pollock catcher/processor fleet to further improve conservation and utilization of marine resources.

The PCCRC funds investigators and students doing research on pollock, salmon, and other groundfish species, and the fishing of and fisheries for these species. In addition, the PCCRC funds research on habitat and ecosystems associated with these species, fishery management, marine mammals, resource utilization, marine resource economics, and policy. The PCCRC is interested in proposals from fisheries scientists, biologists, chemists, engineers, social scientists, or other disciplines that lend expertise to advancing its priorities. The PCCRC annually identifies subjects of particular interest and gives the highest consideration to proposals within those areas (see Research Priorities below). Total awards from this competition cycle are subject to availability of funds and will not exceed approximately **\$500,000**. Proposals of any size within this limit will be considered. Multi-year proposals up to three years in duration will be considered. Leveraging is acceptable but is not included in scoring.

REQUIRED CONTENT

Each LOI must include a *cover sheet*, a short *narrative* (3 pages or less), a one page *anticipated budget request*, and a one-page *resume* for each Principle Investigator (PI) or co-PI. The LOI and all ancillary documents must be formatted in 12-point Times, Times New Roman, or Arial font. Non-conforming LOIs will not be considered.

The purpose of the LOI is to identify projects that have sufficient merit and relevance to justify requesting a full proposal. Therefore, review of the LOI will emphasize the quality of the formulation of a question, the adequacy of the plan of execution, and the overall relevance to PCCRC research priorities.

Cover Sheet

The LOI cover sheet must include the name, affiliation, phone number, and e-mail address of the PI, the names and affiliations of co-PIs, the anticipated funding request, proposed project duration, and the signatures of the PI and an appropriate department level authority.

Narrative

The LOI does not need to include extensive background information, formal statistical designs, full analytical protocols or approved permits for projects involving animal or human subjects; those will be considered as part of the review of full proposals requested for successful LOIs. The narrative of the LOI should consist of three sections:

Proposed Project — Describe the project, emphasizing the research question to be asked or problem to be solved and, where appropriate, state formal hypotheses.

Design — Briefly describe how the project will address the research question or problem to be solved. Indicate sampling and analytic strategies and, where appropriate, PI expertise with the proposed methods. This section should also describe how the project will be managed and who will be responsible for each major element of the project.

Relevance — Describe the type of information that the project will produce and its relevance to focus areas described in the **PCCRC 2017 Research Priorities**.

Budget

The budget page should present a preliminary budget in table format as shown below. This table should be accompanied by a short and written justification, as appropriate, to provide additional detail useful in budget consideration such as student funding, large or unusual purchases, sub-awardees, need for travel, etc.

	Year 1	Year 2	Year 3	Total
Salaries/Wages				
Benefits				
Services				
Commodities				
Travel				
Student Aid				
Totals				

The duration and cost of projects should be based upon realistic estimates of anticipated research effort and costs. Final proposal budgets may differ slightly from preliminary budget estimates submitted in the LOI. PCCRC projects will be funded as cost reimbursable grants through the University of Alaska Foundation. PCCRC funds *cannot* be used to support facility and administration (indirect) costs. Proposals are funded annually; continuation funding for multi-year projects is conditional on satisfactory progress.

CV/Resumes

Resumes are limited to one page and should document investigator's qualifications, experience and expertise appropriate to the proposed project.

SUBMISSION

The LOI should be routed according to the policies of the principal investigator's research unit for pre-proposal documents. At a minimum, the LOI cover page must bear the signatures of the PI and a department level authority.

All LOI's will be reviewed by the PCCRC Advisory Board. Evaluation criteria will include scientific merit, relevance to PCCRC priorities, and, if applicable, prior performance on PCCRC projects. Invitations to submit full proposals will be issued by October 5, 2016. The deadline for full proposals is November 21, 2016. Funding decisions will be made in early February 2017 with funds available starting April 1, 2017.

Project concept questions:

Dr. Keith Criddle, (907) 796-5449 or kcriddle@alaska.edu

LOI technical questions:

Gabrielle Hazelton, (907) 796-5443 or gdhazelton@alaska.edu

The complete LOI, including cover, narrative, budget and resumes, must be submitted as a single PDF file no later than 5:00 PM, September 26, 2016, to Gabrielle Hazelton (gdhazelton@alaska.edu).

PCCRC 2017 RESEARCH PRIORITIES

For the 2017 funding cycle, the PCCRC has adopted the following research priorities:

General Research Themes¹

- I. Pollock Stock Dynamics**
- II. Stock Dynamics and Discard Mortality of Incidental Species**
- III. Habitat & Ecosystems**
- IV. Fishery Management**
- V. Protected Species**
- VI. Resource Utilization**

- I. Pollock Stock Dynamics** — Research dedicated to improved biological data on the pollock stock.
 - 1. The effects of water temperature, especially warming water, on the phenology of pollock roe maturation.
 - 2. The effect of temporal and spatial variations in pollock diets and condition on fatty acid profiles in pollock.
 - 3. Potential impacts of climate change and reduced sea ice coverage on pollock stock abundance and distribution.
 - 4. The relationship between pollock recruitment and the abundance, composition, and distribution of lower trophic (phytoplankton and zooplankton) species.
 - 5. The effects of variation in numbers of predators on competition with pollock for prey.
 - 6. Variation in growth rates of pollock (changes in mean body mass at age, length-weight patterns) in space and time.
 - 7. Predation impacts on pollock, especially by salmon.
 - 8. Investigations into alternative stock assessment model structure, alternative data weighting techniques, techniques for estimating latent variables (random effects), and estimation of variance in mixed error models using AD Model Builder or Template Model Builder. Proposals exploring the potential policy implications of model changes, or data weighting changes are strongly encouraged.

