

North Pacific Research Board: 2013 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. Approved research projects are 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 strives to avoid duplicating other research activities and places 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.

Since 2002, the Board has released eleven requests for proposals (RFPs), resulting in the funding of 304 projects totaling \$48.9 million. Descriptions of the projects can be found at <http://project.nprb.org/>; funded projects fall into seven broad categories as shown in Table 1.

Table 1. NPRB-supported research initiated in 2002-2012.

<u>Categories of Research</u>	<u>Projects</u>	<u>Total Funding</u>	<u>% Funding</u>
Lower Trophic Level Productivity	55	\$8,207,681	17
Fish and Invertebrates	117	\$20,597,567	42
Fish Habitat	19	\$4,369,791	9
Marine Mammals	50	\$7,791,493	16
Seabirds	26	\$4,597,106	9
Humans	21	\$1,660,506	3
Other Prominent Issues	16	\$1,684,074	3

In addition to projects funded as part of the annual RFP process, the Board supports Integrated Ecosystem Research Programs (IERPs). IERPs are not part of this RFP; however the NPRB website contains more information on the current Bering Sea (<http://bsierp.nprb.org/>) and the Gulf of Alaska (gulfofalaska.nprb.org) integrated ecosystem research programs.

This notice constitutes the annual Request for Proposals (RFP) for projects commencing in 2013.

Full proposals responding to this RFP are due:
4:00 p.m. (Alaska Time) on Friday, December 14, 2012.

This RFP is similar in form and content to past NPRB requests for proposals, with research priorities structured around the 2005 *Science Plan*. Also, features first introduced in the 2011 RFP are continued in this RFP, including: (1) a focus section, which in this RFP is dedicated to social science; (2) collaborations with other organizations that are folded into the regular RFP categories; and (3) the cyclical research theme approach that has been updated for 2013 and 2014 (Table 2). New this year is the inclusion of a special emphasis on retrospective studies within the "other" subsection of several of the general research priorities.

Cyclical Request for Proposals

In 2011, the Board implemented a two-year cyclical approach to increase available funds within specific categories. As a result, some research priorities are not present in the RFP every year and others are not funded at the same level every year. The current cycle covers the years 2013 and 2014, with anticipated levels of support for 2014 as described in Table 2 (specific amounts may be subject to change). The Board will re-evaluate this approach in preparation for the 2015 RFP during the 2014 spring and fall meetings.

Table 2. Planned distribution of funds over the two-year 2013 and 2014 RFP cycle.

	2013 Cycle	2014 Cycle (preliminary)
1. General Research Priorities on Ecosystem Components	\$2,700,000	\$2,700,000
a. Oceanography and Lower Trophic Level Productivity	\$ 500,000	\$ 200,000
b. Fish and Invertebrates (<i>\$500K proposal cap</i>)	\$ 1,200,000	\$ 1,300,000
c. Marine Mammals	\$ 800,000	\$ 200,000
d. Seabirds	\$ 100,000	\$ 500,000
e. Humans	\$ -	\$ 200,000
f. Other Prominent Issues	\$ 100,000	\$ 300,000
2. Local & Traditional Knowledge and Community Involvement	\$ 200,000	\$ 200,000
3. Cooperative Research with Industry	\$ 400,000	\$ 300,000
4. Technology Development	\$ 200,000	\$ 300,000
5. Data Rescue	\$ 100,000	\$ 100,000
FOCUS SECTION		
Social Science Focus (2013)	\$ 400,000	
<i>To be determined (2014)</i>		\$ 400,000
TOTAL	\$4,000,000	\$4,000,000

Collaboration with other Organizations

NPRB encourages collaborative research proposals that leverage off other funding sources, add-on to ongoing projects, or take advantage of other logistic supports. Collaborations are formally requested in the Cooperative Research with Industry section but encouraged in all research sections of this RFP. In addition, we highlight two further collaborative efforts: one specifically with the Oil Spill Recovery Institute (OSRI), a formal collaboration which is now in its sixth year, and one where we encourage researchers to leverage efforts funded by the Bureau of Ocean Energy Management's (BOEM), as follows:

a. Oil Spill Recovery Institute

This is the sixth year of collaboration between NPRB and the Oil Spill Recovery Institute. OSRI will again contribute up to a total of \$100,000 for projects submitted to NPRB that align with OSRI's mission and goals. This includes the impact or potential impact of oil on Arctic and sub-Arctic marine ecosystems. Furthermore, OSRI's current research plan emphasizes the nearshore environment. More detailed

information on OSRI's full research plan can be found at http://www.pws-osri.org/business/science_plan.pdf. Proposals submitted in response to NPRB priorities that have overlapping interest with OSRI 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 (<http://www.pws-osri.org>). All proposals, regardless of potential collaborative funding through OSRI, are subject to the funding cap of the category in which they are located.

The topics of common interest are:

Under Oceanography and Lower Trophic Level Productivity

v. Nearshore sea ice environments

Under Fish and Invertebrates

ii. Fish and Invertebrate movement

vi. Forage species

Under Seabirds

i. Seabirds and the marginal sea-ice zone

ii. Retrospective studies

Under Other Prominent Issues

iii. Toxicity of oil, dispersants and industry-associated discharges

Under Cooperative Research with Industry

ii. 3 – Oil spill research in Arctic and sub-arctic marine ecosystems

Data Rescue

b. Bureau of Ocean Energy Management

This RFP also highlights an opportunity for leveraging and research collaboration with the Environmental Studies Program at the Bureau of Ocean Energy Management (BOEM) (<http://www.boem.gov/About-BOEM/BOEM-Regions/Alaska-Region/Environment/Environmental-Studies/Index.aspx>). Specifically, we are encouraging that proposers take advantage of the funded Arctic Nearshore Impact Monitoring in the Development Area (ANIMIDA) III. This project extends regional sampling and long-term monitoring of benthos and sediment chemistry in the Beaufort Sea that began in 1985. NPRB encourages submission of proposals that respond to specific sections in this RFP that will also team with and build upon planned sampling and infrastructure for the BOEM-funded project. Such efforts may include those that require deployment of additional sensors at existing monitoring locations for specific process studies or those wishing to add new sampling locations in Prudhoe and/or Camden Bay.

Long-term monitoring

NPRB is developing a strategy to fund long-term monitoring proposals. This new initiative will be separate from the regular RFP. A call for pre-proposals is anticipated in June of 2013, with invitation for full proposals to follow in fall 2013. Therefore, no long-term monitoring category has been included in this RFP.

2013 REQUEST FOR PROPOSALS: RESEARCH PRIORITIES (Total: \$4.0 million)

Table 3 summarizes research priorities and funding targets for the 2013 RFP. Detailed explanations of each research priority begin on page 6.

IMPORTANT NOTES REGARDING FUNDING LEVELS:

- All sections have firm limits for individual proposal funding amounts
- Limits for individual proposals are equal to the overall category amounts unless otherwise noted
- Proposals exceeding those limits will not be processed and will be returned without review
- Amounts listed are for the entire study, NOT per year

Table 3. 2013 RFP for Regular Research Priorities with target amounts totaling \$4.0 million.

Section and Subsection Categories	Target Funding
1. General Research Priorities on Ecosystem Components	\$2,700,000
a. Oceanography and Lower Trophic Levels	\$500,000
i. Emphasis on abiotic and biotic ecosystem processes affected by bottom topography	
ii. Processes driving secondary production	
iii. Benthos	
iv. Cold Water Corals	
v. Nearshore sea ice environments	
vi. Other oceanography and lower trophic level research	
b. Fish and Invertebrates (\$500K individual proposal cap)	\$1,200,000
i. Stock assessment research and model development	
ii. Fish and invertebrate movement	
iii. Discard and handling mortality	
iv. Biodiversity and implications for fisheries management	
v. Impacts of climate change on fish and crab stocks	
vi. Forage species	
vii. Pacific salmon	
viii. Halibut	
ix. Other fish and invertebrate research	
c. Marine Mammals	\$800,000
i. Harbor seal population trends	
ii. Ecology of marine mammal populations that are increasing or expanding in range	
iii. Steller sea lions	
iv. Northern Pinniped Unusual Mortality Events (UME) and potential effects on other species	
v. Retrospective studies (\$100K cap on proposals to this sub-priority)	
vi. Other marine mammal research	

d. Seabirds	\$100,000
i. Seabirds and the marginal sea-ice zone	
ii. Retrospective studies	
iii. Other seabird research	
e. Other Prominent Issues	\$100,000
i. Food safety	
ii. Coastal contaminants	
iii. Toxicity of oil, dispersants and industry-associated discharges	
iv. Invasive species	
2. Local and Traditional Knowledge and Community Involvement	\$200,000
a. Local and traditional knowledge	
b. Community involvement	
3. Cooperative Research with Industry	\$400,000
i. <i>Fishing Industry</i>	
1. Gear modification	
2. Fishery monitoring	
3. Catch identification	
4. Ecosystem observations and research	
5. Energy efficiency technology	
ii. <i>Oil & Gas Industry</i>	
1. Species of special concern	
2. Monitoring from platforms	
3. Oil spill research in Arctic and subarctic marine ecosystems	
4. Technology Development and Novel Applications	\$200,000
i. Molecular and laboratory-based technology development	
ii. Marine measurement technology development	
iii. Resource assessment technology development	
iv. Other technology development	
5. Data Rescue	\$100,000
FOCUS SECTION	
Social Science Focus	\$400,000
i. Identify and assess the scope of data that is needed to effectively evaluate social and economic impact of management decisions for fisheries or marine mammal harvests.	
ii. Retrospective analyses of marine mammal management decisions	
iii. Retrospective analyses of fishery management decisions	
iv. Examination of timely issues associated with the “graying of the fleet”.	
TOTAL	\$4,000,000

