

## **North Pacific Research Board Request for Proposals Research Commencing in 2005**

### **INTRODUCTION**

The North Pacific Research Board (NPRB) was created by Congress in 1997 to recommend marine research activities to the Secretary of Commerce, funded through a competitive grant program using part of the interest earned from the Environmental Improvement and Restoration Fund (EIRF). In the enabling legislation, Section 401(e) Marine Research Activities stipulates that EIRF-based funds shall be used "...to conduct research activities on or relating to the fisheries or marine ecosystems in the north Pacific Ocean, Bering Sea, and Arctic Ocean (including any lesser related bodies of water)." Further, NPRB must strive "...to avoid duplicating other research activities and shall place a priority on cooperative research efforts designed to address pressing fishery management or marine ecosystem information needs."

The North Pacific Research Board has adopted the following mission statement:

Build a clear understanding of the North Pacific, Bering Sea, and Arctic Ocean ecosystems that enables effective management and sustainable use of marine resources.

To achieve this mission, NPRB supports high quality research projects that will improve the:

- Understanding of the dynamics of the North Pacific marine ecosystem and use of the resources;
- Ability to manage and protect the healthy, sustainable fish and wildlife populations that comprise the ecologically diverse marine ecosystems of the North Pacific, and provide long-term, sustained benefits to local communities and the nation; and
- Ability to forecast and respond to effects of changes, through integration of various research activities, including long-term monitoring.

Since being organized in 2002, NPRB has funded 61 projects totaling nearly \$12 million in new research commencing in 2002-2004. In addition, NPRB has just completed drafting a comprehensive, long-range science plan with guidance from the National Academy of Sciences National Research Council (NRC). The draft plan has been sent to the NRC for final review. A copy is posted on NPRB's website at [www.nprb.org](http://www.nprb.org), as are descriptions of current funded projects, and the Board's recently approved four-year general implementation plan.

### **PURPOSE**

This notice announces a marine research opportunity for potential projects starting in May 2005 or soonest thereafter. The research priorities identified herein are specific to this year's request for proposals and will be revisited and revised as necessary in subsequent annual requests. The priorities relate directly to the Board's draft science plan and associated implementation plan. Proposals which include collection and use of local and traditional knowledge are encouraged. Approximately \$4.5 million may be made available based on earnings of the Environmental Improvement and Restoration Fund and other funds available to NPRB.

**DESCRIPTION**

This request has two major components. The first is an invitation for individuals or teams of researchers to respond to specific project needs. The second is for proposals responsive to more general research priorities. Specific and general needs, with target funding expectations, are listed in the table below. Following the table is a detailed description of both components and identified research needs.

<u>Summary of Research Components and Needs</u>		
	<u>Target Amounts</u>	<u>Draft Science Plan Sections</u>
<b>Component 1: Specific Project Needs</b>	<b>\$3.1 million</b>	
<u>Project Need 1</u> : Integrated Ecosystems Res. Program Planning		Ch. 3
1. Upper Trophic Level Tagging and Counting	\$200,000	
2. Conference on Utility of Ecosystems Indicators	\$100,000	
3. Arctic Ocean Synthesis	\$200,000	
4. Ecosystem Modeling Conference	\$100,000	
5. Bering Sea and Aleutian Island LME Planning	\$100,000	
<u>Project Need 2</u> : Plankton Monitoring Methods	\$100,000	3.2
<u>Project Need 3</u> : Fish and Invertebrates		3.4
1. Analysis of Ongoing Salmon Programs	\$100,000	
2. Methods for Spatially-specific Assessment of Pollock	\$200,000	
3. Crab Life History and Ecology	\$500,000	
4. Life History Inform. Gaps (Groundfish & Non-crab Inverts)	\$200,000	
<u>Project Need 4</u> : Marine Mammals		3.5
1. Northern Fur Seal Studies	\$500,000	
2. Ice Seal Studies	\$200,000	
<u>Project Need 5</u> : Seabirds as Ecosystem Indicators	\$200,000	3.6
<u>Project Need 6</u> : Humans		3.7
1. Bioeconomic Models for Regulatory Impact Assessments	\$200,000	
2. Subsistence Use of Marine and Coastal Resources	\$200,000	
<b>Component 2: General Research Priorities</b>	<b>\$1.45 million</b>	
a. Ocean Monitoring	\$500,000	3.1
b. Fish Habitat	\$500,000	3.3
c. Groundfish	\$150,000	3.4
d. Fisheries and Living Resource Management	\$200,000	3.7
e. Contaminants	\$100,000	3.8.2

**A. Component 1: Specific Project Needs (~\$3.1 million)**

Based on recommendations from its Science Panel and Advisory Panel, and research needs identified in its draft science plan, NPRB is inviting proposals to address the six specific project needs described below. The first research need is very broad and will help lay the foundation for future, large scale, integrated ecosystem research programs. The remaining five needs focus on ecosystem components as described in the draft science plan, including plankton, fish and invertebrates, marine mammals, seabirds, and impacts on humans.

**Project Need 1: Planning for Integrated Ecosystems Research Programs (\$700,000)**

**1. Propose methods for remotely sensing movement of upper trophic level organisms and their population abundance in the context of a long-term monitoring program of ecosystem structure and functioning (\$200,000)**

The proposal would explain how the proposed methods are the best available for remote sensing of the movements and estimating survivals or population sizes of upper trophic level animals (e.g., fish, shellfish, birds, marine mammals), preferably using the same technique for a variety of animals. Emphasis would be on proof of concept for a new technique and/or a novel application of existing remote sensing technologies. The approach would include an advisory group of regional experts to address the challenge of monitoring populations of upper trophic level animals. This could be a project lasting up to three years, with total funding of about \$200,000. It may be supported by the Board for field testing and evaluation in subsequent years dependent on the findings and performance of the principal investigators.

