

## North Pacific Research Board: 2009 Request for Proposals

### 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. These funds must 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). NPRB must strive to avoid duplicating other research activities and must place priority on research designed to address pressing fishery management or marine ecosystem information needs. The Board's long-term vision is to build a clear understanding of the marine ecosystems off Alaska that enables effective management and sustainable use of marine resources.

The Board, guided by its [Science Plan](#), has funded 200 projects totaling \$33.4 million as a result of seven requests for proposals released since early 2002. Descriptions of the projects can be found at <http://project.nprb.org/> and fall into seven broad categories as shown in Table 1.

<u>Categories of Research</u>	<u>Projects</u>	<u>Total Funding</u>	<u>Percent</u>
Ecosystem Studies	57	\$8,778,161	27
Fish and Invertebrates	55	\$9,303,949	28
Salmon	9	\$2,289,404	7
Fish Habitat	14	\$3,027,566	9
Marine Mammals	31	\$5,280,215	15
Seabirds	15	\$2,991,955	9
Humans	19	\$1,739,962	5

In addition, the Board in 2007 funded a \$16 million Bering Sea Integrated Ecosystem Research Program (BSIERP), which, in collaboration with NSF (Bering Ecosystem Study - BEST), started in late 2007. More information on this program can be found at <http://bsierp.nprb.org/index.htm>.

**The subject of this current notice constitutes the regular 2009 RFP for projects commencing in 2009.** It is similar in form and content to past NPRB requests for proposals, with research priorities structured around the 2005 Science Plan. It calls for **full proposals due December 5, 2008**. The table below summarizes the priorities and funding targets in this year's RFP. Explanation of the research priorities begins on p. 4. NPRB strongly encourages support for graduate students in its funded research.

A separate RFP for a **Gulf of Alaska Integrated Ecosystem Research Program** was released September 26, 2008. See [www.nprb.org](http://www.nprb.org) for more details.

**2009 Request for Proposals: Research Priorities (Total: \$3.7 million)**

***PLEASE CAREFULLY READ THE EXPLANATORY PARAGRAPHS (starting on p.4) FOR THE RESEARCH PRIORITIES SUMMARIZED BELOW AND BE AWARE THAT ALL SECTIONS HAVE FIRM CAPS ON THE INDIVIDUAL PROPOSAL FUNDING AMOUNTS. CAPS ARE THE OVERALL CATEGORY AMOUNTS UNLESS OTHERWISE NOTED IN TEXT. PROPOSALS EXCEEDING THOSE CAPS WILL NOT BE PROCESSED. AMOUNTS ARE NOT PER YEAR, THEY ARE FOR THE ENTIRE STUDY.***

Table 2. 2009 RFP Regular Research Priorities and target amounts totaling \$3.7 million.

<b>1. General Research Priorities on Ecosystems Components</b>	<b>\$2,300,000</b>
<b>a. Oceanography and Lower Trophic Level Productivity</b>	<b>\$300,000</b>
<ul style="list-style-type: none"> <li>i. Importance of ocean fronts to ecosystem processes in the GOA</li> <li>ii. Coupling between shelf, nearshore and inland waters in the Alaska Coastal Current (ACC) and the importance of freshwater runoff</li> <li>iii. Changing Arctic Food webs</li> </ul>	
<b>b. Fish Habitat</b>	<b>\$350,000</b>
<ul style="list-style-type: none"> <li>i. Bering Sea canyons: comparison between canyon and slope habitats using existing data</li> <li>ii. Pribilof Canyon benthic habitat mapping</li> <li>iii. Essential habitats for forage fish in the GOA</li> </ul>	
<b>c. Fish and Invertebrates (<i>\$300K proposal cap</i>)</b>	<b>\$800,000</b>
<ul style="list-style-type: none"> <li>i. Stock assessment, life history and population biology of North Pacific Sharks</li> <li>ii. Stock assessment support</li> <li>iii. Fish movement</li> </ul>	
<b>d. Marine Mammals</b>	<b>\$400,000</b>
<ul style="list-style-type: none"> <li>i. Study design for quantifying indirect local effects of fisheries on upper trophic predators (<i>\$100K proposal cap</i>)</li> <li>ii. Small or declining populations</li> </ul>	
<b>e. Seabirds</b>	<b>\$350,000</b>
<ul style="list-style-type: none"> <li>i. Influence of non-breeding season conditions on population dynamics</li> <li>ii. Seabird – forage fish ecosystem relationships</li> <li>iii. Small or declining populations</li> </ul>	
<b>f. Marine Diseases</b>	<b>\$100,000</b>
<b>2. Local and Traditional Knowledge</b>	<b>\$100,000</b>

<b>3. Collaboration with Oil Spill Recovery Institute (\$200,000 total)</b>	<b>\$100,000</b>
<ul style="list-style-type: none"> <li>i. Prince William Sound NPZ model validation</li> <li>ii. Rockfish habitat association in Prince William Sound</li> <li>iii. Larval drift, transport and distribution in Prince William Sound</li> </ul>	
<b>4. Cooperative Research with Industry</b>	<b>\$600,000</b>
<i>i. Fishing Industry</i> <ul style="list-style-type: none"> <li>1. Fisheries monitoring and improved estimation of total bycatch</li> <li>2. Electronic monitoring</li> <li>3. Gear modification</li> <li>4. Bycatch reduction and reduction in bycatch mortality</li> <li>5. Avoidance of interactions between fishing gear and whales</li> <li>6. Regulatory compliance and effectiveness of fishery enforcement services</li> </ul> <i>ii. O&amp;G Industry</i> <ul style="list-style-type: none"> <li>1. Polar bears</li> <li>2. Species of special concern</li> <li>3. Shoreline change</li> <li>4. Invertebrate distribution and abundance</li> </ul>	
<b>5. Community Involvement</b>	<b>\$100,000</b>
<b>6. Aleutian Islands</b>	<b>\$300,000</b>
<ul style="list-style-type: none"> <li>i. Nearshore dynamics of the Aleutian Islands</li> <li>ii. Population structure</li> <li>iii. Impacts of volcanic activity</li> </ul>	
<b>7. Technology Development</b>	<b>\$100,000</b>
<ul style="list-style-type: none"> <li>i. Molecular and laboratory-based technology development</li> <li>ii. Marine measurement technology development</li> </ul>	
<b>8. Ecosystem indicators and data rescue</b>	<b>\$100,000</b>
<ul style="list-style-type: none"> <li>i. Data rescue</li> <li>ii. Ecosystem indicators</li> </ul>	
<b>TOTAL</b>	<b>\$3,700,000</b>

**Request for Proposals for 2009****1. General Research Priorities on Ecosystems Components \$2,300,000**

The following research priorities follow the structure of the Science Plan. Please consult the Science Plan for clarification of appropriate research to be conducted under each heading. **Care should be taken to consult current NPRB-funded projects including components under the BEST/BSIERP program, as well as show awareness of other ongoing projects to avoid overlap and create synergies wherever possible.**

**a. Oceanography and Lower trophic level productivity \$300,000**

The NPRB expects to fund projects focused on the topical areas listed below.

