Request for Letters of Intent

Deadline: September 20, 2019

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 the Bering Sea. The PCCRC was established to improve knowledge relevant to the commercial fisheries of the Bering Sea and the 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 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 **$350,000**. Proposals of any size within this limit will be considered. Multi-year proposals up to three years in duration will be considered. The PCCRC is interested in pursuing possible partnership opportunities with other research organizations, such as, North Pacific Research Board, NOAA Saltonstall-Kennedy, Sea Grant. The PCCRC welcomes proposals that leverage funding from multiple sources when commensurate with the scope of the proposed research plan. Proposals contingent on leveraged funding must clearly identify which unique elements of the proposed work would rely on PCCRC funding and clearly indicate that funding for those elements does not duplicate funding from other sources.

Each project team must be headed by a principle investigator who holds a faculty or staff appointment with the University of Alaska Fairbanks, University of Alaska Anchorage, or University of Alaska Southeast and who participates significantly in the project; project teams may include co-investigators from other universities, government agencies, NGOs, or industry. Proposals must be submitted through the University of Alaska.

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: (1) a project title and a short title (10 words or less); (2) name, affiliation, phone number, and e-mail address of the principal investigator; (3) names and affiliations of co-principal investigators; (3) amount of funding requested; (4) proposed project duration with requested start and end dates; (5) the PCCRC Research Priority to be addressed; and (6) signatures of the principal investigator, co-principle investigators, 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 aspects 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 — 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 2020 Research Priorities**.

Budget

The budget page should present a preliminary budget in a 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 and availability of funds.

CV/Resumes

Resumes are limited to one page and should document PI and co-PI qualifications, experience, and expertise appropriate to the proposed project.

SUBMISSION

The LOI should be routed according to the policies of the PI'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 1, 2019. The deadline for full proposals is November 15, 2019. Funding decisions will be made in early February 2020 with funds available starting April 1, 2020.

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, 20 September 2019, to Gabrielle Hazelton (gdhazelton@alaska.edu).

PCCRC 2020 RESEARCH PRIORITIES

For the 2020 funding cycle, the PCCRC has adopted the following research priorities:

General Research Themes[1]

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 and Market Development

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. The relationship between pollock recruitment and the abundance, composition, and distribution of lower trophic (phytoplankton and zooplankton) species.
4. Variation in growth rates of pollock (changes in mean body mass at age, length-weight patterns) in space and time.
5. Predation impacts on pollock, especially by salmon.
6. 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.
7. Research to identify key factors driving immigration and emigration of pollock outside of the standard eastern Bering Sea survey area.

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.

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[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. **Bolded bullet points indicate an urgent fisheries management research need.**

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.

2. Develop a more detailed understanding of seasonal spatial distribution patterns of Western Alaska and Asian origin chum salmon.
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. Determine the effects of migration on halibut population structure and management. Explore the potential impacts of spawner per recruit associated with size-specific natural mortality and migration.
5. Improve the resolution of the Chinook and chum salmon genetic stock identification methods.
6. **Evaluate current (3-River index) and alternative management strategies for determining "low abundance" in Western Alaska Chinook salmon populations.**
7. Improve understanding and appropriateness of Western Alaska Chinook and chum salmon spawning abundance (escapement) targets (S_{msy}).

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

1. Increased information on the 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. Research on ecosystem response to ocean warming, particularly relating to lipid-rich zooplankton abundance and juvenile pollock abundance and survival.
5. Develop empirical indicators that link ecosystem variability in the Bering Sea and changes to variability in growth, survival, and recruitment of pollock and Pacific cod stocks. Large-scale ecosystem changes in, e.g., sea-surface temperatures, sea ice coverage, zooplankton abundance, etc., could be indicators that growth, survival, and recruitment of fish stocks might be impacted and would be useful for linking ecosystem changes directly to management-relevant reference points such as OFL and ABC.

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

1. Investigate methods to account for stock distribution shifts in stock assessment and harvest policy. For example, analyze the best approach for incorporating both EBS and NBS bottom trawl survey data in stock assessments for pollock and Pacific cod, particularly as ocean warming affects the spatial distribution of pollock and Pacific cod populations.
2. Research to combine information from multiple surveys occurring in a single region (e.g., bottom trawl, ABL longline, and IPHC longline), specifically regarding the capacity to estimate abundance indices for years when data are missing from one or more surveys (e.g., estimating a combined abundance index in years when the bottom trawl is not conducted in GOA or AI using information from longline surveys, or an abundance index in the EBS slope when the planned slope bottom trawl survey is cut due to funding constraints using information from longline surveys).
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 PCC 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.

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

1. 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.
2. Research leading to automated processes in factory operations, e.g., an auto-feed system for Baader 212.
3. Research to identify potential uses for currently unused pollock bone and skin matter.
4. a.) Research to identify the most important indicators of oxidative stability in fishmeal and fish oil, e.g., propanal, aldehydes, anisidine, and peroxide value; b.) Investigate lab procedures/instruments appropriate to measure the most important indicators of oxidative stability of fish oil and fish meal in both at-sea and onshore fish processing facilities, e.g., NIR, Safe Tests; or c.) Investigate alternative additives that provide for the optimal anti-oxidative properties of white fishmeal and fish oil, which maximize both stability and shelf-life.

Appendix A. Source Categorization of PCCRC Research Priorities

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