**2. Evaluate utility of ecosystem indicators in explaining processes underlying marine production (\$100,000)**

Processes related to physical (e.g., atmospheric forcing, ocean temperature, salinity, sea level, freshwater discharges, transport of planktonic life history stages, sea ice extent and duration, turbulence and cold pool extent), chemical (e.g., nutrient/micronutrient availability to phytoplankton), and biological (e.g., predation, timing of plankton/zooplankton production commercial catch composition, biomass/abundance trends) phenomena provide indicators of ecosystem status. The project would report on the current understanding of ecosystem indicators in the Bering Sea and Aleutian Islands, evaluate pros and cons of existing indicators, and identify next steps toward developing and/or validating indicators and evaluating their performance (e.g., using hind-casts of indicators and various marine populations). In addition, the report will describe how indicators can best be used as a tool for resource managers. The approach would include a workshop of regional experts to address the challenge of developing indicators and interpreting their utility. This is expected to be a one-year proposal in the vicinity of \$100,000.

**3. Arctic Ocean synthesis: Bring Arctic Ocean scientific background up to the status of other Alaskan large marine ecosystems by completing a synthesis of biological and oceanographic information, including Russian research (\$200,000)**

The proposal would integrate and synthesize the present state of knowledge of biology and oceanography of the Chukchi and Beaufort Seas. The approach would include a workshop of regional experts, including Russian and Canadian scientists, some of whom would give presentations (to be compiled into a book or special issue of a journal), followed by breakout groups to consider such topics as (1) most crucial information gaps (or those topics that might be potentially most fruitful research endeavors), (2) 'pulse points' in the biological/physical environment that require monitoring, and (3) how climate change might impact biota through its influence on: sea ice extent/characteristics, shelf currents and transport through Bering Strait, coastal currents along Alaska's north coast and their relation to various biological processes (e.g., timing of reproduction) and life histories. This is a one-year proposal in the vicinity of \$200,000.

#### **4. Ecosystem modeling conference (\$100,000)**

This proposal would fund a conference to assess the status of ecosystem models in NPRB waters and to identify issues and concerns regarding the next steps necessary to improve the accuracy and utility of these models. The ultimate goal is to produce products of direct use to resource managers. It would include a workshop to discuss ecosystem models for the Gulf of Alaska, Bering Sea and Aleutian Island, and Arctic Ocean regions. Ecosystem models include mass-balance models, coupled individual-based/physical circulation models, tropho-dynamic models, and others. A published, peer-reviewed report of the proceedings is required. This is a one-year proposal in the vicinity of \$100,000.

#### **5. Bering Sea and Aleutian Islands large marine ecosystem planning (\$100,000)**

This proposal would support a workshop to develop an implementation plan for an Integrated Ecosystem Research Program (IERP) for the Bering Sea and Aleutian Islands Large Marine Ecosystem (BSAI LME). Emphasis is placed on the BSAI LME because of the opportunity to partner research with the NOAA's North Pacific Climate Regimes and Ecosystem Prediction (NPCREP) program, the Arctic-Yukon-Kuskokwim Sustainable Salmon Initiative (AYK SSI), Bering-Aleutian Salmon International Survey (BASIS), and NOAA's Arctic Program. In addition to these programs, the National Science Foundation's Bering Sea Ecosystem Study (BEST) has initial startup funds with potential for funding a large scale research program in the Bering Sea in the near future. The NPRB wants to capitalize on existing planning efforts by holding a meeting of interdisciplinary researchers including members of the steering committees of BASIS, BEST, NPCREP, AYK SSI and the Arctic Program. A joint planning workshop will ensure coordination of research between programs and would identify opportunities for collaboration between institutions. Products from this workshop will include a detailed implementation plan for one or more IERPs focused on the BSAI. The implementation plan should contain detailed hypotheses/questions, program objectives, field sampling as well as modeling approaches and products, and how these will address the goals and objectives of the NPRB. The NPRB will provide \$100,000 to support this workshop.

#### **Project Need 2: Evaluate Plankton Monitoring Methods (\$100,000)**

The proposal will provide for a synthesis report on the present state of knowledge of techniques for monitoring phytoplankton and zooplankton abundance and species composition. Emphasis should be on the comparison of traditional methods versus new technologies and include the continuous plankton recorder, *in situ* and towed optical plankton counters, and airborne and satellite remote sensing among other monitoring methods. The approach will include a workshop of regional, national and international experts to address the challenges of monitoring abundance of lower trophic level organisms in arctic and subarctic waters. This is a one-year proposal with a support level of about \$100,000.

#### **Project Need 3: Fish and Invertebrates (\$1,000,000)**

##### **1. Analysis of ongoing salmon programs (\$100,000)**

Significant funds are spent on salmon research in the State of Alaska each year by many entities including NMFS, USGS, USFWS, ADFG, PWSSC, NPAFC, PSC, and various science programs such as NSF, AYKSSI, EVOS GEM, AKFIN, BASIS, and Native commissions and organizations. These sources of funding need to be mapped to determine amount, duration, programs already supported, program overlap, and research gaps. The analysis will require contact with responsible agencies and entities, development of consistent formats for describing projects, and workshops of principal program managers. A report will be presented to the North Pacific Research Board which will help it determine how current funds are being utilized, where gaps exist, and where funding support is needed in future salmon research. This is a one-year project in the vicinity of \$100,000.