**i. Importance of ocean fronts to ecosystem processes in the Gulf of Alaska**

Ocean fronts are important physical features in marine ecosystems and can play a critical role in the distribution and abundance of upper trophic level species. Understanding how ocean fronts are formed and maintained, including their variability in strength and location in response to changing marine environments, is critical for understanding ocean dynamics. The NPRB is requesting proposals to investigate the location, characteristics and importance of ocean fronts in the Gulf of Alaska to physical structure and primary productivity.

**ii. Coupling between shelf, nearshore and inland waters in the Alaska Coastal Current (ACC) and the importance of freshwater runoff**

Significant volumes of fresh water (rain, snow and glacier melt) are discharged into the Gulf of Alaska, coastal embayments, and inside waters from coastal watersheds. Near the coast, surface waters are typically fresher and less dense than waters farther offshore. The Alaska Coastal Current (ACC), an along-shore current (the coast is to the right when looking downstream), is the dynamic response to this cross-shore density gradient. Water exchange between deep bottom water, the ACC, and coastal embayments might be the primary physical process influencing the abundance and distribution of plankton that provide food for schools of herring and other small fishes as well as out-migrating juvenile salmon. We have a limited understanding of how much fresh water is actually exchanged, at what frequency, and at what times during the year. Proposals in this category should aim to 1) understand better the relationship between shelf, nearshore and possibly inland waters (Southeast Alaska) and should provide an improved description of the mixing dynamics and the spatial and temporal variability of this coastal flow and its connections with the region, or 2) determine better the amplitude and phase of the freshwater discharge including rain, snow, river discharge and glacial melting along the coast from Southeast Alaska to the Kenai Peninsula.

**iii. Changing Arctic Food webs**

A warming Arctic Ocean is providing expanded environmental opportunities for lower trophic level organisms. North Pacific organisms might be expanding into the Arctic Ocean and diminished Arctic ice cover in spring and summer is shifting the balance of Arctic productivity towards an open water food web and away from an ice-algae supported food web and thereby influencing the timing and variability of production. Consequences of these changes for overall system structure and productivity are unclear. The NPRB is requesting proposals to document the expanding ranges of North Pacific organisms into the Arctic Ocean, and to examine consequences of a changing Arctic environment for ecosystem structure and energy flow in the Arctic Ocean.

**b. Fish Habitat****\$350,000**

NPRB is seeking proposals related to fish habitat that address one of the following issues.

**i. Bering Sea Canyons: comparison between canyon and slope habitats using existing data**

Comparisons using existing data sources (e.g. groundfish surveys, bathymetry, benthic habitat, seabirds, marine mammal distribution, fishing effort) to evaluate whether Bering Sea canyons significantly differ from Bering Sea slope features (including but not limited to demersal, benthic, and pelagic species abundance, productivity, species richness, rugosity, food habits, and diversity).

**ii. Pribilof Canyon benthic habitat mapping**

NPRB is seeking proposals to map the Pribilof Canyons to identify overall extent and location of hard substrate areas vis-à-vis all other substrates. The upper 500 m should be emphasized, but other depths could be included if feasible under funding constraints for the fish habitat category.

**iii. Essential habitats for forage fish in the Gulf of Alaska**

New research is needed to improve our knowledge of the characteristics and importance of fish habitat, including strategies for protecting these habitats from human impacts and in light of environmental change. The NPRB is seeking proposals for research on habitat use by forage fish species. More data are required to identify fish habitat and map the distribution of various substrates and habitat types, including habitat-forming biota, infauna, and epifauna. In addition, an improved understanding of habitat requirements for forage fish species is needed; including measures of habitat characteristics (e.g., sediment size, exposure, temperature, algal cover, etc). The overall goal of this category is to identify the areas and habitats that contribute most to the survival, growth, recruitment, and productivity of key forage fish species such as sand lance and capelin.

**c. Fish and Invertebrates****\$800,000**

NPRB is seeking proposals that are focused on one of the topics listed below. **The individual proposal funding cap under Fish and Invertebrates is \$300,000.**

**i. Stock assessment, life history and population ecology of North Pacific Sharks**

Sharks form part of the 'other species' category used by the North Pacific Fishery Management Council. There are large gaps in our current understanding of shark life history parameters and abundance at spatial scales that are relevant to management advice for the BSAI and GOA. The NPRB is seeking proposals that will lead to improved stock assessments for sleeper sharks, spiny dogfish, and salmon sharks and hence an improved basis for management advice. Priority will be given to projects that address one or more of the following research activities: 1) a comprehensive evaluation of alternate ways to estimate abundance and trends to identify the most cost-effective way to obtain indices of abundance for management purposes; 2) an improved understanding of shark age, growth, natural mortality, maturity, fecundity, diet and trophic levels, including development of alternative methods for ageing these shark species (*proposals should not duplicate previously funded NPRB projects: 418, 511*); 3) a retrospective analysis of movement and stock structure as inferred from historical tagging studies; and 4) analysis of population structure of dogfish in Cook Inlet and Yakutat Bay and the relationship between dogfish in these areas with those elsewhere in the Gulf of Alaska.

**ii. Stock assessment support**

To support stock assessment of managed species, NPRB is seeking proposals that address one or more of the following topics:

- 1) Improved estimation of natural and/or handling mortality for use in stock assessment for commercially harvested crab species.
- 2) Development of improved stock assessment methodology for data-poor but commercially important species.
- 3) Investigation of whether scallop beds coincide with retention zones, as determined by circulation patterns, and how this relates to stock structure. There is also a need to investigate movement of scallops within beds to determine whether scallops can and do fill in areas that have been previously harvested.

**iii. Fish movement**

The NPRB is seeking proposals that will assess the movement and stock structure of fish. The goal of this research may include an improved understanding of the spatial importance of predator-prey interactions and stock structure as related to management boundaries, including seasonal changes and responses to environmental variability, as well as to support management strategies, particularly for sablefish, rockfish and lingcod.

**d. Marine Mammals****\$400,000**

Proposals directed toward the study of marine mammals should be focused on one of the topics listed below.

**i. Study design for quantifying indirect local effects of fisheries on upper trophic predators**

Commercial, recreational, and subsistence fisheries have the potential to affect marine mammals and other predators indirectly by altering the availability of prey resources. Such indirect effects are poorly understood, but could be of significance when fisheries indirectly impact depleted or endangered predators. Despite growing emphasis on ecosystem-based fisheries management, much of the research effort to date has been limited to the direct effects of fishing on non-target fish stocks (i.e., bycatch) with little attention paid to the indirect effects on higher trophic level predators. Indirect effects of fisheries can be complex and research programs to investigate those effects have been slow to develop.