2013 Request for Proposals

1. General Research Priorities on Ecosystems Components

\$2,700,000

IMPORTANT NOTE

Please consult the NPRB 2005 *Science Plan* for clarification of appropriate research to be conducted under each heading. Care should be taken to consult past and current NPRB-funded projects (<http://project.nprb.org/>) including components of integrated ecosystem research projects - Bering Sea Project (BEST-BSIERP) (bsierp.nprb.org) and Gulf of Alaska Project (GOAIERP) (gulfofalaska.nprb.org) to show awareness of other related ongoing projects. *Strive to avoid duplication and coordinate with existing projects wherever possible.* Cooperative research with industry and other entities is encouraged throughout, and is not restricted to Section 3.

a. Oceanography and Lower Trophic Levels

\$500,000

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

i. Emphasis on abiotic and biotic ecosystem processes affected by bottom topography

NPRB is interested in studying flows across isobaths and how they affect biological production. Flows across isobaths can transport water from deep to shallow water and vice versa. They are processes that can carry nutrient rich water into the euphotic zone and organisms into the abyss and can thus affect primary and secondary productivity. Classes of these flows include basin-shelf interactions, flows through canyons and current across shoals. These flows might be affected by winds, tides and thermohaline forcing over a range of time scales (e.g. event-level, seasonal, interannual). Topographic features might lead to persistent regions of high or low primary production.

Approaches to this problem might use retrospective studies involving historical hydrographic data and the application of numerical models. These studies should address both annual and/or interannual variation in flows across isobaths, the mechanisms driving variation, and the implications to ecosystem processes. Alternatively, a high-resolution field program may be designed to measure abiotic parameters associated with a canyon-shoal system and connect these with primary and secondary production. These should lead to quantitative assessment and understanding of cross-isobath transport processes, including variables leading to persistent forcing over time, and their effect on ecosystem production.

ii. Processes driving secondary production

NPRB will consider research that examines processes that drive and maintain secondary production at the base of the food web from one year to the next, as well as those examining ecosystem implications resulting from changes in community structure, e.g., a shift in the dominant *calanoid* copepod species. In addition, projects that investigate feeding and reproductive rates of micro- and meso-zooplankton relevant to upper trophic level species will be considered. Understanding of such processes will be needed to forecast the impacts of climate change on the transfer of energy to upper trophic levels.

iii. Benthos

NPRB is seeking proposals that provide the basis for the development of index surveys designed to assess interannual- to decadal-trends in the distribution and abundance of benthic species, as well as those that

focus on the development of standards for identification and those producing an index of benthic invertebrate occurrence in Alaska.

iv. Cold Water Corals

NPRB is interested in studies determining the distribution and abundance of cold water coral species in the Large Marine Ecosystems of Alaska. Such studies should be accomplished by using NMFS survey data or other long-term time series data that are publicly available and by evaluating the utility of that time series for estimating cold water coral abundance trends or changes in species composition and/or distribution.

v. Nearshore sea ice environments

Climate warming affects nearshore or land-fast ice dynamics throughout the geographic extent of ice-covered waters. Significant but unquantified changes in nearshore ice dynamics affect seasonal movements and use of the nearshore environment by fish, marine mammals and birds, as well as local residents who use nearshore ice for travel and subsistence activities. While some nearshore patterns may be similar to changes documented in seasonal sea ice extent and patterns of seasonal retreat, the actual patterns and mechanisms that drive nearshore ice dynamics (formation, stability, and degradation) differ. Studies are needed to determine detailed patterns of nearshore sea ice dynamics, specific drivers or processes that affect the dynamics, and to determine appropriate techniques and scale to measure and ultimately monitor changes to nearshore sea ice. *Successful proposals under this category could be funded as an OSRI-NPRB collaboration.*

vi. Other oceanography and lower trophic level research

While the other topics in this category are given priority status, NPRB is also willing to consider proposals that focus on other topics identified in Table 3-2 of the *Science Plan*, p. 48. Note that retrospective studies are especially encouraged.

b. Fish and Invertebrates

\$1,200,000

The funding cap for individual proposals under Fish and Invertebrates is \$500,000. Also see fish and fisheries-related research topics under Cooperative Research.

NPRB is seeking proposals that focus on one of the topics listed below.

i. Stock assessment research and model development

NPRB is seeking proposals that will support stock assessment by developing and improving methods for determining sustainable catch limits of managed species. Emphasis will be given to those managed groundfish, crab, and scallop species that are data poor, particularly those with catch-only data (i.e., North Pacific Fishery Management Council Tier 6 for groundfish and Tier 5 for crab, e.g. Aleutian golden king crab) and species with catch limits that may prevent attaining full harvest levels of target species that are caught in the same fishery. Additionally, research proposals that will obtain current estimates of life-history parameters, such as growth, maturity, and fecundity for fish and shellfish that are needed to improve stock assessments, are sought. Proposals must justify the usefulness of the parameters to be investigated and must clearly demonstrate the link to current fisheries management issues. Studies are also needed to evaluate the effects of environmental conditions on sampling during stock assessment

surveys. Research to refine the estimates of survey catchability, q , used to infer absolute rather than relative abundance, would substantially improve the quality of management advice.

ii. Fish and invertebrate movement

NPRB is seeking proposals that will conduct field studies to quantify the movement of fish and invertebrate species. The goal of this research may include an improved understanding of the spatial importance of predator-prey interactions and spawning ground identification as related to management boundaries, including seasonal changes and responses to environmental variability. Proposals could also focus on mechanisms driving movement, connectivity, range expansion, and benthic habitat utilization (e.g. age or seasonal environmental change) patterns. Tagging studies must demonstrate that barotrauma and/or tagging mortality concerns have been addressed to support a full-scale movement pattern study, or must include such analyses in their proposal. *Successful proposals under this category could be funded as an OSRI-NPRB collaboration.*

iii. Discard and handling mortality

NPRB is seeking proposals that will conduct fieldwork to determine handling mortality rates for species without established rates. In addition, NPRB is seeking proposals to develop and assess techniques to reduce discard and handling mortality in Alaska shellfish and groundfish fisheries. Proposals should identify the application of project outcomes to incidental mortality catch estimates and thus stock assessment and catch limits.

iv. Biodiversity and implications for fisheries management

NPRB is seeking proposals to test the hypothesis that marine biodiversity and ecosystem resilience affect the stability of commercial fish stocks in Alaska. One of the aims of an ecosystem approach to fisheries management is to maintain a healthy ecosystem structure and function while facilitating a sustainable fishery. Multispecies analysis may provide new and valuable insights to managers. In general, it is hypothesized that higher species richness and/or species diversity confers marine ecosystems with more stability and resilience in the face of natural and anthropogenic stressors, thus affording a degree of ecological insurance against uncertainty. Proposals should identify objective measurable criteria that can be evaluated to assess effects on fisheries.

v. Impacts of climate change on fish and crab stocks

Although climate change is thought to impede the rebuilding of certain crab stocks, further research is required to understand how climate variability affects populations of fish and crab. Climate change interactions, such as changes in bottom temperatures, larval survival, predator-prey relationship changes, food scarcity, benefits to competitive species, ocean acidification and others could be considered. More information on how these factors impact growth and physiology of target crab and groundfish species (other than pollock) could improve predictions of climate change effects on fish. The research should be conducted in the context of historical and current fishing removals.

vi. Forage species

NPRB is seeking proposals that will improve our understanding of forage species ecology in Alaska marine ecosystems, with a special emphasis on species in the Aleutian Islands and Southeast Alaska. Here, the focus is on species such as sand lance, capelin (and other marine smelts), lanternfishes, euphausiids, herring etc. Proposals should focus on ecological characteristics important to predators, such

as determinants and variability of distribution and abundance, school density, recruitment, and availability to predators. *Successful proposals under this category could be funded as an OSRI-NPRB collaboration.*

vii. Pacific salmon

A recent effort led by the North Pacific Anadromous Fish Commission and supported in part by NPRB has resulted in a report titled *Long-Term Research and Monitoring Plan for Pacific Salmon in the North Pacific* (<http://www.npafc.org/new/index.html>). Based on the findings detailed in the report, emerging management concerns and other considerations, NPRB is interested in supporting proposals that focus on the following research topics in Alaskan marine waters:

- a) identification of the physical and physiological factors that affect the marine survival of juvenile Pacific salmon over their first ocean winter;
- b) assessment of the ecosystem impacts of hatchery salmon and wild salmon;
- c) age-structured models of exploitation rates for Chinook and chum salmon bycatch. International cooperation and retrospective analyses are highly encouraged, as appropriate.

viii. Halibut

Halibut in the North Pacific are currently at high levels of abundance due to above-average year class production, but the exploitable biomass is low due to substantially reduced growth rates over the past 20 years. Hypotheses for the reduced size-at-age include competition among halibut, competition for prey with arrowtooth flounder, reduction in prey availability, exploitation strategy, environmental changes, genetic effects due to selective removals by the fishery, and other ecological factors. This situation has raised fishery management concerns for both the directed halibut fisheries, where quotas have been decreased, and for the groundfish fisheries that incidentally encounter halibut and are constrained by halibut bycatch limits. NPRB is seeking proposals to evaluate potential factors that have caused the reduced size-at-age and consequences for halibut in the region.