## **2. Methods for spatially-explicit assessment of pollock (\$200,000)**

The proposal would support development of methods to assess and monitor seasonal movements of fish and to conduct spatially-explicit stock assessments that account for seasonal movements of fish. Marine fish exhibit large seasonal movements that influence overlap of predator and prey, as well as seasonal availability of fish to commercial fisheries. Current assessment models address spatial partitions of fish primarily using summer survey data. Understanding the seasonal movements of pollock in the Bering Sea shelf is particularly important because of the dominant ecological role this species plays as both predator and prey. Proposals should address one or more of the following issues: (1) feasibility of field collection techniques to improve monitoring of seasonal movement patterns of pollock, (2) development of spatially-explicit stock assessments for BSAI pollock, and, (3) a re-evaluation of the role of seasonal movements of pollock on the estimates of total consumption of fish and zooplankton by pollock and the availability of pollock to top trophic level consumers. This is a one-two year project in the vicinity of \$200,000.

## **3. Life history, ecology and fluctuations in crab stocks (\$500,000)**

Proposals would be responsive to the following research needs for crab stocks. Financial and in-kind (partnerships, e.g., ship time) cooperation from the crab industry is strongly encouraged. A total of \$500,000 is anticipated for this directed research need.

- a. Snow Crab. Proposals would examine unknown aspects of early life history and ecology that could help explain the population collapse of snow crabs. Work in Atlantic Canada suggests that juvenile crabs must be studied to determine (1) the location and characteristics (interplay of sediment types and critical temperature range) of nursery areas on the northeast Bering Sea shelf; (2) intensity of cannibalism of newly settled juveniles by older crab cohorts already occupying the nursery habitats, and (3) predation by cod and other fishes on young crab in nursery areas. This research requires ship time which is expensive in the Bering Sea.
- b. BSAI King and Tanner Crab. Proposals are invited that would encompass similar early life history and ecology studies related to sediment types and critical temperature range for king and Tanner crabs around Pribilof Islands. Those stocks have been in a protracted state of decline.
- c. Kodiak King Crab. Proposals would include retrospective analysis, which could include local and traditional knowledge, of the conditions surrounding the rise and collapse of king crab and failure to rebuild; and fund a study to evaluate methods of king crab rebuilding.
- d. Eastern Gulf of Alaska Dungeness Crab. Proposals are invited that would examine early life history and ecology studies of Dungeness crab in the eastern Gulf of Alaska.

## **4. Life history information gaps for targeted and non-targeted groundfish and invertebrates (except for crab) (\$200,000)**

Proposals would help to address gaps in basic life history information for targeted and non-targeted groundfish species and invertebrates, except for crab which are covered elsewhere in this RFP. They would develop information that would help explain population fluctuations, location and characteristics of nursery areas, predation and resource competition, and population dynamics. This is expected to be a 1-2 year proposal in the vicinity of \$200,000.

## **Project Need 4: Marine Mammals (\$700,000)**

### **1. Northern fur seal studies (\$500,000)**

The abundance of northern fur seals (*Callorhinus ursinus*) in the Pribilof Islands has declined in recent decades at an alarming rate. Over the past six years, pup production has been declining at about 6% per year on average, with a more than 20% drop in pups born at St. Paul Island in 2004 in comparison with 2000 levels. The total number of pups born in the Pribilof Islands in 2004 was estimated to be less than one third

the numbers born during the 1950s prior to the beginning of the current population decline. It is unclear why fur seal numbers have declined and why they continue to, but suggested possibilities include climate change, food limitation, interactions with commercial fisheries, and predation. An intriguing aspect of these changing population levels is that while fur seal numbers on the Pribilof Islands have been falling, a relatively small population at Bogoslof Island in the eastern Aleutians has been increasing in recent years. Research priorities for northern fur seal research include habitat use, diet and nutrition, seasonal movements, attendance patterns, estimation of vital rates, interactions with commercial fisheries, predation, and LTK, that may shed light on the relative contributions of poor growth, reproductive failure, and increased mortality on the decline. This is a 1-3 year study or combination of studies in the vicinity of \$500,000.

## **2. Ice seal studies (\$200,000)**

Four species of ice-associated seals inhabit the Bering, Chukchi, and Beaufort Seas: ringed (*Phoca hispida*), bearded (*Erignathus barbatus*), ribbon (*Phoca fasciata*), and spotted seals (*Phoca largha*). Though these seals provide important subsistence resources for Native peoples of northern and western Alaska, and are key ecological components of arctic marine ecosystems, relatively little is known about their population structure, trends in abundance, life history traits, or age structure. The distributions and densities of ice seals are highly sensitive to suitable sea ice conditions, and as such, may be particularly vulnerable to climatic change. Changes in sea ice extent have been non-uniform; therefore, the effects on seals are likely to occur on regional scales. Research priorities for ice seals include evaluating the potential responses to climate change such as redistribution of populations, altered stock structure, and shifts in carrying capacity. This might include an evaluation of local changes in ice seal abundance and distribution with regional environmental data such as sea ice. Proposals may also address the unknown extent to which these seals interact with commercial fisheries, as well as establishing baseline information on abundance, population structure, and life history traits. This is a 1-2 year study in the vicinity of \$200,000.

## **Project Need 5: Seabirds as ecosystem indicators (\$200,000)**

The proposal would produce a synthesis of the present state of knowledge of seabirds as indicators of marine ecosystem status and change in the north Pacific. This would include: (1) an evaluation of which species might be the most informative indicators, based on their foraging ecology, seasonal and colony distribution, life history, and existing information on population trends (a potential challenge is distinguishing changes in local prey availability that affect specific bird colony success, from changes in regional prey abundance that have broader, ecosystem-wide implications), and (2) the identification of appropriate response variables and survey designs (including statistical power analysis of the ability to detect change). This research is meant to complement, but is not the same as research directed at methods to estimate seabird productivity and the use of counts to estimate population abundance. The approach also would include a symposium of regional, national and international experts in marine ecology, biological oceanography, and ecosystem modeling, as well as seabird ecologists, resulting in a published (preferably peer reviewed) synthesis of work to date and a gap analysis of knowledge deficiencies especially in regard to foraging guilds, geographic areas, and seasons. In addition to the synthesis, a primary product would be a long-term plan for a cost-effective monitoring program that directly addresses seabirds as indicators of marine ecosystem status and change. Expected completion will be within two years of award for up to \$200,000.