The NPRB is seeking proposals for an interactive workshop to develop effective and practical study designs for quantifying the impacts of fishing on local ecosystems, and develop ways to compare alternative study designs in terms of their power to detect such impacts. Study design(s) should include quantitative assessment of [a] spatio-temporal overlap between fisheries and foraging predators, [b] overlap between fisheries catch or bycatch and the prey (i.e., diet) of upper trophic predators, [c] the functional response of predators to changing prey density, and [d] the predicted impact of prey removal by fisheries on upper trophic predators (i.e., do the removals impact the population dynamics or nutritional or energetic status of upper trophic predators?). **Proposals submitted to this sub-category can not exceed \$100,000.**

## ii. Small or declining populations

Several populations of marine mammals in the North Pacific are either declining rapidly or have been reduced, through natural or human causes, to small population sizes and are not recovering as expected. These populations appear to be at high risk and therefore warrant special attention. Examples of these high-risk populations include the AT1 stock of killer whales, Cook Inlet belugas, harbor seals in Glacier Bay, North Pacific right whales, and the southwest Alaska stock of sea otters. The underlying causes of population declines or failure to recover are poorly understood for all these populations. The NPRB is seeking proposals that:

- a. investigate environmental or anthropogenic factors controlling the current status or trends of one or more small or declining population and the mechanisms by which those factors exert their control, with particular focus on factors that directly or indirectly cause depressed reproductive rates or increased mortality rates; or
- b. quantitatively describe habitat utilization patterns, with particular focus on habitats that are important during crucial periods in the population's life history (e.g., breeding habitats) or that are important foraging grounds.

Proposals that address these topics may include measurement of basic biological and life history parameters and could include development or testing of novel methods. Proposals should demonstrate a comprehensive knowledge of relevant historic and current research of the population(s) to be studied, and proposals should clearly describe how the proposed work will supplement or improve upon (and not duplicate) those other efforts.

## e. Seabirds

**\$350,000**

Proposals directed toward the study of seabirds should be focused on one of the topics listed below.

### i. Influence of non-breeding season conditions on population dynamics

Seabirds are exposed to many environmental and anthropogenic stressors, including subsistence harvest, by-catch in fishing gear, marine pollution, introduced predators, degradation of breeding and/or marine habitats, and climate change, to name a few. Because seabirds are most easily observed during the breeding season, most of what is known about these impacts on seabirds comes from their time spent at colonies. In many instances, however, population regulation occurs outside the breeding season, a time for which little is known about the ecology of most species, or their vulnerability to the above listed stressors. The NPRB is seeking proposals that aim to determine migration patterns and/or the location of wintering grounds for seabirds in combination with efforts to assess the influence of natural and anthropogenic stressors on seabird populations during this time.

### ii. Seabird – forage fish ecosystem relationships

Seabirds are integral members of marine ecosystems in the North Pacific, and may serve as sensitive and cost-effective indicators of their health and status. The NPRB funded a project (516) wherein an international panel of marine bird ecologists synthesized current knowledge of “seabirds as indicators” of marine ecosystems. More recently, NPRB supported a pilot study relating seabird phenology and salmon returns in Bristol Bay (531), and is supporting the compilation of seabird diet data (722). NPRB continues to seek proposals that will exploit the utility of seabirds as indicators of forage fish stocks, e.g., of fish community composition, distribution, abundance, recruitment, and/or population dynamics. NPRB is particularly interested in using seabirds for monitoring prey stocks (e.g., euphausiids, capelin) that are also used extensively by important commercial fish species such as salmon, cod or pollock.

### iii. Small or declining populations

Several populations of seabirds in the North Pacific are either declining rapidly or have been reduced, through natural or human causes, to very small population sizes and are not recovering (e.g., Kittlitz's Murrelet). These populations appear to be at high risk and therefore warrant special attention. The underlying causes of population declines or failure to recover are poorly understood. The NPRB is seeking proposals that:

- a) gather appropriate demographic data (e.g., breeding success, survival) that may be lacking and needed for understanding why populations are declining;
- b) investigate environmental or anthropogenic factors contributing to population declines (e.g., predation, diets versus food supply, pollution) with particular focus on factors that may depress reproductive success or increase mortality at sea and over winter; or,
- c) quantitatively describe critical habitat use, with particular focus on terrestrial habitats that are important for breeding or marine habitats that constitute important foraging grounds.

Proposals that address these topics may include measurement of basic biological and life history parameters and could include development or testing of novel methods. Proposals should demonstrate a comprehensive knowledge of relevant historic and current research on these populations, and proposals should clearly describe how the proposed work will supplement or improve upon (and not duplicate) those other efforts.

### f. Marine Diseases

**\$100,000**

The NPRB is soliciting proposals to examine the role of pathogenic organisms in marine animals in the Gulf of Alaska, Bering Sea and Arctic Ocean. Proposals could address the role of pathogens and algal toxins in the population dynamics of species of commercial or subsistence interest to the NPRB. Topics of importance include effects of marine diseases on reproduction, spawning success, survival of different life stages, including disease as a source of mortality for juvenile fishes (including pacific salmon), marine mammal diseases, and zoonotic transmission to humans. Research could also address improving knowledge of life cycles and ecology of key wildlife pathogens (e.g. marine *brucella*).

## 2. Local and Traditional Knowledge

**\$100,000**

The Board is requesting proposals that address one or more of the research priorities identified elsewhere in this 2009 RFP that do not duplicate current LTK efforts and engage local and traditional knowledge (LTK) and its holders. Potential projects must be responsive to the LTK section of Chapter 4 of the NPRB science plan and contribute to the mission of the NPRB. In addition to the usual proposal evaluation criteria, LTK proposals will be assessed with regard to: (a) the depth to which they engage LTK throughout the project, including design and interpretation as well as the collection of data and information, and (b) the demonstrated commitment of community partners (where "community" may refer to a geographic, ethnic, occupational, or other group), for example as research team members or in letters of support.

### **3. Collaboration with Oil Spill Recovery Institute (\$100,000 NPRB) \$200,000 total**

An opportunity exists to conduct collaborative research in the Gulf of Alaska. This is the fourth year of collaboration between NPRB and the Oil Spill Recovery Institute (OSRI), and again this year, NPRB and OSRI have each committed up to \$100,000 for this collaboration, yielding a total of up to \$200,000. All proposals received under this section will be competed against each other with a funding cap of \$200,000 for all categories. This section of the RFP is open to all organizations and individuals and is in no way restricted to those associated with OSRI or the Prince William Sound Science Center. The research topics have changed for this 2009 RFP and are as follows:

#### *i. PWS NPZ model validation*

The Alaska Ocean Observing System has been involved with developing several oceanographic models for Prince William Sound. Included is a nutrient-plankton-zooplankton (NPZ) model coupled with a regional ocean model system (ROMS). There is a validation exercise planned to test the circulation model in the summer of 2009. We are requesting proposals to validate the NPZ model results. We expect an observational program starting by July 2009 and possibly continuing into the fall to test the model's ability to forecast nutrient, plankton, and zooplankton distributions and levels through the summer. The observational program will need to coordinate with the modeling program to derive a measure of the success from the model results.