ix. Other fish and invertebrate research

While the other topics in this category are given priority status, NPRB will also consider proposals that focus on other topics identified in Table 3-4 of the *Science Plan*, p. 79. Note that retrospective studies are especially encouraged.

c. Marine Mammals

\$800,000

Proposals directed toward the study of marine mammals should be focused on one of the topics listed below. *Also see marine mammal related research topics under Other Prominent Issues, Cooperative Research, and the Focus Section.*

i. Harbor seal population trends

NPRB is interested in proposals to estimate population size and trends in harbor seals in the central and western regions of the Aleutian Islands. Surveys through 1999 indicated a large decline in harbor seals and data are needed to determine if the decline has continued. Proposed studies should compare harbor seal population trends to those of other marine mammals in the area (e.g., sea otters, Steller sea lions, etc.).

ii. Ecology of marine mammal populations that are increasing or expanding in range

While declines have been documented in many marine mammal populations in the North Pacific, increases are being observed in others. Some populations, such as sea otters or whales in the Gulf of Alaska, have increased at a relatively rapid rate in recent years. NPRB is seeking proposals to investigate the ecology of increasing or expanding populations like these, including ecological consequences to other marine species, the environment, and/or human activities. These studies could focus on understanding demographic mechanisms leading to the population increase, impacts on prey species, or dispersal.

iii. Steller sea lions

NPRB is interested in supporting research that addresses data gaps/information needs identified in the Center for Independent Experts (CIE) review and the Independent Scientific Review Panel of the States of Alaska and Washington of the 2010 Biological Opinion released in September 2012 and 2011, respectively. NPRB also continues to be interested in supporting research that examines Steller sea lion and commercial fishery interactions in the western stock of Steller sea lions in the central and western Aleutian Islands.

iv. Northern Pinniped Unusual Mortality Event and potential effects on other species

Currently, federal, state, and local researchers are investigating the Unusual Mortality Event (UME) that occurred in ice seals and Pacific walrus in 2011-2012. To date, no causative agent has been identified. Recent research has documented a number of captured polar bears with hair loss and/or skin lesions. Samples have been collected from affected and unaffected polar bears and are currently being analyzed, but a direct connection between these disease states has yet to be made. NPRB is interested in projects investigating the etiology of the UME, with specific emphasis on research on potential connection to polar bears or other species.

v. Retrospective studies (\$100,000 proposal cap for this subcategory).

Scat and tissue samples from marine mammals have been collected and archived but many have not been analyzed. Priority will be given to studies of archived samples from species and geographic areas of concern or management importance. Applicants should describe the utility of the dataset to current and relevant science and management questions.

vi. Other marine mammal research

While the other topics in this category will be given priority status in this RFP, NPRB is also willing to consider proposals that focus on other topics identified in Table 3-9 of the *Science Plan*, p. 94.

d. Seabirds

\$100,000

Proposals directed toward the study of seabirds should be focused on one of the topics listed below. *Also see seabird related topics under Cooperative Research.*

i. Seabirds and the marginal sea ice zone

NPRB is seeking proposals that will investigate how changing sea ice conditions will affect seabird foraging and vital rates. Several seabird species in the Bering, Chukchi, and Beaufort seas are found in

association with marginal sea-ice zones, yet the functional significance of this interaction is poorly understood. With changing ice conditions, the location, timing, and predictability of these habitats will change, and with them, the prey consumed by seabirds. *Successful proposals under this category could be funded as an OSRI-NPRB collaboration.*

ii. Retrospective studies

Given the cyclical nature of the RFP, 2013 is a low funding year for this category. As a result, NPRB is seeking proposals that will take advantage of existing time-series or archived samples to conduct retrospective analysis that will support current seabird management and seabird-fisheries interaction issues. *Successful proposals under this category could be funded as an OSRI-NPRB collaboration.*

iii. Other seabird research

While the other topics in this category are given priority status, NPRB is also willing to consider proposals that focus on other topics identified in Table 3-12 of the *Science Plan*, p. 110.

e. Other Prominent Issues

\$100,000

i. Food safety

Zoonotic infections in marine mammals and birds, as well as biotoxins of marine origin, are emerging as threats to subsistence food safety. Proposals investigating the presence of pathogens and/or antibodies in archived tissue, or seroprevalence in available blood specimens, as well as the presence of algal biotoxins in invertebrate or vertebrate marine subsistence species, or prey species of marine mammals or birds important in subsistence diets, are encouraged. Proposals need not be limited to prevalence studies in subsistence species, but may also include intermediate hosts, transport hosts, and the ecology of the pathogen. Proposals that examine the role of co-infection with more than one pathogen, such as marine *Brucella* spp. (*Brucella ceti* and *Brucella pinnipedialis*), *Coxiella burnetti*, and *Toxoplasma gondi* are of particular interest. Studies that link human consumers and subsistence hunters with marine reservoirs of zoonotic disease are encouraged. Studies on biotoxins and the organisms that produce the toxins should focus on recognized seafood safety issues and be directly applicable to subsistence food gatherers, commercial harvesters, aquaculturists, and recreational fishers.

ii. Coastal contaminants

Contaminant levels vary across Alaska and are of special concern in coastal areas because of the potential toxic effects on biological resources and often, indirectly, on human health. This is especially relevant in rural areas where subsistence harvests provide a significant protein source and where subsistence food contamination is a health concern. NPRB is seeking studies of the bioeffects of contaminants in marine mammals, subsistence species or commercially harvested species. Research on transport of contaminants with demonstrated bioeffects to other ecosystem components is encouraged and should address important and timely issues. *Successful proposals under this category could be funded as an OSRI-NPRB collaboration.*

iii. Toxicity of oil, dispersants, and industry-associated discharges

Data on the toxicity of oil, dispersants, and industry-associated discharges to potentially vulnerable key species in the Arctic, such as (the larval stages of) Arctic cod, are needed to determine their sensitivity to these substances. Studies also are needed to evaluate the effects of low-level exposure on the health and

physiological responses of these species, including cytochrome p450 responses as an indicator of exposure to toxins. In addition, studies to characterize gene expression responses to oil exposure in wild fish and other marine taxa are encouraged. *Successful proposals under this category could be funded as an OSRI-NPRB collaboration.*

iv. Invasive species

NPRB is seeking proposals that focus on ecological and/or economic impacts of marine invasive species in Alaska. Proposers should be aware of a status report recently published by the Alaska Dept. of Fish and Game (http://www.adfg.alaska.gov/static/species/nonnative/invasive/pdfs/invasivespp_report.pdf) that lists the occurrence of marine invasive species in Alaska. These include several with high potential for economic impact and/or further threat of expansion, especially in light of changing ocean conditions, transport of marine debris (e.g. tsunami debris), and increasing ship traffic (in the Arctic especially, but also through the Great Circle Route and other maritime activities). Proposals could include risk assessment for new species invasions given future climate and associated changes in human activities, including marine shipping and ballast water discharges. Proposals could also include the design of eradication/control plans and a pilot program to test efficacy of removal. Investigations focused on risks of invasive species in regard to marine shipping should focus on fishing or cargo vessels. Investigations on passenger vessels will not be supported.

2. Local and Traditional Knowledge and Community Involvement \$200,000

The Board continues to encourage proposals that relate to Local and Traditional Knowledge (LTK), as well as those that involve community-based organizations and individuals. LTK and Community Involvement have again been combined into one section this year; proposals do not have to address both of these, but should clearly address either LTK or Community Involvement as follows:

a) Local and traditional knowledge

The Board is requesting proposals that address one or more of the research priorities identified elsewhere in this 2013 RFP that relate to LTK and its holders, as well as those that are responsive to the LTK section of Chapter 4 of the NPRB *Science Plan* and contribute to the mission of NPRB. In addition to the usual proposal evaluation criteria, LTK proposals will be assessed with regard to: (1) the degree to which they engage holders of LTK throughout the project, including project design and collection and interpretation/analysis of data and information, and (2) 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. Proposals should include specific plans for communicating research results back to the appropriate communities.

b) Community involvement

NPRB seeks proposals for small-scale research activities that are based in communities along the coast of Alaska and address the NPRB mission. The intent is to provide community-based organizations and individuals with the chance to gain experience in conducting research and to address their research interests and priorities, consistent with the overall mission of 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.

3. **Cooperative Research with Industry** **\$400,000**

The Board is requesting proposals that address one or more of the research priorities identified below *and engage the fishing or oil and gas industries, or others industries, as appropriate*. Cooperative research is also encouraged for other sections in this RFP but is required for proposals submitted under this section. Letters of cooperative support from the industry are required for proposals submitted under this category. Additionally, proposals must be responsive to the Cooperative Research section of Chapter 4 of the NPRB *Science Plan* and contribute to the mission of NPRB. In addition to the other proposal evaluation criteria, cooperative research proposals will be assessed with regard to:

- a) The degree to which they directly engage the industry partner throughout the project, including project identification, design, and interpretation, as well as collection of data and information;
- b) How well the proposal addresses pressing conservation and management needs identified for the applicable industry;
- c) The extent to which the project will improve understanding between science and industry, and strengthen 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 are listed below. Proposals are encouraged to include financial support from industry.

i. **Fishing Industry**

1. **Gear modification**

Areas of interest include modifications to fishing gear and techniques to reduce habitat impacts, gear loss, interactions with non-target species of fish and invertebrates, avoidance or minimization of interactions with marine mammal or seabirds, improvements for catchability and selectivity, and reductions in discard mortality. Studies in this category could include:

- Further development of seabird bycatch avoidance techniques and gear to address the impact of increasing short-tailed albatross populations or other potential species of concern.
- Modification of pot gear to minimize non-target bycatch mortality of halibut and octopus, as well as improved techniques (handling and gear) to minimize non-target crab mortality in pot fisheries.
- Studies to evaluate and reduce scallop-handling incidental mortality.
- Modifications of gear and handling practices to reduce wastage in the directed commercial and sport halibut fisheries.
- Evaluation of the efficacy of low frequency acoustic pingers to reduce potential whale entanglements.