**Project Need 6: Humans (\$400,000)**

**1. Bioeconomic models for regulatory impact assessments (\$200,000)**

Under federal law, biological, economic and social impacts of proposed fishery management regulations must be evaluated before final rules are published. These analyses would benefit from models that couple social, economic and biological processes. Activities envisioned include examination and evaluation of existing models, evaluation of available data, and model application to North Pacific fisheries management issues. Gulf of Alaska rationalization, harvest policy change, and spatial restriction of fishing activities, provide examples of recent management actions that require examination for their actual post-implementation impacts. It is important that the models improve the ability to provide information on the impacts of management decisions on fish stocks, fisherman, processors, consumers and communities. This would be a 1-2 year project for about \$200,000.

**2. Subsistence use of marine and coastal resources (\$200,000)**

A comprehensive baseline assessment of current types, levels, and trends in subsistence use is needed to understand long-term environmental and management impacts on communities using marine and coastal resources. Marine and coastal resources include fish, crabs, other shellfish, seaweeds, seabirds, and marine mammals. Research would: (1) synthesize available data from local, state and federal sources; (2) identify gaps in collection of subsistence use and harvest data; (3) design and implement field sampling or other appropriate data collection to obtain reliable estimates for missing elements; and (4) report results and methods in a way that allows periodic updates. Proposals should highlight the significance of findings for individuals and communities relative to sustainable use of marine and coastal resources. This would be a 1-2 year project for up to \$200,000.

**B. Component 2: General Research Priorities (~\$1.45 million)**

The North Pacific Ocean and waters off Alaska are among the most productive marine regions in the world and support abundant populations of fish, seabirds, and marine mammals. Components of the marine ecosystem and their environment vary over time. Improving the understanding of their dynamics will enhance the ability of resource managers to protect the healthy, sustainable fish and wildlife populations that comprise these ecologically diverse marine ecosystems. NPRB is seeking research proposals that fall within its legislated criteria and address one or more of the research priorities identified below, with no priority implied among the categories. In the priorities below, the term “fish” includes mollusks and shellfish as well as finfish.

**a. Ocean Monitoring (\$500,000)**

The greatest payoffs from NPRB funding are likely to come from monitoring efforts that focus on biological and physical aspects of the NPRB conceptual foundation model (DRAFT NPRB Science Plan, Chapter 2.2). In its interim report to the NPRB, the National Research Council identified monitoring as a key element in three of its findings/recommendations. The lack of sustained funding for monitoring is presently a limitation: without a coherent monitoring program, an ecosystem-based approach to fishery management cannot be effective. Proposals are requested to design and implement collection of marine observations to monitor changes in ocean characteristics and marine life within one or all of the three Alaska large marine ecosystems. Priority will be given to monitoring those parameters deemed critical to the determination of ecosystem status. It is expected that these proposals will augment and enhance existing long-term monitoring efforts (e.g., the biophysical moorings M2 and M4 in the southeast Bering Sea, and Seward Line hydrography). When appropriate, application of new technologies and methodologies will be considered. Ultimately, these observations will be integrated into the Alaska Ocean Observing System (AOOS). NPRB will consider supporting meritorious projects for up to five years at an annual rate of up to \$500,000 the first year, and \$600,000-700,000 per year thereafter, combined for all such monitoring programs.

**b. Fish Habitat (\$500,000)**

The NPRB seeks proposals for fish habitat research for three main issue areas:

1. The effects of commercial fishing on essential habitats of groundfish. The Magnuson-Stevens Fishery Conservation and Management Act challenges managers to assess and mitigate impacts of fishing on fish habitat. New research is needed to improve the knowledge base used to assess habitat impacts. This element focuses research on five key issues:

- a. Trends over time in spatial distribution and fishing intensity in various habitats.
- b. Fishing impacts on these fish habitats and recovery times associated with the impacts.
- c. Determine appropriate spatial and temporal scales to be able to assess the impacts of fishing on habitat.
- d. Magnitude of impacts relative to their potential to influence the sustainability of fish populations.
- e. Evaluation of fish/habitat associations at multiple spatial scales with emphasis on managed fish species throughout their bathymetric range.

2. To determine ecosystem function of different habitat types.

3. Habitat mapping and substrate classification, including documentation of the presence of corals or other sensitive substrates, studies of factors affecting habitat including physical forcing, variations in energy flux, and overwintering conditions.

**c. Groundfish (\$150,000)**

Proposals are invited to address any of the general research needs identified for groundfish under the following main headings in Table 3-4 of Section 3.4 of the draft science plan available at [www.nprb.org](http://www.nprb.org):

1. Stock assessment research and development
2. Alternative harvest strategies
3. Socio-economic considerations
4. Reducing catch of unwanted species
5. Causes of perturbations of major species
6. Implications of ecosystem change on fishery management

**d. Fisheries and Living Resource Management (\$200,000)**

Recent competing proposals at a national level for changes in fisheries and living resource management (e.g. the U.S. Commission on Ocean Policy) have created a demand for systematic assessments and policy studies.

Proposals are invited that respond to the following topical areas of research:

1. Connecting fisheries and living marine resource management and science
2. Systems of fisheries management and stewardship of living marine resources
3. Elimination of conflicts in statutes, regulations, and rulings
4. Strengthening of international agreements
5. Impact of public participation in management
6. History of fisheries
7. Fisheries regulatory enforcement and compliance
8. Analysis of safety measures in fishing

**e. Contaminants (\$100,000)**

Studies of sources, transport, effects, and accumulation of contaminants in subsistence, recreational, and commercial species, and other ecosystem components, including salmon throughout their life cycles.