#### *ii. Rockfish habitat association in Prince William Sound*

Rockfish are a diverse group of long-lived marine fish which can be prone to impacts from oil spills and overfishing. The recovery of rockfish in Prince William Sound from the Exxon Valdez Oil Spill is considered unknown. With recent advances in technology and the completion of high-resolution bathymetric surveys it may be possible to better identify the rockfish habitat in Prince William Sound. We request proposals to identify rockfish habitat and to provide a measure of the quality of that habitat in Prince William Sound.

#### *iii. Larval drift, transport and distribution in Prince William Sound*

Several ocean circulation models have been developed that cover the Gulf of Alaska and smaller regions within the Gulf. Several important fish and shellfish; including herring, crab, and clams, have planktonic life stages where the oceanographic circulation can determine their dispersal. Prince William Sound might serve as a nursery area for some of these species. We request proposals to model the larval transport of a commercially harvested species in relation to Prince William Sound (i.e. out of or into the Sound). We desire the generation of probability maps of where settling may occur given a fixed spawn/hatch location, and several different years of ocean and meteorological conditions.

### **4. Cooperative Research with Industry \$600,000**

The Board is requesting proposals that address one or more of the research priorities identified below ***and engage the fishing and oil and gas industries or others as appropriate***. Potential projects must be responsive to the cooperative research section of Chapter 4 of the NPRB science plan and contribute to the mission of the NPRB. In addition to the usual proposal evaluation criteria, cooperative research proposals will be assessed with regard to: (a) the depth to which they directly engage the relevant industry throughout the project, including project identification, design, and interpretation as well as the collection of data and information; (b) the applicability of the proposal to addressing pressing conservation and management needs identified for the applicable industry; (c) the extent to which the project will help to build a better understanding between science and industry, and greater confidence in the products of research and in the regulatory process; and (d) scientific integrity, practicality, and cost effectiveness of the experimental design. Cooperative research priorities identified are listed below and will be given

highest priority. The NPRB also will consider other proposals relating to other priorities in its Science Plan as long as they have a strong cooperative research component. Proposals that include financial support from industry will be looked upon favorably.

## **i. Fishing Industry**

### **1. Fisheries monitoring and improved estimation of total bycatch**

Improved estimation of bycatch of marine mammals, seabirds, sharks, non-target groundfish and crabs and protected species are high priorities for fishery management in Alaska. Observer coverage in some fisheries is known to be insufficient for estimation of total bycatch and observer coverage should be analyzed to compare total catch, bycatch, and fishing behavior between vessels with different levels of observer coverage. Improved accuracy of identifications and enumerations of bycatch species may also be necessary. Improved methods should include direct and alternative monitoring options (e.g., electronic logbooks, special projects for placement of observers, video monitoring).

### **2. Electronic monitoring**

An electronic monitoring workshop was held in Seattle on July 30-31, 2008 ([www.fakr.noaa.gov/scales/electmonworkshop\\_proceedings2008.pdf](http://www.fakr.noaa.gov/scales/electmonworkshop_proceedings2008.pdf)). It was apparent from the workshop summary that further research needs for electronic monitoring generally fall into three broad categories: (1) technology development, (2) economic and cost considerations, and (3) potential management applications, particularly as an augmentation to, or replacement of, the current observer program now used to monitor activities of the fishing fleet.

### **3. Gear modification**

Areas of interest include gear modifications to reduce habitat impacts, gear loss, interactions with non-target species of fish, avoidance or minimization of interactions with marine mammal or seabirds. Gear modifications are not limited to trawls and studies may include gear for rocky areas as well as improvements in survey method design.

### **4. Bycatch reduction and reduction in bycatch mortality**

The NPRB is interested in studies to improve selectivity of fishing gear and improvements in handling of bycatch to reduce mortality including the crab fishery. This includes studies that evaluate the performance of bycatch control methods, and implications on economic costs on fishery participants and efficiency.

### **5. Avoidance of interactions between fishing gear and whales**

NPRB is seeking proposals with a focus on cooperative testing of avoidance techniques with whales and potential equipment development and evaluation to reduce entanglements.

### **6. Regulatory compliance and effectiveness of fishery enforcement services**

NPRB is seeking proposals with a focus on assessment of regulatory compliance for recently implemented fishery management programs and studies to investigate the effectiveness and improvement of enforcement services.

## ii. Oil and Gas industry

Cooperative research with the oil and gas industry should center on of the topics listed below. For all topics, priority will be given to studies that take place in Southern Beaufort and Chukchi Seas or the near-shore deltas and habitats of particular interest, such as Herald and Hanna shoals.

### 1. Polar Bears

Of interest are proposals that address the following areas in regards to polar bears: changes in species distribution due to the decline in near shore sea ice; maternal den detection technology studies for the purpose of mitigation; post-emergence behavior and cub survival studies; and above ground acoustic studies to determine if noise is impacting the species.

### 2. Species of special concern

Of interest are proposals that benefit species of special concern in the Arctic, particularly species of marine mammals that are directly impacted by sea ice declines in the Beaufort and Chukchi Seas, including walrus and sea-ice dependant seals. Other species of special concern are beluga and bowhead whales, wild salmon and other subsistence fish species, sea ducks, and all federal or state listed threatened or endangered marine species and other declining or at risk marine species for which evidence of significant threat can be demonstrated.

### 3. Shoreline change

Several aspects of shoreline change along the Arctic and Chukchi Seas are of interest. Emphasis will be placed on studies that address coastal erosion and accretion and/or nearshore sedimentation, particularly as they use remote sensing technologies and historical photos to evaluate changes in coastline.

### 4. Invertebrate distribution

Of interest are proposals that investigate the effects of oil and gas activities on marine invertebrate distribution and abundance.

## **5. Community Involvement **\$100,000****

The NPRB seeks proposals for small-scale research activities based in communities along the coast of Alaska. The intent is to provide community-based organizations and individuals with the chance to gain experience in conducting research projects and to address their research interests and priorities, consistent with the overall mission of the NPRB. This section of the RFP is not intended to discourage community-based organizations from applying for other and larger projects under any other section of the RFP. Instead, it provides an opportunity for those organizations to define priority research, to explain how that research is connected to the NPRB mission, and to describe how the project would be conducted to meet scientific standards as well as community expectations. The NPRB intends to fund two or three projects under this item.

**6. Aleutian Islands****\$300,000**

The Aleutian Islands are the exposed mountain tops of the submarine, volcanic range extending between North America and Asia, and consists of hundreds of small volcanic islands, separated by oceanic passes that connect the waters of the North Pacific with the Bering Sea. The Aleutian Islands region has a complicated mixture of substrates, including a significant proportion of hard substrates (pebbles, cobbles, boulders, and rock). Cold-water corals and sponge communities are a dominant feature of benthic communities on the steep rocky slopes of the Aleutian Islands and provide important habitat for a variety of fish and invertebrate species. The large populations of marine birds and mammals which breed and rear young here require adequate prey within energetically efficient foraging distances of breeding sites. The steep-sloped submarine mountains are generally surrounded by deep water, particularly south of the islands, so the nearshore, shallow water fringe is relatively narrow. Nevertheless, this zone is ecologically very important. The shallowest portions of the narrow shelf are dominated by kelp forests and associated biota, and the outer edge of the shelf and upper portions of the slope are inhabited by large populations of marine fish (e.g., Pacific ocean perch, Atka mackerel).