2. **Fishery monitoring**

The necessity for accurate and cost-effective fishery monitoring is growing as management depends more on real- or near-time data. Observer program logistics and costs are impediments to improving monitoring or meeting management needs in many fisheries. Various forms of remote monitoring, including electronic monitoring (EM), may offer practical solutions. NPRB is seeking collaborative proposals to develop or further refine EM or other fishery monitoring techniques. These studies are particularly needed on smaller groundfish, halibut, and commercial guided recreational fishery vessels, including an

assessment of feasibility for small vessels and should take into account costs associated with enforcement of EM technology

Monitoring techniques could include a combination of direct and alternative monitoring programs (e.g., electronic logbooks, VMS, video monitoring, and special projects for placement of observers). One of the intents of restructuring the observer program is to deploy observers across all fisheries, vessel classes, and processors to ensure ongoing data collection and improve the quality of observer data. NPRB is seeking collaborative proposals to develop and further refine effective strategies for observer deployment, in a pilot program, in fisheries with less than 100% coverage.

3. Catch identification

NPRB invites proposals that will improve harvested species identification by observers or improved identification based on data collected by Electronic Monitoring (EM) systems in both shoreside and offshore processors and vessels, including priority species and species complexes. Development and implementation of methods that quantify and correct for misidentification are desired (see Faunce, ICES 2011).

4. Ecosystem observations and research

NPRB is looking for proposals that take advantage of existing infrastructure, such as platforms of opportunity in the fishing fleet, to carry out marine observations. These platforms could be used to deploy oceanographic sensors, to collect samples, to make cooperative biomass assessments and surveys, to study marine mammal or seabird/fishery interactions and methodologies to reduce such interactions. Fishermen, working together with scientists, could deploy acoustic monitors, evaluate non-fisheries activities on fish behavior (e.g., seismic testing), and carry out cooperative marine mammal or seabird monitoring.

5. Energy efficiency technology

Research is needed into technology and programs that improve the energy efficiency of fishing gear and vessels used to harvest marine resources. Recent studies have documented that increasing fuel prices can lead to decreased harvest of fishery resources and concentrate effort on fishing grounds near communities. This, in turn, may contribute to localized depletion, increase nearshore habitat impacts, and increase allocation conflicts. Energetically inefficient vessels and fishing gear also unnecessarily contribute to greenhouse gas emissions. To address this research need, NPRB is seeking proposals incorporating a robust experimental design that, for example, collect quantitative data to assess energy efficiency of fishing vessels and gear modifications, develop and test new technologies and vessel/gear modifications, and develop innovative methods to assist stakeholders to evaluate the implications of potential changes in their operations.

ii. Oil and gas industry

Cooperative research proposals with the oil and gas industry should center on the topics listed below. For all topics, priority will be given to studies that take place where oil and gas activities occur now or where they may occur in the future (e.g., southern Beaufort and Chukchi seas, Herald and Hanna shoals, Cook Inlet). Use of data previously collected by the oil and gas industry is encouraged.

1. Species of special concern

NPRB seeks proposals that investigate species of special concern in marine areas where oil and gas activities take place in Alaskan waters (e.g., Cook Inlet, Beaufort and Chukchi seas). Of particular interest are species of marine mammals and seabirds that are directly impacted by sea ice declines, as well as 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 and vulnerability can be demonstrated.

2. Monitoring from platforms

Platforms and vessels used for oil and gas activities could be used as sites to measure changes in the environment. Potential measurements include atmospheric parameters (air temperature, humidity, wind speed and direction, precipitation, solar radiation, and long-wave radiation) and oceanographic parameters (sea surface height, temperature, salinity, currents, nutrients, acoustics, fluorescence, wave height, and ice cover).

3. Oil spill research in Arctic and subarctic marine ecosystems

Proposals submitted under this category should investigate the direct effects of oil on marine mammals, seabirds, fish, and invertebrates, as well as the effects and persistence of dispersants, biodegradation of oil, and the weathering and persistence of oil in ice conditions. Proposals could also include the assessment of coastal environments and their risk to oil exposure in case of a spill, as well as the standardization of scientific methodology and protocols to be used during a response. *Successful proposals under this category could be funded as an OSRI-NPRB collaboration.*

4. Technology Development and Novel Applications **\$200,000**

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

i. Molecular and laboratory-based technology development

The Board is seeking proposals to develop new molecular technologies or apply modern molecular techniques to existing management problems in novel ways. Examples of DNA-based technology applications could be detecting and identifying organisms, including invasive species, or identifying phenotypically undifferentiated life-history stages, prey species in diet studies, and parasites or pathogens affecting product quality or survival. Applications could also include the analysis of chemical and biochemical profiles that provide methods to age individuals, to assess physiological condition, or to infer individual dispersal histories.

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 (such as ROVs, AUVs, and gliders) 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 limited to, turbidity or pCO₂ sensors, fluorometers, and acoustic technologies for Arctic and subarctic marine environments. Of interest is also the development of instrumentation for rapid shipboard

measurement of photosynthetic activity per unit chlorophyll, needed to ground truth widely-used satellite and *in situ* chlorophyll measurement methods. Field testing of devices such as optical plankton counters for deployment on nets is also needed to speed processing of zooplankton samples to determine abundance estimates.

The focus of proposals should be on the design and field-testing of such technologies.

iii. Resource assessment technology development

Technology development is needed to improve resource assessment. Examples include: innovations (including camera-based methods) to provide broader systematic sampling of biota and the physical environment, identification of advanced sampling technologies to conduct stock assessment surveys, high spatial and temporal resolution measurements of chemical, physical, and biological parameters in the marine environment, and improvements in acoustic assessments using fixed and mobile gear.

iv. Other technology development

While the other topics in this category are given priority status, NPRB is also willing to consider proposals that focus on other technological developments relevant to marine science and pressing fisheries management needs in the North Pacific.

5. Data Rescue

\$100,000

Marine research in Alaska has produced a wealth 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 the National Oceanographic Data Center (NODC), for storage and retrieval by the broader scientific community. Yet a variety of datasets spanning research from oceanography to fisheries, seabirds, marine mammals, and humans is currently in a format not accessible to other researchers (e.g., gray literature reports, paper files, field notes, and undocumented local and traditional knowledge) and as a result, cannot be used to help answer current research and management questions. In light of limited resources for marine fieldwork and in order to maximize investment into new research, NPRB is interested in supporting proposals that will rescue datasets that are inaccessible and/or at risk of being lost, with the goal of transforming them into shared digital formats. Applicants must describe the nature and state of the data to be rescued (location, format, content); ensure that they are not already part of an accessible database; and describe the utility of the dataset to 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 analyses of these data.

In order to get a realistic long-range view of ocean conditions in the past, especially with respect to the biological status, NPRB will also consider accessing data from early historic or pre-historic sources. These may or may not be readily digitized, but there is a need to identify and document such information, which could include early fishing records, whaling records, middens, tree ring, and sediment records, etc.

In all three areas, proposals should include integration of the rescued data into appropriate national data centers or databases, and could also include subsequent analyses of these data. *Successful proposals under this category could be funded as an OSRI-NPRB collaboration.*

FOCUS SECTION**\$400,000**

NPRB introduced a Focus Section to the RFP beginning in 2011. While the focus section topic varies each year (and may not be present in every RFP), the purpose is to highlight pressing research needs for fisheries research or ecosystem understanding. This year, the Focus Section is dedicated to **Social Science**.

NPRB is seeking research outcomes that strengthen our understanding of the social and economic implications of management decisions and that will support high-quality public policy. Relevant management frameworks can include state, federal, and/or international policy. For example, the Magnuson-Stevens Act National Standards contain explicit emphasis on social and economic dimensions of fisheries management to:

- consider efficiency in the utilization of fishery resources;
- take into account the importance of fishery resources to fishing communities to provide for their sustained participation, and minimize adverse economic impacts on such communities; and
- promote the safety of human life at sea.
- The Limited Access Privilege section specifies community considerations in the development of catch share programs. In addition to implications for the range of fishing constituencies, there are coastal communities that may have limited or no participation in commercial fisheries but are affected by fishery policies.

Similarly, management of marine mammals authorized under the Marine Mammal Protection Act includes both resource conservation and cultural components.

Proposals submitted under this focal section may encompass data from, or impacts to, communities in Alaska, Washington, and Oregon as they relate to fisheries or marine mammal harvest in Alaskan waters (Gulf of Alaska, Bering Sea, Aleutian Islands, or Arctic).