### C. Research Program Structure

Total Funding and Duration. Approximately \$4.5 million may be made available for projects commencing in 2005. Unless otherwise noted above, award periods for proposals to Component 2 – General Research Priorities may range up to two years. Applicants must demonstrate they can achieve an outcome and product within the requested award period, including data analysis, submission of draft final reports, and, after peer review if so requested by NPRB, the final report of research results. The exact award period will depend upon the requested duration of funding, the decision of the NPRB on funding amount, the results of post-selection negotiations between the applicant and NPRB officials, and review by NPRB and Department of Commerce officials.

Eligibility Criteria. All Federal, State, private or foreign organizations or individuals are eligible.

Community Involvement. Researchers should recognize that local community knowledge of, and interest in, natural resources extend beyond physical boundaries of the communities themselves to harvest areas and beyond. Furthermore, researchers should advise communities and people involved or affected by the studies of the purpose, goals, and time-frame of the research and its potential positive and negative implications. Inclusion of local and traditional knowledge and wisdom is encouraged. Proposals for research on specific Alaska Native communities or health issues must have a letter of support from appropriate community and tribal governing bodies.

Outreach and Education. The principal investigator(s) shall cooperate with the NPRB and its education and outreach contractor in developing materials for interpretation of the project and research results to the public, and also must include a minimum of \$2,000 for such activities in each proposal budget. Applicants also should include in their travel budget, the costs for at least one representative of the project to attend the annual January science symposium in Anchorage for each year during the contracted period of the project, plus the annual symposium in the January following the end of the contract period to present their results.

Confidentiality of Proposals. If a proposal is submitted, but not funded, only the following information will be released to the public: Proposal title, names of principal investigators, funding amount requested, duration, and the proposal summary page which is generally limited to 250 words or less. If a proposal is approved for funding by NPRB and the Secretary of Commerce, then the full proposal will be released to the public (except for suggested peer reviewers and proprietary salary information).

Statement of Non-discrimination. NPRB conducts all programs and activities free from discrimination based on race, color, national origin, age, sex, religion, marital status, pregnancy, parenthood, or disability, in accordance with federal law.

## D. Proposal Review Process

Initial Screening of Applications. Upon receipt, the NPRB staff will screen applications for conformance with requirements set forth in this notice. This review will consider not only whether the proposal meets the format and structure requirements in this RFP, but also whether it is responsive to NPRB enabling legislation and criteria and adequately addresses one or more of the research priorities and program needs listed in this notice. Those that do not comply may be rejected without further processing.

Consultation with Interested Parties. NPRB may consult with NOAA and other Federal and State agencies, the North Pacific Fishery Management Council, and other entities, as appropriate, who may be affected by or have knowledge of a specific proposal or its subject matter.

Independent Technical Evaluations. All proposals will undergo independent, anonymous, technical peer review, conducted by regional and national experts. They will be asked to provide comments and qualitative assessments of the following technical aspects for each proposal, and an overall summation (percentages indicate the weight that the subsequent review by the NPRB Science Panel will give to the criteria):

- a. Project Responsiveness to NPRB Research Priorities (5%): Does the project clearly respond to the legislated criteria and research priorities? Applicants must identify the research need and subcategory if applicable for proposals responsive to Component 1 – Specific Project Needs. Applicants must identify one primary and may identify one secondary research priority if applying under Component 2 – General Research Priorities.
- b. Soundness of Project Design/Conceptual Approach (60%): Applications will be evaluated on the applicant's comprehension of the problem(s); the overall concept proposed for resolution; whether the applicant provided sufficient information to evaluate the project technically; and, if so, the strengths and/or weaknesses of the technical design relative to securing productive results. Particular attention will be given to the inclusion of a clear statement of hypothesis to be tested or objectives to be addressed, the presence of a detailed experimental design, and a list of data sources or requirements. The Science Panel will give the following approximate weights to components within this criterion: 10% for Background and Need; 10% for statement of problem or question, 20% for study design, and 20% for analysis.
- c. Project Management (25%): The organization and management of the project, and the project's principal investigator(s) and other personnel in terms of related experience and qualifications will be evaluated. Applicants must demonstrate how they will coordinate and collaborate with other projects, and leverage their proposals with support from other sources. Applicants must seek to avoid duplication of other research efforts. How the applicant plans to disseminate the research results also will be considered.
- d. Project Costs (10%): The justification and allocation of the budget in terms of the work to be performed will be evaluated. Unreasonably high or low project costs will be taken into account.

Science Panel Review. All proposals and their accompanying technical evaluations will be submitted to the NPRB Science Panel for review and scoring based on the above criteria and weightings.

Board Review. The North Pacific Research Board will review responsive proposals, consider technical evaluations, Science Panel recommendations, and other factors as appropriate, and decide which proposals to fund. Public comment will not be taken from current applicants for research funds when the Board makes final funding decisions next spring.

**Secretary of Commerce Review.** By law, all recommendations of the Board are subject to final approval by the Secretary of Commerce, who must ensure that there is no duplication with other projects funded by NOAA or other Federal organizations, and that the projects selected for funding are those that best meet the objectives of this solicitation. The review will include a determination of compliance with federal regulations, including the National Environmental Policy Act, and may result in additional requirements as a condition for funding (see General Condition 3 below).