The North Pacific Fishery Management Council has chosen the Aleutian Islands as the pilot ecosystem area for its first Alaskan Fishery Ecosystem Plan (FEP) in an effort to move forward with an ecosystem approach to fishery management. The Aleutian Islands area is an ideal candidate as it is ecologically and historically unique in several aspects. Many Council management actions in the past have focused on the area's important resources, such as Steller sea lions, seabirds, benthic habitats that support coral and sponges, and other special resources of public interest (such as deep sea coral gardens). The Aleutian Islands have also been at the center of allocation issues related to the Aleutian Islands pollock and Pacific cod fisheries. Far less is understood about the ecological interactions in the Aleutians than in the eastern Bering Sea, yet the two areas are managed as one under the Federal fishery management plan. The Council recognizes that the Aleutian Islands contain unique and valuable ecological qualities that should be preserved, and wishes to build upon past actions by considering fishery interactions and cumulative impacts within this ecosystem more explicitly. Applying an ecosystem approach to fisheries management through the implementation of a FEP may promote this goal.

Through the process of developing the FEP for the Aleutian Islands, research gaps have been identified. The NPRB is seeking proposals that address gaps in the Aleutian Islands for the following categories:

**i. Nearshore Dynamics of the Aleutian Islands**

Extensive work has been done along the Aleutians to document species abundance, distribution and life history parameters. However, relatively little study has been devoted to dynamic ecosystem processes that link the nearshore and pelagic zones. Furthermore, basic physical drivers (e.g., passes, major slope currents) are not well understood except at very broad scales, but are known to be important and predictable "hotspots" for many marine birds and mammals. NPRB will consider proposals that address the dynamics of nearshore ecosystem processes in the marine waters of the Aleutian Islands, including integrated analysis of patterns of change in physical and biological elements for use in predictive models addressing how the nearshore and pelagic systems interact and how the nearshore system is likely to change due to climate effects. Analysis of existing (retrospective) datasets is encouraged.

**ii. Population structure**

Differences between the spatial scale of fishery management and the spatial stock structure, which in the Aleutian Islands is heavily influenced by undersea topography, may impact managed species in undesirable ways. NPRB is seeking proposals that research the extent of spatial dispersal for commercial stocks, determine larval distribution and drift of key species in the Aleutian Island ecosystem, given the

unique topographical (e.g. deep sea passes effectively separating island ecosystems) characteristics in the Aleutians.

### **iii. Impacts of volcanic activity**

The Aleutian Archipelago owes its existence to the ongoing birth and evolution of volcanic islands along the chain. It is a very dynamic process, and volcanic activity in the Aleutians is frequent at geological time scales. In 2008, no less than 3 volcanoes erupted, covering surrounding land with deep layers of ash, and in one case (Kasatochi), resulting in lava flow and creation of a new margin of land around the island. In some cases, all biological life forms on land and presumably nearshore have been obliterated or displaced (including large marine bird and mammal rookeries). The process by which the subtidal, intertidal and land-based ecosystems will recover is poorly known. Given recent volcanic activity in the Aleutian Islands, the NPRB is seeking proposals that will take advantage of this unique opportunity to investigate the impact of volcanic activity on marine flora and fauna on or near the affected islands, and to study the re-settlement and recovery of plant and animal communities. Such studies may provide insights into how marine communities we find today in the Aleutian Islands have been created and structured by past events.

## **7. Technology development \$100,000**

NPRB is interested in supporting new technological development in the following areas:

### **i. Molecular and Laboratory based technology development**

There is a need to develop molecular discrimination techniques with applications to one of the following: 1) larval stages of commercially important species; 2) detection and species identification of invasive species; as well as for 3) the detection and identification of marine diseases. The NPRB is considering proposals addressing the development of such techniques that would show clear management applicability.

### **ii. Marine measurement technology development**

The development of technologies to measure a wide variety of variables in the marine environment is needed. Both sensor technologies and their platforms need continual evaluation in the face of rapidly advancing engineering. In the interest of promoting marine environmental information needs, which should consider resource management needs, NPRB is interested in supporting proposals that focus on marine sensor technology development. Examples include but are not exclusive to turbidity or pCO<sub>2</sub> sensors, fluorometers, and acoustic technologies for Arctic and Subarctic marine environments. The focus of proposals should be on the design and field testing of such technologies. NPRB funding should not be a substitute for small business development grants.

## **8. Ecosystem Indicators and data rescue \$100,000**

### **i. Data rescue**

Marine research in Alaska has produced a lot of new information and insights and large amounts of data have been collected. Many of these datasets have been digitized and submitted to national data centers such as NODC for storage and retrieval by the broader scientific community. Yet a variety of datasets spanning from oceanography to fisheries, to birds, mammals and humans are currently not in a format

accessible by other researchers (gray literature reports, paper files, field notes) and as a result cannot be used to help answer many current science management questions these data would be applicable and relevant to. In light of limited resources for marine research and in order to maximize new investment into new research, the NPRB is interested in supporting proposals that will rescue datasets that are currently inaccessible into shared digital formats. Applicants must describe the nature and state of the data to be rescued (location, format, content), ensure that it has not been digitized before, and describe the utility of the dataset in terms of current and relevant science and management questions. Proposals should include integration of the rescued data into appropriate national data centers or databases and could also include subsequent analysis of these data.

## **ii. Ecosystem Indicators**

NPRB held a Bering Sea indicator workshop in 2006 (Project 502). From this workshop followed a series of recommendations on how to proceed with research on indicators. Research is still needed into the assessment and determination of appropriate ecosystem indicators. Current models are designed for gradual changes based on observed ecosystem states, yet many biological systems show threshold responses. Proposed research could focus on evaluating current indicators (false positives, etc. see 502 report) and/or a 'risk assessment' approach to determine indicators for shifts into alternate states, i.e. regime shifts. An objective review of ecosystem responses to existing indicators could be done, and such efforts could be linked to extensive retrospective analysis or meta-analysis of the appropriate data.

## PROPOSAL APPLICATION MATERIALS AND PROCEDURES

All applicants should refer to [http://www.nprb.org/proposals/current\\_rfp.html](http://www.nprb.org/proposals/current_rfp.html) for a copy of proposal application materials. If you need further information please contact the NPRB office by phone at (907) 644-6700, or by email to NPRB's assistant program managers, Carolyn Rosner ([Carolyn.Rosner@nprb.org](mailto:Carolyn.Rosner@nprb.org)), Carrie Eischens ([Carrie.Eischens@nprb.org](mailto:Carrie.Eischens@nprb.org)) or Tom Van Pelt ([tvanpelt@nprb.org](mailto:tvanpelt@nprb.org)).