Proposals should address one of the following four topics:

i. Identify and assess the scope of data that is needed to effectively evaluate social and economic impact of management decisions for fisheries or marine mammal harvests

The scope should take into consideration data currently available and data that could be collected to address the interests of fishing communities, tribes, subsistence economies, and recreational and commercial industry sectors. Proposals should develop a roadmap for what data are needed and how they should be collected and analyzed to (1) understand social and economic trends and (2) improve decision-making. Proposers should define the appropriate methodologies for data collection, or include evaluation of appropriate methodologies in the proposal.

ii. Retrospective analyses of marine mammals management decisions

Policy makers and marine mammal management bodies would benefit from the assessment of management decisions to help inform future actions and to support improvements over time. Management decisions are made with certain expectations for results. NPRB is seeking proposals that explore the extent to which management decisions have achieved anticipated social and economic outcomes and whether or not there are impediments to evaluating such outcomes. This could include how marine mammal management policies have affected community or tribal interests and demographics in villages in Alaska.

iii. Retrospective analyses of fishery management decisions

Fishery policy makers would benefit from the assessment of management decisions to help inform future actions and to support improvements over time. Management decisions are made with certain expectations for results. NPRB is seeking proposals that catalogue (and/or build upon existing catalogues) catch-share or limited entry programs that have been implemented in fisheries globally. As part of this inventory, NPRB is interested in an evaluation of these programs that identifies whether or not clear and explicit social and economic objectives or performance criteria were identified as part of program implementation and whether re-evaluation occurs. Researchers should provide an analysis of how limited entry and/or catch-share management approaches in Alaska compare with other approaches taken around the world.

iv. Examination of timely issues associated with the “graying of the fleet.”

Many fishermen with limited access permits or catch-share privileges for state and federal fisheries are retiring. The succession of valuable fishing privileges and seafood business opportunities within coastal and fishing communities are a concern for such communities and young people wanting to build fishing businesses. NPRB is seeking proposals that explore potential barriers to entry, implications to coastal and fishing communities, and review potential public policy responses.

PROPOSAL APPLICATION MATERIALS AND PROCEDURES

All applicants should refer to 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. Scientific questions related to the RFP should be directed to Francis Wiese, NPRB Science Director at francis.wiese@nprb.org. For IT assistance with the proposal submission system please contact Igor Katrayev (igor.katrayev@nprb.org). If you require more general assistance with the proposal submission process, please contact NPRB staff members Carrie Eischens (Carrie.Eischens@nprb.org), Danielle Dickson (danielle.dickson@nprb.org) or the NPRB Executive assistant (admin@nprb.org; 907-644-6701).

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 can find all templates at the website listed above.

PROPOSAL SUBMISSION AND DEADLINE

Proposals must be submitted online at http://www.nprb.org/proposals/current_rfp.html by **Friday, December 14, 2012 at 4 p.m. Alaska Time**. Applicants will need to prepare and submit the following information and documents (described in more detail below).

1. Proposal Summary Signature Page including an Abstract (250 words maximum) and Community and Stakeholder Involvement summary (250 words maximum)
2. List of Proposal Objectives
3. Proposal Classification
4. Links to current and previous NPRB projects
5. Contact Information for the Applicant, lead Principal Investigator, Principal Investigators, Co-Investigators, Collaborators, Grant Managers, and Potential Reviewers
6. Research and Outreach Plan (maximum 12 pages, *use provided template*)
7. Results of Completed NPRB projects (*use provided template*)
8. Budget Information and Budget Narrative (*use provided templates*)
9. Résumés/CV (maximum 2 pages per investigator)
10. Current and Pending Support (*use provided template*)
11. Letters of Support (*if applicable*)

Online submission for proposals will be available starting on **Monday, October 15, 2012, and will close at 4 p.m. Alaska time on Friday, December 14, 2012**. 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 series of forms with information from the list above, and to upload required files (research plan, results of completed NPRB projects, budget summary and narrative, resumes/CV, current & pending support forms).

Templates for the research plan, results of completed NPRB projects, budget summary, budget narrative, and the current and pending support form will be provided (refer to hyperlinks in the appropriate sections below and/or the website) and **must be used**. Download these templates, complete them, and upload them again in the appropriate places during the submission process. 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 prior to the deadline and before your final submission.

A link to automatically generated, complete summary signature pages 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 (PI) and co-

investigators (co-PI) that will be associated with the project and their agency/organization affiliation and email address, the abstract, the community and stakeholder involvement summary, and funding amount request.

One summary signature page will be generated for each institution involved in the project, *as well as* one overall signature page listing all institutions. Please print these pages and have them signed by the authorized legal representatives of each institution participating in the proposed research. The signature from an authorized representative certifies that the proposal in its entirety, including the budget, has been submitted according to your organization's standard proposal approval process.

The proposal applicant should sign the overall signature page. Once you have finalized your submission you will be assigned a reference number. Insert this number in the appropriate place on the signed signature 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 from the institutions involved in the project to sign their institution's summary signature page and send it to NPRB separately.

The signed summary signature page(s) generated by the system at the end of the application process must be received at the NPRB office no more than one week after the proposal submission deadline, i.e. 4 p.m. Alaska time, December 21, 2012. Please note that courier and express deliveries to Anchorage, Alaska, normally require a minimum of two business days for delivery. If necessary, scanned copies of the signature pages are acceptable in order to meet the December 21 deadline; however, original copies must be forwarded to NPRB as well at a later date. Scanned signature pages may be emailed to admin@nprb.org.

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), December 14, 2012.

In the interest of fairness, no proposals received after this deadline will be considered for funding. Please note that it is in your best interest to have fully submitted your proposal well ahead of the deadline, and not wait until the last day. The system will be closed promptly at the time 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. If you have trouble submitting your proposal any time prior to 4 p.m. Alaska time on December 14, 2012, you may contact NPRB staff for assistance, but you are still entirely responsible for getting it in on time. Note also that NPRB staff may be constrained in the help they are able to provide if you wait until the last minute.

Confidentiality of Proposals

If a proposal is submitted but not funded, the proposal is retained in NPRB offices as part of our internal records, but no parts of it are released to the public.

If a proposal is recommended for funding by NPRB and approved by the Secretary of Commerce, then the full research plan and CVs (but not the detailed budget) will be available to the public on the NPRB website.

Proposals submitted in response to the joint NPRB-OSRI research priorities and considered of joint interest will go through a special joint review process and will be distributed to the OSRI Board and its advisory bodies in accordance with its standard operating procedures (<http://www.pws-osri.org>).

I. Proposal Package

The full proposal package consists of 11 elements:

1. Proposal Summary Signature Pages

The proposal summary signature pages 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,**
- **an abstract** (250 words or less, see below),
- **a community and stakeholder involvement summary** (250 words or less; see below),
- **requested funds and other support,** and
- a place for the **signature** of an official authorized to legally bind the submitting organization.

Ensure that you have not included any social security numbers in any of the fields. The proposal signature page is not a numbered page and thus, does not count towards the 12-page limit of the research plan.

Abstract: In 250 words, briefly explain the project goal and value, and why your research is relevant to the mission of the NPRB. Use language understandable by individuals not familiar with the specific subject area, such as members of Congress and the public.

Community and Stakeholder Involvement: Researchers are reminded that local community knowledge of, and interest in, natural resources extends beyond physical boundaries of the communities themselves. Researchers are expected to advise affected communities of the study purpose, goals, and time-frame of the research. Inclusion of local and traditional knowledge and wisdom throughout the proposed research is encouraged. In 250 words or less, applicants should specify in this section which, if any, communities they plan to interact with during their research and how results will be brought back to the community when the project is completed. In addition, proposals for research involving specific Alaska Native communities or human health issues must have a letter of support from appropriate community and tribal governing bodies (see section 11 below). If you determine that this community and stakeholder involvement section does not apply to your proposal, please state that, and very briefly explain why it does not apply.

2. Proposal Objectives

During submission of your proposal, you will be asked to list your project objectives. Objectives are the fundamental and measureable goals of your proposed work; the project objectives are what NPRB uses to evaluate progress and completion of the project. **Project objectives must be achievable and specific.**

Note that project objectives entered into the online submission system should be the same as those listed in your research plan (see section 6D: Project Objectives below).

3. Proposal Classification

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

- a. *Research Priority*: Choose ONE primary research priority or sub-priority from the 2013 RFP under which your proposal will compete. For example, “Seabirds and the marginal sea-ice zone” is a sub-priority under the primary research priority “Seabird” and, if chosen, you will compete within that sub-priority. On the other hand, “Data Rescue” has no sub-priorities and, if chosen, you will compete in the overall Data Rescue priority.

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 or sub-priority you indicate in the online system.** Proposals that are not responsive to the chosen research priority or sub-priority will not be forwarded to peer-review (see PROPOSAL REVIEW PROCESS section below).

- b. *Graduate Students*: Indicate the number of graduate students you intend to include in your project. Include the degree level (M.Sc., Ph.D.) and duration of their degree in years, or list whether you do not intend to include graduate students as part of your project. Graduate student participation in NPRB projects is strongly encouraged, but this graduate student listing will not affect the evaluation of your proposal and is intended for informational purposes only. *Please note: Including graduate students in the research part of your study does not count as outreach, unless the student is actively doing outreach and sharing research results with non-scientific audiences.*
- c. *Species*: Provide the species name(s) of the focal subjects of your study.
- 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 [p. 11, Figure 2-1]).
- 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 latitude/longitude 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. *Topical Area*: Identify the topical area of your proposed research based on tables 3.2 through 3.13 in the Science Plan. (e.g., Population Ecology, Fishery Interaction, Subsistence, etc.)
- h. *Ecosystem Components*: Indicate one or more of following ecosystem components addressed in your study:
 - Oceanography & Lower Trophic Level Productivity,
 - Fish and Invertebrates,
 - Fish Habitat,

- Seabirds,
- Marine Mammals,
- Humans, and/or
- Other Prominent Issues (e.g., contaminants, disease, invasive species, climate change, etc.)