#### **E. Tentative Schedule**

The tentative schedule is as follows (except for the proposal deadline, the schedule is subject to change. The alternate schedule may be used depending on number of proposals received):

	<u>Anticipated</u>	<u>Alternate</u>
Release of RFP	October 8, 2004	Same
Deadline for Proposals	December 10, 2004	Same
Technical Evaluations	Dec 2004 – Feb 2005	Dec 2004 – Mar 2005
Science Panel Review	Early March 2005	Mid to late March 2005
NPRB Selection	March 15-17, 2005	April 12-14, 2005
Submission to NMFS	April 2005	May 2005
Final Notification of PIs	April 2005	May 2005
Grant Arrangements to PIs	April–May 2005	May 2005
Possible Commence Research	May 1, 2005	June 1, 2005

The exact amounts of funds awarded to a project will be determined in pre-award negotiations among the applicant and NPRB. Projects should not be initiated in expectation of Federal funding until a Notice of Award document is received. Applicants should not request a project start date before **May 1, 2005**, though **June 1** may be more realistic if the alternate schedule must be used because of a high volume of proposals.

#### **F. Proposal Submission Deadline and Address**

**A signed paper original and a disk (3 ½ -inch floppy or DVD/CD) of the complete proposal package must be delivered to the Anchorage office of NPRB by 5 p.m., Alaska time, Friday, December 10, 2004, at the following address:**

**North Pacific Research Board  
1007 West 3rd Avenue, Suite 100  
Anchorage, AK 99501**

**An electronic WORD document of the Research Plan must be emailed to [mistyott@nprb.org](mailto:mistyott@nprb.org) by the above deadline. In the interest of fairness, no proposals received after the deadline will be considered for funding in this RFP cycle. Please note that courier and express deliveries to Anchorage, Alaska, normally require a minimum of two days for delivery.**

## PROPOSAL PACKAGE

### A. General Instructions

All applicants should refer to [www.nprb.org](http://www.nprb.org) for a copy of proposal application materials. Please contact the NPRB office by phone at (907) 644-6700, or by email to Misty Ott ([mistyott@nprb.org](mailto:mistyott@nprb.org)) if you need further information or clarifications.

Proposals should be paper-clipped (not stapled) in the upper left-hand corner, but otherwise unbound, and have 1-inch margins at the top, bottom and sides. The font and size must be Times New Roman 11 point. Except for the electronic WORD document of the Research Plan, only one signed original and one disk of the full proposal package are required. (Additional paper or electronic copies of the full proposal package should not be submitted, as they will just be discarded.) The signed original must be printed on one side of each sheet only. No page in the proposal and supporting material may be physically larger than 8.5x11 inches and no accordion or fold-out sheets are allowed. Any page that is larger than 8.5x11 inches and cannot be run through a standard letter size copier will be discarded. Color graphics are allowed, but may be reproduced in black and white and should be sufficiently descriptive.

Standard indirect cost statements, cover sheets, and transmittal letters may be included, but should not be integrated into the proposal materials. These materials will be held on file and not sent with proposals to technical review. Do not attach letters of endorsement or agreements to cooperate from other agencies and entities; a binding signature page is used to warrant that all participating entities have been notified that they are included in this proposal and have agreed to participate in the proposed research.

### B. Sections of the Proposal Package

The proposal package must include the following sections, described in more detail below. Only sections 1-4 will be sent out for technical reviews.

1. [Proposal Summary Page](#) (WORD) or [\(PDF\)](#) (1 page)
2. Research Plan (max 12 pages) (Also submit as WORD document by email)
3. Resumes (max 2 pages per person)
4. [Budget Information](#) (Excel) or [\(PDF\)](#)
5. Possible Peer Reviewers Form
6. [Current and Pending Support Form](#) (WORD) or [\(PDF\)](#)
7. [Binding signature page](#) (WORD) or [\(PDF\)](#)
8. Letters of support from Alaska Native community and tribal governing bodies (if required)
9. [Data Management and Quality Assurance/Quality Control \("QA/QC"\) Statement](#) (WORD) or [\(PDF\)](#) (will be required if proposal is funded)

#### 1. [Proposal Summary Page](#) (1 page max)

The proposal summary page includes a title, project period, names of applicant and principal investigators, legislative criteria and research priorities addressed by proposed research, a summary of work (250 words or less), requested and matching funding by year for all entities (separate and combined; see below), and the signature of an official authorized to legally bind each submitting organization. This page is not confidential and will be made available to the public. If multiple copies of the summary page are received at NPRB because the proposal includes principal investigators from more than one entity, only one summary page will be chosen by staff to accompany the proposal for technical review and posting on the web. Do not add your social security number.

Proposals submitted in response to **Component 1 – Specific Project Needs** must identify which need (and subcategory if applicable) is being addressed. Proposals submitted in response to **Component 2 – General Research Priorities** must identify one primary priority and may identify one secondary priority addressed by the proposed research. This is a critical decision for the applicant because the Board may wish to balance research among categories and the applicant must choose a category in which to group the proposal.

The completed proposal summary page must list the full address and contact information for each agency or entity that will be legally bound to perform the research if funded. The applicant also must provide the names of each principal investigator that will be associated with the project and their agency/organization affiliation and email address. (Full contact information for all PIs must be available in their resumes in Section 3). The proposal summary page is not a numbered page in the proposal package.

**Please note that the proposal summary page must show the total funding requested by all agencies or entities under the proposal.** In processing the 2004 RFP, we had instances where some proposal summary pages did not indicate the full amount of funding requested by all entities, but only the amount requested by the entity signing the summary page. This resulted in several inadvertent understatements of total funding needs for a project. So, for this RFP, in the interest of saving time in completing and submitting the proposal package by multiple entities, separately signed copies of the same summary page still may be submitted by cooperating entities, and we fully recognize that authorizing officials can only bind their organization to the funding amount identified for their organization. But the total amount requested by all entities must be shown on the proposal summary page (see example below). If this poses a problem for your organization, please contact our office.