*Please note that if the links to the template documents provided below do not work on your computer due to your internal security settings, you may find all templates at the above mentioned website.*

## PROPOSAL SUBMISSION AND DEADLINE

Proposals must be submitted online at [http://www.nprb.org/proposals/current\\_rfp.html](http://www.nprb.org/proposals/current_rfp.html). Applicants will need to prepare the following information and documents (described in more detail below). Sections 1-7 (except for names of potential reviewers) will be sent out for technical reviews.

1. Proposal Summary Page (abstract of max 250 words)
2. Proposal Classification
3. Contact Information for the Applicant, Principal Investigator, Co-Investigators, Collaborators, Grant Managers, and Potential Reviewers
4. Community Involvement
5. Research Plan (max 12 pages, *use provided template*)
6. Budget Information and Budget Narrative (*use provided templates*)
7. Résumés (max 2 pages per principal investigator)
8. Previously Funded NPRB Projects
9. Current and Pending Support (*use provided template*)
10. Letters of Support

Online submission for proposals will be available between **7 November and 5 December 2008**. During the submission process you will create an account to which you can return at a later date if needed. Returning applicants can use their existing accounts. You will be asked to fill in a variety of forms with information from the list above as well as to upload files (research plan, resumes, etc.). **Templates** for the research plan, budget summary, budget narrative and the current and pending support form will be provided (hyper-links in the appropriate sections below) and **must be used**. Download these templates, complete them, and upload them again in the appropriate places. Your information will be saved as you move through this process and you will have the ability to update any information you have provided at any time before your final submission.

A link to a generated complete summary page(s) will appear as soon as you have provided the following information: full address and contact information for each agency or entity that will be legally bound to perform the research if funded, name of the principal investigators and co-investigators that will be associated with the project and their agency/organization affiliation and email address, the 250 word summary, the 150 word community involvement summary, and funding request. Please print this page(s) and have it signed by the appropriate legal representatives of each institution participating in this research. Once you have finalized your submission you will be assigned a reference number. Insert this number in the appropriate place on the signed summary page and mail it to:

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

It is acceptable for each authorized representative to sign a different sheet of paper and send it in separately. The proposal Applicant should sign the overall summary sheet.

**Proposals** must follow the guidelines and criteria specified herein and **must be submitted online by 4 p.m. Alaska time (5 p.m. Pacific time), 5 December 2008**. In the interest of fairness, **no proposals received after the deadline will be considered for funding**. Please note that it is in your best interest to have fully submitted your proposal ahead of the deadline, and not wait until the last minute. The system will be closed promptly at the times noted above, and even if you are partially done, your proposal submission will be interrupted and no further work allowed. This will lead to immediate rejection of your proposal. You may contact NPRB staff if you have trouble submitting your proposal, but you still will be entirely responsible for getting it in on time.

The signed summary page generated by the system at the end of the application process must be received at the NPRB office no more than one week after this deadline, i.e. **4 p.m. Alaska time, 12 December 2008**. Please note that courier and express deliveries to Anchorage, Alaska, normally require a minimum of two days for delivery.

### *Confidentiality of Proposals*

If a proposal is submitted, but not funded, only the following information may be released to the public: proposal title, names of principal and co-investigators, funding amount requested, duration, and the proposal summary. If a proposal is approved for funding by NPRB and the Secretary of Commerce, then the full proposal (without salary information) will be released to the public. Proposals submitted in response to the joint NPRB-OSRI collaboration will go through a special joint review process and will be distributed to the OSRI Board and its advisory bodies in accordance with their standard operating procedures.

## **I. Proposal Package**

*The full proposal package consists of ten elements:*

### 1. Proposal Summary Page

The proposal summary page will be created automatically based on the information you provide during the online submission process. It will include a **title, project period, names of applicant organization and principal/co-investigators, a summary of work** (250 words or less), a **community involvement summary** (150 words or less), **requested funds and other support**, and a place for the **signature** of an official authorized to legally bind the submitting organization. This page is not confidential and will be made available to the public. Ensure that you have not included any social security numbers in any of the fields. The proposal summary page is not a numbered page and thus does not count towards the 12-page limit of the Research Plan.

### 2. Proposal Classification

During your submission, you will be asked to provide the following:

- a. *Keywords*: Describe your project with 5-10 keywords (do not include any words that would apply to items b-e below).
- b. *Species*: Provide the species name(s) of the focal subject of your study.
- c. *Ecosystem Components*: Indicate one or more of following ecosystem components addressed in your study: Atmosphere/Ocean, Lower Trophic Level, Fish and Invertebrates, Habitat,

- Seabirds, Marine Mammals, Humans, Ecosystem Indicators, Modeling, and/or Ecosystem Studies.
- d. *Large Marine Ecosystem(s) (LME)*: Indicate the LME(s) in which your study takes place: Arctic Ocean, Bering Sea and Aleutian Islands, and/or Gulf of Alaska (consult the NPRB Science Plan for LME boundary definitions).
  - e. *Places*: List one or more regional geographic locations in which your study will take place; this should be a finer scale location than the one identified in the LME section.
  - f. *GIS Location*: Enter the proper lat/long coordinates for your location or area of study. If necessary, there is a map feature incorporated into the online submission process to assist with this requirement.
  - g. *Research Priority*: Identify ONE primary research priority from the 2009 RFP which your proposal will compete under. In Section C of the research plan you may identify up to three secondary research priorities to show the broader responsiveness of your proposals to the RFP, but your proposal will only be considered and competed for funding under the primary research priority you indicate in the online system.
  - h. *Topical Area*: Identify the topical area of your proposed research based on Tables 3-2 through 3.13 in the Science Plan.
  - i. *Research Approach*: Identify which research approach(es) will be used in your study: Monitoring, Process Study, Retrospective Analysis and/or Modeling.
  - j. *Reviewer Expertise Criteria*: Towards the end of your submission you will be provided a form where you will need to fill in criteria that best describe the expertise needed to properly review your proposal. Filling in this form as accurately as possible will help ensure proper peer review of your proposal.
3. Contact Information for the Applicant, the Principal Investigator from each organization, Co-investigators, Collaborators, Administrative Grant Managers, and potential Reviewers. Note that a Principal Investigator and Administrative Grant Manager are required for each organization requesting funding. It is not required to suggest potential reviewers. If you choose to submit names for reviewers, these will not be disclosed, but please read the [conflict of interest form](#) before doing so.
  4. Community Involvement

While not necessarily required for some research priorities, 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. Applicants should specify in this section what, if any, communities they plan to interact with during their research and how, including, but not limited to, results will be brought back to the community when the project is completed. In addition, proposals for research on specific Alaska Native communities or health issues must have a letter of support from appropriate community and tribal governing bodies (see section 10 below). If you feel that this section does not apply to your proposal please, say so.
  5. Research Plan ([use template](#), 12-page maximum including references, tables and figures; continuous line numbers; upload your plan as a **WORD (2003 version or earlier) document – other formats will not be accepted**).