See the 2005 NPRB *Science Plan* for details.

- Keywords:* Describe your project with 5-10 keywords (do not include any words that would apply to items c-h above).
- Research Approach:* Identify which research approach(es) will be used in your study: Monitoring, Process Study, Retrospective Analysis, and/or Modeling.
- Reviewer Expertise Criteria:* Towards the end of your submission you will 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.

4. Links to Current and Past NPRB Projects

During the proposal submission process you will be asked to confirm (by checking a box) that you have reviewed the NPRB Project List (<http://project.nprb.org/>) for projects that relate to your proposed research and that there are no significant duplications of effort.

You will also be asked to provide text explaining any connections between your proposed work and any current or past NPRB projects. If there are no connections between your proposed research and past/current NPRB funded projects, please state that in the appropriate place during proposal submission.

5. Contact Information

As part of the submission process, you will be asked to provide contact information (name, organization, mailing address, email, phone, and fax number) for each of the following roles (for each organization) as defined below. Note that a Principal Investigator and Administrative Grant Manager are required for each organization requesting funding. You are not required to suggest potential reviewers. If you choose to submit names for reviewers, these will not be disclosed, but please do not suggest colleagues from the same institution. For more information on the please read the [conflict of interest policy](#).

Roles:

- **Proposal Applicant** (required): Person who is submitting the proposal, either for themselves or on behalf of the principal investigators. Full contact information is required, but no resume or Current & Pending Form is required as part of this role.
- **Lead Principal Investigator** (required): Person with the overall responsibility for the project, in terms of scientific content, project management and project completion. There can be only one Lead Principal Investigator for the entire proposal. This person must also be listed as a "Principal Investigator" and provide the information listed below.
- **Principal Investigator(s)** (required): Person(s) responsible for the scientific content of the proposal and for completion of the project, should it be funded. You must provide at least one PI for each organization requesting funds with full contact information (including institutional

affiliation) for each. In addition, you must submit a Results of Completed NPRB projects, Resume/CV, and a Current & Pending form for each principal investigator.

- **Co-Investigator(s)** (Co-PI; if applicable): Researcher(s) responsible for carrying out part of the scientific content of the proposal. Submission of full contact information (including institutional affiliation), a Results of Completed NPRB projects, Resume/CV, and a Current & Pending form for each Co-Investigator is required.
 - **Collaborator(s)** (if applicable): Person(s) who have committed to work on a project and complete specific tasks, but are not responsible for successful completion of the project. You need only submit full contact information (including institutional affiliation); no other forms are required.
 - **Administrative Grant Manager(s)** (required): Person(s) responsible for the financial administration of the grant and can provide legally binding authorization (e.g., Office of Sponsored Programs). One Administrative Grants Manager is required for each organization requesting funds. Full contact information is required, but no other forms are needed.
 - **Potential Reviewer(s)** (optional; maximum of three): Person(s) not associated with this project in any of the groups above, but with sufficient expertise and credentials to review your proposal in an objective manner. No resume is required, but please provide full contact information. Please refer to the "[Conflict Of Interest Policy](#)" before suggesting a reviewer.
 - **Unacceptable Reviewer(s)** (optional): If you prefer that someone not review your proposal (for other than conflict of interest reasons), please provide their name only. No reason need be provided. We will try to ensure that they are not contacted for an anonymous technical review of your proposal.
6. Research and Outreach Plan ([use template](#)): 12-page maximum including references, tables, and figures; continuous line numbers; upload your plan as a **Microsoft Word document (.doc or .docx) only**.

The main body of the proposal is your research plan, **limited to 12 consecutively numbered pages** and formatted as follows:

- All pages (*including the reference section*) must have **one-inch margins** at the top, bottom, and sides.
- All text (*including tables, figure captions, 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.
- Tables must be created within your Word document and in Times New Roman 11 point font.
- Figure captions must be part of the Word document in Times New Roman 11 point font and not part of the figure "picture" embedded into your research plan.
- Color graphics are allowed, but may be reproduced in black and white, and should thus be sufficiently descriptive in black-and-white form. 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 **must have continuous line numbers** from beginning to end to facilitate review.

Failure to comply with any of these formatting specifications will result in automatic dismissal of your proposal without further review. Please note that the research plan (specifically sections A through J) will be reformatted to ensure that the font style, size, and margin width specified above are used. If the proposal exceeds the 12-page limit after this reformatting, your proposal will be automatically dismissed without further review. Disqualified applicants will be notified in writing of this outcome. Note: Since 2006, more than 2% of proposals submitted have been returned without review due to formatting issues. PLEASE be sure to comply with all formatting specifications.

Following the template provided, your Research and Outreach Plan will have the following elements:

- A. Project Title. Include the **long title**, as well as a suggested **short title** of up to 60 characters.
- B. Proposal Summary. Briefly explain the project goal and value, and why your research is relevant to the mission of NPRB. Use language understandable by individuals not familiar with the specific subject area, such as members of Congress and the public. The 250-word Abstract from the Proposal Summary Signature Page would suffice.
- C. Project Responsiveness to NPRB Research Priorities or Identified Project Need. Identify the specific research priority identified in the RFP to which you are responding **and describe how your proposal addresses this priority**. If you are responding to an “Other” research priority category, be sure to identify and justify the need for your proposed research within the context of NPRB’s mission. Note that the priority or sub-priority discussed here **must match** the one selected during the online submission process. In case of discrepancies, the priority or sub-priority selected during the online submission process will be used. In this section you may describe and identify up to three secondary research priorities (or sub-priorities) also addressed by your proposed research to show its broader applicability, but note that your proposal will **only** be considered and compete for funding under the primary research priority or sub-priority selected during the online submission process.
- D. Project Objectives. This should be a numbered, annotated listing of your project objectives and not a narrative in paragraph form. Objectives are the fundamental and measureable goals of your proposed work; the project objectives are what NPRB uses to evaluate progress and completion of the project. **Project objectives must be achievable and specific**, and those listed in the research plan should be the same as those entered into the online submission system.
- E. Project Design and Conceptual Approach. State what the project will accomplish and why it is important. This should be an expanded version of the objectives listed above in Section D. Demonstrate an understanding of the problem being addressed, the present state of knowledge in the field, the project’s relationship to previous work and work in progress by the principal/co-investigator(s), and the measurable benefits that will result from the proposed research. If this project builds upon a project previously funded by NPRB, describe your progress to date and the objective(s) of the next funding period. Describe the conceptual or statistical model underlying your experimental work. Present a list of clear hypotheses. Describe and justify 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. In cases where sample sizes are in issue, be sure to include a power analysis.

- F. Education and Outreach. Describe in detail the education and outreach component of this project. Proposers 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 and give a detailed breakdown of how the money will be spent in the Budget Narrative.** Education and outreach activities should target as many of the audiences identified in the NPRB *Science Plan* (2005) as possible, or at least one other audience besides marine researchers. NPRB reserves the option of pooling education and outreach funds from funded projects, where appropriate, to achieve the broadest impact in communicating about research, working closely with the principal investigators. Please note that NPRB **does not** consider graduate student research, or posters or oral presentations at scientific conferences as education and outreach activities. For more ideas, please refer to the Outreach Tools section of our website (<http://www.nprb.org>), where you'll find resources and a sampling of outreach activities from other scientists. Also consider mentoring an Alaska student, teacher, or school district in their ocean science fair projects.
- G. 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.** Also include attendance for at least one representative of the project at the Alaska Marine Science Symposium during each year of the project AND in the year following the substantial completion of the project (see 8: Budget Summary and Budget Narrative). 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 periods (January-June, July-December), detailing your timelines and associated measurable milestones (objectives achieved, outreach conducted, 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.
- H. Project Management. Describe the organization and management of the project and the experience and qualifications of the principal and co-investigator(s). Individuals with full-time equivalent (FTE) positions must indicate standing time availability as authorized by their supervisor. Demonstrate how PIs/Co-PIs 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 more than one investigator is involved, the applicant must clearly identify which one will be responsible for the overall work (the designated lead principal investigator), as well as the specific responsibilities of each PI/Co-PI involved in the project.
- If applicable, **permits** that may be required as part of the project must 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.
- I. Figures and Tables. Figures and tables are part of the 12-page limit and should be embedded in the text of the research plan. **Note that all text in figure and tables must be 11 point, Times New Roman.**
- J. 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 the 12-page limit. Line numbers are not required and should not be included beyond this part of the proposal package.

7. Results of Completed NPRB Projects (use template).

Each Principal Investigator and Co-Investigator identified in your current proposal must provide the information indicated in the Results of Completed NPRB Projects template ONLY for completed NPRB projects. Information is limited to a maximum of one page per completed project. Related projects that are continuations of the same effort/objectives may be combined for this report. Information about ongoing NPRB funded projects that are related to the current proposal should be included in section E of the Research Plan. *If the PI or Co-PI has not been involved as a PI or Co-PI on any completed NPRB project, please state this at the top of the page.* Upload one Results of Previous NPRB Projects document for each PI and Co-PI separately, not as a single document with individual “Results of Completed NPRB Projects” documents combined.