<p><b>Example Proposal Summary Page</b> (Except for signature, content the same for all copies)</p>
Total NPRB Funding Requested: \$250,000 (\$100,000 UAF, \$75,000 LSU, \$75,000 AFSC)
Total Matching Funds Used, if any: \$100,000 (\$40,000 UAF, \$60,000 AFSC)
Legally Binding Authorizing Signature and Affiliation: <i>John Doe</i> , UAF (or) <i>Jane Smith</i> , LSU (or) <i>Steve Anderson</i> , AFSC [on separate copies if necessary]

2. **Research Plan** (12-page maximum; continuous line numbers; submit by email as WORD document)

The main body of the proposal must be a research plan, limited to 12 consecutively numbered pages formatted as required in section A above. The page limit is inclusive of figures, tables, and literature citations. The research plan (and only the research plan) must have continuous line numbers from beginning to end to facilitate review.<sup>1</sup>

- A. **Project Title.** Include the long title, and provide a suggested short title of up to five words.
- B. **Proposal Summary:** Briefly explain the project goal and value, and why NPRB funds should be used, in language understandable by individuals not familiar with the specific subject area, such as Congress and the public. The 250-word summary from the Proposal Summary Page would suffice.

<sup>1</sup> In Microsoft Word, on the **File** menu, click **Page Setup**, and then click **Layout** tab. In **Preview**, apply to **Whole Document**. Click **Line Numbers**, and then select the **Add Line Numbering** check box. In the **From text** box, must be **Auto**. In **Numbering**, click **Continuous**.

- C. Project Responsiveness to NPRB Research Priorities or identified project needs. State what the project will accomplish and why it is important. Identify the specific project need (and subcategory if appropriate) to which it responds (Component 1), or the specific legislated criteria and NPRB research priorities being addressed (Component 2). Applicants must identify one primary and may identify one secondary research priority addressed by their proposed research, but may discuss how the proposal addresses other research priorities.
- D. Soundness of Project Design and Conceptual Approach. Demonstrate an understanding of the problem being addressed, the present state of knowledge in the field, the project relation to previous work and work in progress by the principal investigator(s), and the measurable benefits which will result from the proposed research. If this builds on a project previously funded by NPRB, describe your progress to date and the objective of the next funding period. Describe the conceptual or statistical model underlying your experimental work. Present a clear hypothesis and describe the experimental design and the analytical approach, including assumptions required, sample size, other relevant information needed to determine the utility and technical feasibility of accomplishing your research, and the expected outcome.
- E. Project Management. Describe the organization and management of the project and the experience and qualifications of the principal investigator(s). Demonstrate how they will coordinate and collaborate with other projects, and leverage their proposals with support from other sources. Applicants must seek to avoid duplication of other research efforts. Describe the schedule you will follow and include measurable milestones that can be used to track and evaluate your project performance through the entire award period. Describe the product or result that may be used to measure your success (e.g., report, published paper, etc.) and how you plan to disseminate the research results. (If there is more than one principal investigator involved, the applicant must clearly identify which one will be responsible for the overall work and whether there is only one binding contract envisioned, or separate ones for each principal investigator. Principal investigators are those that accept responsibility to ensure that the grant is properly administered and completed. Collaborators obligate themselves to work with a project and complete specific tasks, but are not responsible overall for successful completion of the project.)
- F. Project Costs. Generally describe and justify the budget and any matching requirements. Indicate if additional funds are needed for ship time or whether it is already incorporated in the budget or matching funds. In addition, if you are employed by a government agency that has a legislative mandate for the type of work you propose, explain whether the agency has supported this type of research in the past five years and why the proposed costs are not now being covered by your agency's budget. Additional budget detail and spreadsheets are included in Section 4.

**(Note: Line numbers are not required beyond this part of the proposal package.)**

3. Resumes (limited to 2 pages per principal investigator)

The resumes of all principal investigators and other senior personnel involved in the proposal must be provided. Each resume is limited to two consecutively numbered pages and must include the following information:

1. A list of professional and academic credentials, mailing address, and other contact information including work phone and email address.
2. A list of up to five of your most recent publications most closely related to the proposed project and up to five other significant publications as appropriate. Please highlight publications that are based on research supported by NPRB funds and identify the NPRB project number (e.g., #R0201).
3. A list of all persons (including organizational affiliations) in alphabetical order with whom you have collaborated on a project or publication within the last four years. If none, this should be indicated.

4. Budget Information

Attach the standard Budget Summary Form. It includes the following mandatory budget categories: salaries, fringe benefits; travel, equipment, supplies, contracts/consultants, and other expenditures, and indirect (facilities & administration) and matching/in kind cost sharing with other programs. You must include a separate spreadsheet for each year of requested funding, and a summary spreadsheet for all years. A budget narrative and associated spreadsheets are required. You must include costs of preparing all required reports and publication of results in an appropriate scientific journal, and \$2,000 for education and outreach. New for this year: Applicants must include in their travel budget, the costs for at least one representative of the project to come to the annual January science symposium in Anchorage for each year during the contracted period of the project, plus the annual symposium in the January following the end of the contract period to present their results. Additional budget detail should be provided as appropriate for each of the major budget categories.

Matching requirements. Applications must reflect the total budget necessary to accomplish the project, including contributions and/or donations. Cost-sharing is not required for this program. If an applicant chooses to cost-share and if that application is selected for funding, the applicant will be bound by the percentage of the cost share reflected in the grant award. Please be advised that although EIRF-based funds are not appropriated, the U.S. Department of Commerce has made a finding that EIRF funds should be considered to be federal funding since an authorization act creates the “fund” in the U.S. Treasury.