The main body of the proposal will be your research plan, **limited to 12 consecutively numbered pages** formatted as follows: All pages (*including the reference section*) must have **1-inch margins** at the top, bottom and sides. Text (*including tables, figure legends, citations and references*) must be single-

spaced, and the font and size must be **Times New Roman 11 point**. No page in the proposal and supporting material may be formatted to any size other than 8.5x11 inches. Color graphics are allowed, but may be reproduced in black and white and should thus be sufficiently descriptive. Note that submitted proposals will be converted to PDFs, and this conversion may impact the quality of your graphics. Please ensure an appropriate resolution is used. The research plan (and only the research plan) **must have continuous line numbers** from beginning to end to facilitate review.<sup>1</sup>

**Failure to comply with any of the formatting specifications above will result in automatic dismissal of your proposal without further review.**

Following the provided template, your research plan will have the following elements:

- A. Project Title. Include the **long title**, and a suggested **short title** of up to 60 characters.
- 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.
- C. Project Responsiveness to NPRB Research Priorities or Identified Project Needs. Identify the specific research priority identified in this year's RFP to which you are responding **and describe how your proposal addresses this priority**. Note that the priority discussed here **must match** the one selected during the online submission process. In case of discrepancies the priority selected during the online submission process will be used. In this section you may describe and identify up to three secondary research priorities also addressed by your proposed research to show its broader applicability, but note that your proposal will only be considered and competed for funding under the primary research priority.
- D. Soundness of Project Design and Conceptual Approach. State what the project will accomplish and why it is important. Demonstrate an understanding of the problem being addressed, the present state of knowledge in the field, the project's relation to previous work and work in progress by the principal/co-investigator(s), and the measurable benefits which will result from the proposed research. If this project 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 associated power analysis) 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. Education and Outreach. Describe in detail the education and outreach component of this project. Principal/co-investigators are required to develop a plan and materials for communicating their research results to non-scientific audiences. **Proposals must include a minimum of \$2,000 for such activities in the proposal budget**. Education and outreach activities should target as many of the audiences identified in the *North Pacific Research Board Science Plan (2005)* as possible, or at least one other audience besides marine researchers. NPRB **does not** consider scientific posters or oral scientific presentations at scientific conferences as education and outreach activities. For more ideas, please refer to *Education and Public Outreach: A Guide for Scientists* (see <http://www.nprb.org/education/outreach.html>).

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<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**.

- F. Timeline and Milestones. Applicants must demonstrate they can achieve an outcome and product within the requested award period, **including data analysis and submission, metadata and data submission, and timely completion of final reports**. In planning the duration and timeline of your project, do not assume that a no cost extension will be granted. Provide a clear table, organized by semi-annual reporting period, detailing your timelines and associated measurable milestones (accomplishments and deliverables) that will be used to track and evaluate your project performance through the entire award period. You may additionally describe the product or result that may be used to measure your success (e.g., report, published paper, management implementation) and how you plan to disseminate the research results.
- G. Project Management. Describe the organization and management of the project and the experience and qualifications of the principal and co-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. If there is more than one investigator involved, the applicant must clearly identify which one will be responsible for the overall work (the designated principal investigator) and whether there is only one binding contract envisioned, or separate ones for each co-investigator. Principal and co-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.

If applicable, **permits** that may be required as part of the project should be documented in this program management section. If available, permit applications or granted permit numbers should be provided. Permitting requirements are the responsibility of the applicants and the NPRB will not financially support the permit application process.

Also in this section, list the number of **graduate students** you intend to make part of your project. Include the level (M.Sc., Ph.D.), duration, and level of support they would receive. Also list whether you intend to have none. Whether or not you are planning to have students or post-docs on your project, while strongly encouraged, will not affect the evaluation of your proposal and is intended for informational purposes only.

H. Figures and Tables

Figures and Tables are part of the 12-page limit and should be embedded in the text of the research plan.

I. References

References are part of the 12-page limit. Avoid using long strings of references for the same statements. List all references used in the Research Plan in a format appropriate for a major journal such as *Fisheries Oceanography*, *Transactions of the American Fisheries Society*, *ICES Journal of Marine Science*, etc.

**(Note: This is the end of what should be part of the 12-page limit. Line numbers are not required and should not be included beyond this part of the proposal package.)**

6. Budget Information and Budget Narrative (use templates: [Budget Summary](#) and [Budget Narrative](#); **note you must use Excel versions 2003 or earlier, no other formats will be accepted**)

#### *Budget Summary*

**Amounts specified in the research topics above are for the full duration of the project, and are not to be interpreted as ‘per year’ funding.** Fill in the template and upload the completed Excel workbook using the online submission system. The **Budget Summary** file is a series of spreadsheets (one for each institution/organization requesting funds) that detail by year (where year 1 is the first 12 months starting at your proposed start date) the following mandatory budget categories: salaries, fringe benefits, travel, equipment, supplies, contracts/consultants, other expenditures, indirect costs (F&A), and other support/cost sharing with other programs. The template Budget Summary includes a summary page that automatically combines all information for up to four different organizations. You may revise this template to include more institutions if necessary. Please note that each organization requesting funds must designate the **Principal Investigator or one co-Investigator** to be responsible for that component of the project. **You must ensure that your total budget requested matches the one entered online. If discrepancies are found between the two, your proposal will be rejected.**

Your budget must include costs of preparing all required reports and publication of results in appropriate scientific journals and a minimum of \$2,000 for education and outreach (see above). The plan for your education and outreach funds should be described in your research plan as indicated above. In the Budget Narrative, describe the cost breakdown of the education and outreach funds, and include them under the appropriate budget category.

Include travel costs for at least one representative of the project to attend the annual January science symposium in Anchorage for each year during the period of the project, **plus the annual symposium in the January following the completion of the project**, to present your results. Please ensure that your project end date incorporates attendance at this final symposium. Please note that travel to and presentations at the annual symposium **do not** fulfill the education and outreach requirement.

#### *Budget Narrative*

Guided by the example in the template for the **Budget Narrative**, **each institution requesting funds must provide** a detailed description of costs listed under each budget category in the budget summary above. You may include associated spreadsheets and other supporting material if applicable.

Clearly state whether or not your project will require any **international travel**. Inclusion of international travel will not impact the review process, but approval of international travel after the approval of the proposal will require a special application that may take up to 3 months to process. Please note that the Fly America Act will apply.

Please be explicit whether your budget includes ship time, or, if it does not, how ship time and costs will be covered by other guaranteed funds.

Other support. Applications must reflect the total budget necessary to accomplish the project, including contributions from federal or non-federal grants, base organizational budgets, and/or donations. Cost-sharing is not required for this program but is encouraged. 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 (Environmental Improvement and Restoration Fund) 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 created the “fund” in the U.S. Treasury.

Indirect Costs (sometimes referred to as overhead or F&A). The budget summary 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.