8. Budget Summary and Budget Narrative (use templates)

Funding amounts specified above are for the full duration of the project and are not to be interpreted as “per year” funding. Please check your final budget before submission to ensure that the addition of indirect costs as a percentage or any 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.**

Your budget must include costs of:

- preparing all required reports,
- publication of results in appropriate scientific journals,
- providing metadata and data records to NPRB
- a minimum of \$2,000 for education and outreach (see section 6f above), and
- travel costs for at least one representative of the project to attend the annual January Alaska Marine Science Symposium (www.alaskamarinescience.org) in Anchorage for each year during the period of the project, **plus the annual symposium in the January following the substantial completion of the project**, to present your final results. Participation at the Symposium does not guarantee an oral presentation. 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 Summary. The Budget Summary Excel file contains a series of spreadsheets (one for each institution/organization requesting funds) that detail by year 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.

Year 1 covers the first 12 months, starting from your proposed start date. The Budget Summary template includes a summary page that automatically combines all information for up to four different organizations. You may revise this template to include more institutions as needed. Please note that each organization requesting funds must designate one **Principal Investigator** to be responsible for that component of the project, and this person's name must be entered on the Budget Summary worksheet for that organization. **You must ensure that your total budget requested in the Budget Summary matches the one entered online. If discrepancies are found between the two, we will assume the lesser amount is the correct one.**

Budget Narrative. Guided by the example in the template for the Budget Narrative, each institution requesting funds and/or providing other support for the project must provide a detailed description of costs listed under each budget category in the Budget Summary Excel file. You are encouraged to include supporting spreadsheets and other materials if applicable, and the narrative text need not duplicate information that is clearly presented in spreadsheet form. *The details of the Budget Narrative must **exactly** match the numbers entered in the Budget Summary.*

- **International Travel:** In the Budget Narrative, clearly state whether or not your project will require any **international travel**, including travel to or from any location outside of the United States (including Canada). 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 three months to process. *Please note that it will be the funded investigator's responsibility to initiate the foreign travel request process once the proposal has received funding.* Also note that the Fly America Act regulations will apply to all travel included in the funded proposal.
- **Education and Outreach:** In the Budget Narrative, describe the cost breakdown of the education and outreach funds, by including them under the appropriate budget category and also summarizing them at the end of the budget narrative. It is **not** sufficient to list \$2,000 without itemizing costs for the proposed activities. *Note:* if qualified education and outreach activities are not conducted during the course of the project the funds set aside for those activities will be withheld by NPRB at the end of the project.
- **Ship Time:** Please be explicit whether your budget includes ship time, or, if it does not, how required ship time (if any) will be covered by other guaranteed funds.
- **Cost Quotes:** Please attach a cost quote from a vendor for any individual item of equipment costing \$20,000 or more.
- **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, 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 the Environmental Improvement and Restoration Fund (EIRF) that supports NPRB awards is 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. Also note that all organizations, including those that are only providing "other support" and not requesting funds from NPRB, will be required to sign a Proposal Summary Signature page document (See Proposal Package Component 1, on Page 20)

- **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. Note: Institutions cannot increase their indirect rate during the course of the project. The approved rate at the time of application will apply throughout the duration of the project.

9. Resumes/CV

Note: if uploading Resumes as PDF documents, please ensure that these are unprotected documents so that they may be merged with other documents for peer review.

The resumes of all principal/co-investigators and other senior personnel involved in the proposal must be provided and are limited to two-pages per principal/co-investigators (collaborators do not need to submit their resumes). Upload each individual resume separately, not as a single document with all resumes combined. Each two-page resume must include the following information:

- A list of professional and academic credentials, mailing address, and other contact information, including work phone number and email address,
- A description of current activities relevant to the proposed project,
- 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, and
- 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. Also include all thesis advisors and graduate students supervised. If none, this should be indicated.

10. Current and Pending Support Form ([use template](#))

Upload Excel 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 to or similar to research included in the proposal, or that would consume the time of the proposer(s). Upload each individual's current and pending form separately, not as a single document with all current and pending forms combined. The proposer must also disclose if they have submitted the current proposal to other funding sources.

11. Letters of Support

Note: if uploading Letters of Support as PDF documents, please ensure that these are unprotected documents so that they may be merged with other documents for peer review.

Provide letters of support from:

- collaborating agencies,
- relevant management agencies,
- industry partners for cooperative research activities,

- those providing facilities or infrastructure support,
- communities (including Alaska Native communities and tribal governing bodies if applicable), or
- others potentially impacted by project activities or benefiting from the projects results.

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. Any hard copies of letters of support submitted directly to NPRB before the submission deadline will be uploaded to your proposal package after your proposal has been successfully submitted. Letters of support received after **December 21, 2012** will **not** be included in the proposal package for review.

PROPOSAL REVIEW PROCESS

Initial Screening of Proposals

Upon receipt of proposals, the NPRB staff will screen proposals for conformance with requirements set forth in this notice. This review will consider whether the proposal meets the format and structure requirements in this RFP and assess whether the proposed research falls within the selected research priority, or sub-priority (if applicable), under which to compete. Proposals identified by staff as having questionable responsiveness will be reviewed by an ad hoc committee of Science Panel members who will determine which of these proposals, if any, to carry forward. If the ad hoc committee cannot agree on whether a proposal is responsive to the RFP priority selected, it will be fully reviewed. **Proposals that do not comply with the formatting requirements of the RFP or that are determined to be unresponsive to the priority, or sub-priority (if applicable), selected from the RFP will be returned without further processing. Written notification of non-compliance or non-responsiveness will be sent to the proposal applicant.**

Independent Technical Evaluations

Proposals that pass the initial screening will undergo independent, anonymous, technical peer review, conducted by regional, national, and international experts. Staff will assign peer reviewers to proposals following the [NPRB Conflict of Interest Policy](#). The goal of this step is to receive three independent technical reviews for each proposal. Reviewers will be asked to provide comments and qualitative assessments of the technical aspects for each proposal in each of the categories indicated below, as well as an overall summation. Percentages indicate the weight that the subsequent review by the NPRB Science Panel will give to the criteria. Reviewers will be asked to score each section, as well as the overall summation, into one of five categories: **poor, fair, good, very good, and excellent.**

The technical review criteria are:

- a. Soundness of project design/conceptual approach (60%):
 - Are the project objectives clearly stated and explain 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 that 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 and well-defined expected outcomes?
- 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?

Reviewers 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 planned education and outreach activities/materials aimed at audiences other than the scientific community?
- Does the proposal address community involvement throughout the project and outreach of results to non-scientific audiences?
- Are the costs itemized in the budget narrative and realistic for the proposed activities?

c. Timeline and milestones (10%):

- Is there a clear table detailing appropriate timelines and associated measurable milestones, objectives, 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%): Evaluate the organization and management of the project, and then project's principal/co-investigator(s) and other personnel in terms of related experience, qualifications, and prior performance. Applicants must demonstrate how they will coordinate and collaborate with other projects and leverage their proposal with support from other sources. Have investigators demonstrated adequate resources and partnerships to complete the proposed work? Applicants must seek to avoid duplication of other research efforts. If there is more than one investigator involved, has the applicant clearly identified the distribution of responsibility for the overall workload (i.e., the responsibilities of each PI or Co-PI involved in the project)?

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

Following the [NPRB Conflict of Interest](#) procedures, staff will assign two Science Panel members with relevant expertise to each proposal (a Primary and a Secondary). Science Panel members generally conduct their own independent reviews following the same technical review guidelines above. These are completed and made available to all Panel members in advance of the Science Panel meeting. Science Panel members will adhere to their [COI procedures](#) throughout the meeting. The Primary and Secondary summarize the proposal for the entire Panel, go over the evaluations by the outside technical reviewers, and, based upon that input and their own evaluation, give their overall assessment to the group. The entire Panel then discusses the proposal and its evaluations further and determines, by consensus, a tier ranking as follows:

Tier 1:

Proposals that are considered highly meritorious based on the combined peer and science panel reviews (based on the criteria outlined above) will be designated Tier 1 proposals. Highly meritorious will be defined as proposals that generally score an average of Very Good to Excellent and do not require any scientific alterations to the proposed work to go forward (although suggestions for improvements may be made). The Science Panel may decide to go back over the Tier 1 list to determine if there are any scientific nuances amongst them that may be relevant to the Board when making their final funding decisions. Such criteria will be only science-based (i.e., not as it relates to the RFP category caps) and may include relative comparisons between highly ranked proposals such as: more technically robust, more specifically on target with what the RFP was looking for, or more time sensitive in terms of increasing scientific knowledge base. Accordingly, proposals placed in this category may be separated into **Tier 1a** or **Tier 1b**.

Proposals that are highly meritorious as defined above but have minor non-science related issues (e.g., budget or permitting) that once fixed would place the proposal in the Tier 1a or Tier 1b category, will be categorized as **Tier 1a conditional** or **Tier 1b conditional** proposals respectively. If the Science Panel chooses not to distinguish between Tier 1a and Tier 1b (see above), these conditional proposals will simply be referred to as **Tier 1 conditional**. In such instances, the Science Panel will clearly identify the conditions they believe need to be met before the proposal goes forward.

Tier 2:

A **Tier 2** ranking will be given to proposals that are good scientifically, but not exceptional. Additionally, proposals that have minor science issues of a simple or straightforward nature, for example simple changes to sample size or study design, will be categorized as **Tier 2 conditional**. A Tier 2 proposal that has non-science issues will also be placed in the **Tier 2 conditional** category. For conditionally ranked proposals, the Science Panel will clearly identify the conditions they believe need to be met before the proposal goes forward.