¹ General research themes are intended to provide guidance while allowing flexibility to craft an independent research project within the suggested themes. Numbered bullet points highlight specific research priorities of particular interest to the PCC.

Appendix A maps the research priorities by source [PCC, North Pacific Fishery Management Council (NPFMC), or North Pacific Research Board (NPRB)] for those seeking further clarification or wishing to leverage funding opportunities.

II. Stock Dynamics and Discard Mortality of Incidental Species — Research dedicated to improved biological data on species incidentally caught in North Pacific groundfish fisheries (sharks, skates, octopus, squid, sculpins, crab, halibut, salmon, etc.) to better quantify potential effects on those stocks and to improve estimates of discard mortality.

1. Compare herring genetic composition on overwintering grounds and spawning grounds to ascertain population structure.
2. Develop a more detailed understanding of seasonal spatial distribution patterns of Western Alaska and Asian origin chum salmon. E.g., plot chum salmon genetic samples using VMS haul data in a GIS or similar database to refine existing work that only identifies samples as caught either west or east of 170.
3. Develop basic life history information (e.g., natural mortality, growth, size at maturity) for data poor stocks (squids, sharks, etc.) incidentally caught in pollock fisheries.
4. Analyze historical records of Pacific halibut size at age. Relate observed growth patterns to long-term ecological drivers. Determine effects of migration on halibut population structure and management. Explore potential impacts of spawner per recruit associated with size-specific natural mortality and migration.
5. Improve resolution of the Chinook and chum salmon genetic stock identification methods.
6. Improve precision of salmon run size estimates for western Alaska stocks, and identify critical data and assumptions in the run-reconstruction models for those stocks, and explore alternative model structures that are more robust to critical assumptions.

III. Habitat & Ecosystems — Research dedicated to assisting in the evaluation of habitat and ecosystem considerations.

1. Increased information on impacts of various fishing gear on benthic habitat structure and function.
2. More detailed mapping of BSAI habitats and corresponding recovery times following fishing impacts through, for example, comparing areas open and closed to fishing.
3. Investigate the influence of habitat on the abundance, recruitment, reproduction, and natural mortality of FMP fish populations.
4. General research exploring oceanographic conditions and the physical and chemical processes driving lower trophic level (primary and secondary) productivity.

IV. Fishery Management- Research dedicated to evaluating current fisheries management strategy and potential need for regulatory flexibility to adapt to ever changing environmental conditions.

1. Re-analysis of management closure areas (specifically herring) and their present and future efficacy as ocean warming affects the spatial distribution of fish populations.
2. Amendment 1 to the BSAI FMP established a multi-year, multi-species optimum yield for the BSAI groundfish complex using average catch data from 1968-1977. Using similar methods, update estimates of multi-species optimum yield for the BSAI groundfish complex.

3. Analyze the costs and impacts to the BSAI pollock fishery of recent Council PSC and bycatch management measures, including the interaction among PSC and bycatch reduction initiatives (e.g. halibut, salmon, crab). Focus should be given to incentives that cost-effectively reduce PSC.
4. Cooperative industry research designed to mitigate bycatch and PSC through gear modification and changes in fishing practices.

V. Protected Species- Research dedicated to investigating the factors influencing the sustainability of protected species. Of primary interest to PCCRC is the Pribilof Island fur seal stock, however research on Steller sea lions, and other Endangered, Threatened or Protected species will also be considered.

1. Evaluate potential environmental and anthropogenic drivers of fur seal declines on the Pribilof Islands.
2. Assess vital rates and health of Steller sea lions, especially the western DPS, and efficacy of critical habitat closure areas.
3. Examine the efficacy of seabird deterrent measures and attractions to offal discharges.

VI. Resource Utilization- Research is desired to create additional products and/or derive greater product value from existing harvests.

1. Pollock product values may be revealed through better understanding of the nutritional composition of pollock products. A comprehensive dataset is desired for all food products generated (surimi, roe, fillets, milt) that encompasses vitamins, minerals, amino acids, and fatty acids, with allowance for seasonal changes. Comparison with nutritional composition of other protein sources is also desirable.
2. Better technology may be available for identification of non-metallic foreign materials particularly in whitefish block products. There is a need for a third party assessment of new, improved, and cost effective technologies to further reduce the incidence of process contaminants.
3. Analyze current determinants of ex-vessel, wholesale, international and retail demand for principal pollock products from the BSAI.
4. Research leading to additional pollock product development including but not limited to chondroitin, bone extracts, fish oil, fishmeal value added products, and pollock skins.

Appendix A. Source Categorization of PCCRC Adopted Research Priorities

	PCC	NPFMC Critical/Urgent	NPFMC Important/Strategic	NPRB
I. Pollock Stock Dynamics	1, 2, 3, 5, 6, 7, 8	8		4
II. Stock Dynamics and Discard Mortality of Incidental Species	2, 4, 5, 6	3	1	4
III. Habitat & Ecosystems	1, 2, 3	3		1, 4
IV. Fishery Management	2, 4	1	3	4
V. Protected Species	1, 2, 3	1, 2		1, 2, 3
VI. Resource Utilization	1, 2, 4		3	