*Please ensure that your budget has been approved according to your organization’s standard proposal approval process. The details of the Budget Narrative must match **exactly** to the numbers entered in the Budget Summary. Also, please check your final budget before submission to ensure that the addition of indirect costs as a percentage or some other revision to your budget does not cause your total budget to exceed the individual proposal funding cap for the research priority addressed. **If your proposal exceeds the cap by even \$1, it will be returned without further processing.***

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

The resumes of all principal/co-investigators and other senior personnel involved in the proposal must be provided (collaborators do not need to submit their resumes). Each resume is limited to two consecutively numbered pages and must include the following information:

- a. A list of professional and academic credentials, mailing address, and other contact information including work phone number and email address.
- b. A description of current activities relevant to the proposed project.
- c. A list of up to five of your most recent/relevant 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.
- d. 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.

8. Previous NPRB-funded Projects

If any principal investigator or co-investigator identified in the project has previously received NPRB funding, information on the prior award(s) is required. During online submission you will be asked to indicate if you have previously been awarded funds for NPRB projects and to confirm previous project numbers for each principal investigator and co-investigator. Following successful proposal submission, principal investigators and co-investigators who have been awarded NPRB funds for previous projects will receive an email link to an online survey regarding those projects. **Completing the survey is mandatory and constitutes part of a complete proposal submission.**

9. Current and Pending Support Form (use the [provided template](#))

Upload Excel (version 2003 or earlier only) documents using the online submission system. For each principal/co-investigator and other senior personnel involved in the proposal, use the provided template to disclose 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). The proposer must also disclose if they have submitted the proposal to other funding sources.

#### 10. Letters of Support

Letters of support from relevant management agencies, communities, including Alaska Native communities and tribal governing bodies (if applicable) or others potentially impacted by project activities (e.g., seabird colony work at times of subsistence activities) or benefiting from the projects results, should be provided. Letters should be specific about the role of collaborators and indicate how the results will be of use or benefit. Upload these letters, if any, in the appropriate place during the online proposal submission.

### **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's enabling legislation and criteria and adequately addresses the research priorities selected from this RFP. If necessary, the Executive Director will request an ad hoc committee of available Science Panel members to help in the initial screening. **Those proposals that are found to not comply with the requirements of the RFP will 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 that pass the initial screening will undergo independent, anonymous, technical peer review, conducted by regional, national and international experts. Reviewers will be asked to provide comments and qualitative assessments of the technical aspects for each proposal, as indicated below (percentages indicate the weight that the subsequent review by the NPRB Science Panel will give to the criteria), and an overall summation. The overall summation will include five tiers: poor, fair, good, very good and excellent, recognizing that poor and fair proposals will have little chance of being funded, good and very good proposals may be funded, and excellent proposals would most likely be recommended for funding:

- a. Soundness of Project Design/Conceptual Approach (60%): Is there a clear statement of what the project will accomplish and why it is important? Have the applicants demonstrated a clear understanding of the problem being addressed, the present state of knowledge in the field, the project's relation to other work, including their own, and the measurable benefits which will result from the proposed work? Is there sufficient information to evaluate the project technically? What are the strengths and/or weaknesses of the technical design relative to securing productive results? Is there a clear hypothesis to be tested or objectives to be addressed and the expected outcome? Is there a clear description of a detailed experimental design with associated power analysis as appropriate, including assumptions required, sample size, and other relevant information needed to determine the utility and technical feasibility of accomplishing the research? Is there 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.
- b. Education and Outreach (5%): Is the education and outreach plan clearly defined? Are the education and outreach activities/materials planned aimed at audiences other than the scientific community?

- c. Timeline and Milestones (10%): Is there a clear table detailing appropriate timelines and associated measurable milestones, accomplishments and deliverables that can be used to track and evaluate project performance through the entire award period? Is there a description of the product or result that may be used to measure project success (e.g., report, published paper, management implementation) and how the research results will be disseminated?
- d. Project Management (15%): The organization and management of the project, and the project's principal/co-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.
- e. Project Costs (10%): The justification and allocation of the budget in terms of the work to be performed will be evaluated. Is the project cost unreasonably high or low?

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

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. Other factors may included, but are not limited to, how well applicants involved in previously funded NPRB projects have managed those past projects, in terms of adhering to project budgets, timelines, and reporting requirements. Achievement of previously funded project objectives will also be considered. Public comment will not be taken from current applicants when the Board makes final funding decisions. 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.

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).

#### **D. Tentative Schedule**

The tentative schedule is as follows (except for the proposal deadline, the schedule is subject to change):

<u>Schedule Item</u>	<u>Tentative Timeline</u>
Release of RFP	October 3, 2008
Online Submission Opens	November 7, 2008
Deadline for Proposals	<b>December 5, 2008 at 4 p.m. Alaska time</b>
Deadline for Signature Pages	<b>December 12, 2008 at 4 p.m. Alaska time</b>
Technical Evaluations	December 2008 – March 2009
Science Panel Review	March – April 2009
NPRB Selection	May 2009
Submission to Secretary of Commerce	May 2009
Final Notification of PIs	Late May 2009
Grant Agreements to PIs	May-June 2009
Commence Research	June 1, 2009 (earliest)

The exact amounts of funds awarded to a project will be determined in pre-award negotiations between 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 **June 1, 2009**.

## GENERAL CONDITIONS

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 supersede or modify the terms of this RFP.

1. All Federal, State, private, and foreign organizations are eligible. Recipient organizations must have a DUNS number and be registered at the Central Contractor Registration ([www.ccr.gov](http://www.ccr.gov)) before any award can be made. Recipient organizations required by OMB Circular A-133 to have a single or program-specific audit will be required to submit a copy of their most recent single or program-specific audit for review before any award is made.
2. Responding proposals are firm offers and shall remain open for the NPRB to accept anytime before June 1, 2009 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 agreement. 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 Army Corps of Engineers; experimental fishing or other permits under federal 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 analysis 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 ensure 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 semiannual progress reports and a final report to be posted on the NPRB website 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, or not meet project objectives due to problems in program management, may result in withheld payments. Every effort

should be made to submit research results for publication by an appropriate scientific journal within one year of the completion of study. 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, NMFS.

6. Successful applicants will be required to provide metadata and data records to NPRB at the completion of their project in accordance with the NPRB Metadata and Data policy (<http://www.nprb.org/projects/metadata.html>). Submission of metadata and data records constitutes part of the final project reporting requirements. Failure to submit such records may result in withheld payments. Among other requirements, this policy specifies the storage media and format(s), month and location for reporting, and other relevant information that may be required by the circumstances of the project.
7. Release of funds for newly approved projects may be delayed if investigators involved in previous completed NPRB projects have not fulfilled all their reporting requirements, including metadata and data delivery.
8. 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, data are collected in a suitable manner, data are maintained in a secure environment, and results of any study are made available to participants if they indicate their interest.
9. In accordance with federal statutes and regulations, no person on grounds of race, color, age, sex, national origin, religion, marital status, pregnancy, parenthood, or disability shall be excluded from participation in, denied the benefits of, or be subjected to discrimination under this program.