Indirect Costs. The budget form may include an amount for indirect costs if the applicant has an established indirect cost rate with the Federal government. The total dollar amount of the indirect costs proposed in an application under this program must not exceed the indirect cost rate negotiated and approved by a cognizant Federal agency prior to the proposed effective date of the award, or 100 percent of the total proposed direct cost dollar amount in the application, whichever is less. If applicable, a copy of the current, approved, negotiated indirect cost agreement with the Federal government must be included. It will be retained in the office and not distributed to reviewers.

5. Possible Peer Reviewers

On a single and separate page, provide the names and contact information (including current phone numbers and email addresses) for three persons qualified to review your proposal. Please be aware of the NPRB policy on conflicts of interest as it relates to technical reviewers. Also, if appropriate, indicate who you would suggest should not be allowed to review your proposal.

6. Current and Pending Support Form

Any current and pending financial resources that are intended to support research related or similar to that included in the proposal, or that would consume the time of the proposer(s), must be identified for each principal investigator and other senior personnel involved in the proposal. Each proposal must have a section describing sources of current and pending funding, and an explicit statement of present collaborations and commitments. The proposer must also disclose if they have submitted the proposal to other funding sources or if other funds are being used to support the research funded by the Board.

7. Binding Signature Page

This signed form indicates the willingness to abide by NPRB requirements included in this request for proposals and certifies that all persons and agencies identified in the proposal as committing resources to the proposed project have been contacted and have agreed to participate if the proposal is funded. No additional endorsement letters are needed, except the support letters from Native communities and tribal governing bodies if required.

8. Letters of Support from Native Communities and Tribal Governing Bodies

Proposals that deal with research on specific Alaska Native communities or health issues must have a letter of support from the appropriate community and tribal governing bodies.

9. Data Management and Quality Assurance/Quality Control (“QA/QC”) Statement

Will be required if proposal is funded. (Available on the NPRB website at [www.nprb.org](http://www.nprb.org).)

**GENERAL CONDITIONS**

1. This RFP is only a solicitation of offers and should not be construed as an expectation of award, or as any reasonable basis for detrimental reliance. NPRB is not obligated to award any specific project or any available funds. There is no guarantee sufficient funds will be available to make awards for all acceptable projects, and NPRB may choose to reject all proposals. No oral statement by any person can supercede or modify the terms of this RFP.
2. Responding proposals are firm offers and shall remain open for the NPRB to accept anytime before May 1, 2005 in accordance with a standard NPRB agreement for the performance of the work proposed. A proposal is accepted only when NPRB sends the applicant written approval and has a completed contract. A proposal accepted for funding does not obligate NPRB to provide additional future funding.
3. The applicant is responsible for obtaining all Federal, State, and local governmental permits and approvals for projects or activities to be funded under this announcement. This includes, as applicable, certification under state Coastal Zone Management Plans, section 404 or section 10 permits issued by the Corps of Engineers; experimental fishing or other permits under fishery management plans; scientific permits under the Endangered Species Act and/or the Marine Mammal Protection Act; and assistance to the Federal government in developing environmental impact statements to meet the requirements of the National Environmental Policy Act. All experiments must be conducted in compliance with law, and only pursuant to mandatory permitting duly granted by the appropriate federal and state agencies. Requirements for special permits, for example, those required for taking marine mammals, should be clearly described and whether the permit is in possession or

- not. The Secretary of Commerce may withhold final approval or stipulate additional conditions on projects to ensure compliance with the above.
4. Projects that require at-sea research using research vessels must comply with all research vessel safety standards in accordance with the guidelines for the operation of oceanographic research vessels owned, operated or chartered by members of the University-National Oceanographic Laboratory System (UNOLS), to assure that research at sea is conducted to the highest practicable standards of safety and prudence. Those standards also apply to chartered non-institution vessels. (See: [http://www.gso.uri.edu/unols/saf\\_stand/contents.htm](http://www.gso.uri.edu/unols/saf_stand/contents.htm).)
  5. Funded participants are wholly responsible for the conduct of research, submission of required reports, and preparation of the results for publication. Participants will be required to submit a semiannual report not exceeding two pages and a final report to be posted on the NPRB web site and in other databases. Final reports may be submitted for peer review at the discretion of the NPRB. Failure to submit timely reports or to respond to peer review comments on final reports may result in withheld payments. Every effort should be made to submit within one year of the completion of study, research results for publication by an appropriate scientific journal. The NPRB Executive Director may in his sole discretion grant written exceptions if requested timely. All manuscripts shall acknowledge that funds were provided by the NPRB through the U.S. Department of Commerce, NOAA, National Marine Fisheries Service.
  6. Successful applicants will be required to report their data to an agreed-upon system (NODC or USGS information infrastructure), in accordance with specifications in the project's data management and information transfer plan. The data management and information transfer plan, which will be developed by NPRB, in consultation with the applicant, will specify, among other requirements, the storage media and format(s), month and location for reporting, and other relevant information, such as metadata, that may be required by the circumstances of the project. Each project must have an approved data management and information transfer plan in place prior to receipt of funding. Successful applicants will be required to supply metadata to the North Pacific Ecosystem Metadatabase. (<http://www.pmel.noaa.gov/np/mdb/index.html>)
  7. Researchers applying to do research involving human subjects are expected to demonstrate compliance with regional protocols for researcher/community interactions or the specific human subjects screening done by most academic institutions and agencies. The purpose is to ensure that privacy is protected, that data are collected in a suitable manner, that data are maintained in a secure environment, and that results of any study are made available to participants if they indicate their interest.
  8. In accordance with federal statutes and regulations, no person on grounds of race, color, age, sex, national origin or disability shall be excluded from participation in, denied the benefits of, or be subjected to discrimination under this program.