Tier 3:

Proposals that are found to have major flaws, or those that are simply not competitive scientifically even with minor changes and should not be funded, are designated **Tier 3** proposals. These will generally be proposals with some Poor and Fair ratings or those that are mixed, depending on the issues. Tier 3 proposals are those that require substantial revision to be competitive and thus, they should not be funded.

NPRB receives over 100 proposals in response to its annual RFPs. To allow the Science Panel sufficient time to discuss the most competitive, a triage system may be used. The Science Panel may forgo detailed discussion of proposals that are not competitive based on peer reviews and initial Science Panel member assessments. Science Panel members retain the option of discussing any of the proposals during the meeting before crafting final recommendations for the Board.

Reconciling Differences between Independent Technical and Science Panel Reviews:

Ideally, five technical reviewers (three peer and two Science Panel) evaluate each proposal. With so many reviews, evaluations may vary, sometimes greatly. When Science Panel and the outside reviewers disagree (in either direction), proposals and all reviews are discussed at length. The final scientific authority lies with the Science Panel, who will document discrepancies and discussions in support of their final recommendations to the Board. The Board will also have access to all of the technical reviews as well as the Science Panel Summary for every proposal before they make funding decisions.

Science Panel Recommendations

Staff, Primary, and Secondary panel members will take notes on the discussion of their assigned proposals. Following the meeting, the Primary, in consultation with the Secondary and any other panel member identified during the discussions, is responsible for drafting a summary paragraph for the specific proposals for the Board. This paragraph will follow a pre-determined template (see Appendix 1), and will be submitted to the NPRB staff within a few days of the meeting. Staff will compile all paragraphs and submit Tier 1 and Tier 2 summary paragraphs to the Advisory Panel (see below) and all summary paragraphs to the Board as soon as possible thereafter.

Advisory Panel Input

The Advisory Panel review proposals to highlight those proposals that have special stakeholder, community, and other societal relevance and public interest value. The Advisory Panel receives full proposal materials and the Science Panel summary paragraphs for all proposals that the Science Panel has determined to be responsive to the RFP and to have scientific merit (Tier 1 and Tier 2). The Advisory Panel will review these proposals and only provide a short summary for those that they consider to have significant stakeholder, community, or other societal relevance. These summaries are forwarded to the Board for consideration. The Advisory Panel does not rank proposals, provide comment on the scientific merit of proposals, or comment on the alignment of proposals with category budgets. Standard [Advisory Panel COI procedures](#) will apply with respect to the AP review of proposals.

Relevance Considerations used by the Advisory Panel include:

- Leverage—Does the proposal leverage understanding of larger issues or is it especially useful in resource management issues?
- Timing—Does the proposal respond to urgent challenges facing stakeholders or take advantage of an opportune timing event?
- Community involvement—How strong is the community involvement section of the proposal? Does it create new, enduring resources for community members or employ novel methods worthy of note?
- Stakeholder involvement—Are stakeholders and community members an integral part of the project? Is their role in data collection, project planning or execution noteworthy?
- Value—Does the proposal leverage additional funds or is it a particularly good value for the stakeholder benefit?
- Outreach and education—Is the education and outreach component noteworthy? Will communications education and/or outreach reach relevant communities and stakeholders?

Board Review

The Chair and/or Vice-chair of the Science Panel will attend Board meetings to present the Science Panel summary paragraphs and to answer technical questions. NPRB will consider technical evaluations, Science Panel recommendations, and Advisory Panel input, using scientific merit as defined by the Science Panel rankings as its primary criterion. There are likely to be many more highly ranked proposals than funds available, so to allow for a balanced portfolio and the flexibility to respond to current issues, other factors may be considered at the time of final funding decisions. Such factors include, but are not limited to:

- Pressing fisheries management needs;
- Ecosystem information needs;

- Other projects currently funded on a similar topic;
- Overlap with other ongoing programs;
- Competitiveness relative to other proposals of equal merit within a topical area;
- Category target funding amounts published in the RFP; and/or
- Previous performance of applicants (evaluation of previous NPRB-funded projects will involve project management, adherence to project budgets, timelines, and reporting requirements, as well as achievement of previously funded project objectives).

While these factors will be considered, scientific merit remains the primary consideration for proposal funding. Thus, the Board will accept Science Panel recommendations regarding Tier 3 proposals and will not consider them for funding. Further, if the Board decides to fund a Tier 1 conditional or Tier 2 conditional proposal, the Board will carry forward all the Science Panel conditions. The Board reserves the right to apply additional conditions on any proposal recommended for funding. Proposers that receive conditional funding by the Board will be asked to resubmit a revised proposal that specifically addresses all concerns raised during the review and decision-making process. Unless otherwise noted by the Board, staff will review the revised statements of work vis-à-vis the conditional requests and determine whether to go ahead with funding or not. If staff is uncomfortable making this final determination, they may consult a subset of the Science Panel or the Executive Committee of the Board.

The Board will document their decision making process, which along with all technical reviews, Science Panel summary paragraphs, and Advisory Panel comment (where applicable) will be provided as written feedback to the applicants.

Public comment will not be taken during the proposal review and decision-making process. 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 staff, 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 the project recommendations are consistent with the terms of the NPRB grant award, federal law, and the enabling legislation. Projects recommended for funding by the Board may be denied approval upon review by the Secretary of Commerce. As noted in General Condition 4 (below), the applicants are responsible for obtaining all federal, state, and local permits. Approval of the project by the Secretary of Commerce does not preclude the requirement to obtain such permits.

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	September 28, 2012
• Online Submission Opens	October 15, 2012
• Deadline for Proposals	December 14, 2012 at 4 p.m. Alaska time
• Deadline for Signature Pages and Letters of Support	December 21, 2012 at 4 p.m. Alaska time
• Technical Evaluations	January-March 2013
• Science Panel Review	March-April 2013
• NPRB Selection	mid May 2013

- Initial Notification to PIs end May 2013
- Submission to Secretary of Commerce end May 2013
- Grant Agreements to PIs June-July 2013
- Commence Research July 1, 2013 (earliest)

The exact funding awarded to a project will be determined in pre-award negotiations between the applicant and NPRB. Projects should not be initiated in expectation of funding until a fully executed subaward agreement or Memorandum of Understanding (MOU) is received and NPRB has issued a Release of Funds email for the funded project. **Applicants may not request a project start date before July 1, 2013.** Please note that if your project includes funds for a NOAA organization, a formal MOU must be in place and fully executed between NPRB and NOAA before the NOAA agency will allow work to begin on the project. This will generally result in a later start date of approximately **September 1, 2013.**

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 (<http://fedgov.dnb.com/webform>) and be registered in the Central Contractor Registration (CCR) system (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 any time before July 1, 2013 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 fully executed agreement. A proposal accepted for funding does not obligate NPRB to provide additional future funding.
3. NPRB's [Subaward Compliance Policy](#), finalized in March 2009, is based on federal law that governs award agreements and on comments received to an interim compliance policy from NOAA's Federal Law Assistance Division, the National Science Foundation, and grants managers from five major research institutions. This policy will be part of all awards made as a result of this RFP.
4. 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:
 - 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 the law, and only pursuant to mandatory permitting duly granted by the appropriate federal and state agencies. Requirements for special permits, such as those those required for taking marine mammals, should be clearly described and indicate whether the permit is in possession or not. Failure to comply may result in the cessation or termination of the project and may lead to other action that could preclude the issuance of future awards to the applicant. As a condition of funding, all award recipients must make available, upon request, access to any books, documents, papers and records which are directly pertinent to a specific program for the purpose of making audits, examinations, excerpts and transcriptions. (Circ. A-110. 47(d))

5. 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.)
6. 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 to 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 in an appropriate scientific journal within one year of the completion of study. The NPRB Executive Director may in his/her sole discretion grant written exceptions if requested in a timely manner. All manuscripts shall acknowledge that funds were provided by the NPRB.
7. 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 of final project costs. 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.
8. Full execution of 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.
9. 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.
10. 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.

Appendix 1. Science Panel Summary Template

The Primary, in consultation with the Secondary and any other Science Panel members identified during the Panel discussion should submit a Science Panel summary to the NPRB staff that contains the following elements:

2-3 sentences summarizing the proposal

The proposal aims to

The research will focus on....

The goals are to...

2-3 sentences summarizing the external reviews

In general, the technical reviewer found this proposal to be ...

2-3 sentences on SP discussion

The Science Panel discussed the external and their individual reviews and concluded that...

Provide additional information from the discussion if there were discrepancies between the external and the SP review scores

Recommendation – 6 options (Fund as is TIER 1a, Tier 1b, or Tier 1a or 1b conditional, Could be funded as TIER 2 or Tier 2 conditional, Do Not Fund Tier 3)

Based on the discussion described above,

1. The Science Panel recommends FUNDING this proposal in **Tier 1a** as is.
2. The Science Panel recommends FUNDING this proposal in **Tier 1b** as is.
3. The Science Panel recommends **CONDITIONAL FUNDING** in **Tier 1a or 1b conditional**. If funded by the Board, applicants should submit a revised statement of work that addresses the following issues: *{list non-science issues here}*
4. The Science Panel recommends that this proposal **COULD BE FUNDED** in **Tier 2** as is.
5. The Science Panel recommends that this proposal **COULD BE CONDITIONALLY FUNDED** in **Tier 2 conditional**. If funded by the Board, applicants should submit a revised statement of work that addresses the following issues: *{list science and, if applicable, also non-science issues here}*
6. The Science Panel places this proposal in **Tier 3** and recommends **NOT FUNDING** this proposal based on the concerns raised above.