

*North Pacific Research Board*  
*2009 Special Request for Proposals*

*Gulf of Alaska Integrated Ecosystem Research Program:*

*Forage Base Component*

*Lower Trophic Level and Physical Oceanography Component*

*Ecosystem Modeling Component*



July 21, 2009

**This RFP amends and replaces the one released June 5, 2009**

## INTRODUCTION

The North Pacific Research Board (NPRB) identifies in its Science Plan (NPRB 2005) the need to develop integrated ecosystem research programs (IERPs) to achieve the Board's vision of building a clear understanding of the ecosystem that enables effective management and sustainable use of resources. The IERP approach was endorsed by the National Research Council (NRC 2004) in its evaluation of the Science Plan. Toward that end, the Board developed its first IERP for the Bering Sea and Aleutian Islands large marine ecosystem (BSIERP) in 2007. The North Pacific Research Board is now launching its second IERP, this one focused in the Gulf of Alaska (GOA). The GOAIERP Implementation Plan ([http://www.nprb.org/science/goa\\_ierp.html](http://www.nprb.org/science/goa_ierp.html)) should be consulted carefully before applying.

## GOAIERP PROGRAM STRUCTURE

The GOAIERP revolves around the following overarching question:

*How do environmental and anthropogenic processes, including climate change, affect various trophic levels and dynamical linkages among trophic levels, with particular emphasis on fish and fisheries, marine mammals and seabirds within the Gulf of Alaska?*

In the first instance, the goal is to *determine and quantify the processes driving upper trophic level populations and to better understand observed and potential future variability therein as they affect key management issues in the North Pacific*. To do so comprehensively, monitoring, modeling, retrospective analysis and process studies will need to be integrated. A comparative study, designed to investigate demographic differences at a regional geographic scale, might best elucidate critical control mechanisms for population dynamics of upper trophic level species (see GOAIERP Implementation Plan for details and other directions).

The overall GOAIERP will span from climate/physics through fish, birds, and mammals and has been divided into four components which are being competed separately and will be integrated in a post proposal selection process to ensure that a fully vertical trophic understanding is obtained. The Upper Trophic Level (UTL) component already has been competed and chosen, based on a pre-proposal and then invited full proposal process that commenced in October 2008 and ended with a final decision by the Board in late May 2009. NPRB chose to fund the UTL Component proposal submitted by Moss et al, entitled "Surviving the Gauntlet: An integrated study of the pelagic, demersal, and spatial linkages that determine groundfish recruitment and diversity in the Gulf of Alaska". The full statement of work for this proposal is posted at [http://www.nprb.org/science/goa\\_ierp.html](http://www.nprb.org/science/goa_ierp.html) and needs to be consulted closely before applying to this RFP. It is critical that the other three GOAIERP components contain scientific questions which link to this UTL component and are at the appropriate locations and spatial and temporal scales necessary to inform this funded proposal. All applicants should have the end result of this program in mind, i.e. a fully vertically integrated program from oceanography to the upper trophic level species chosen.

The other three components are the subject of this RFP. The second component will focus on the forage base which influences the productivity of the top level predator(s) chosen. The type, quality and quantity of food resources and their timing and location, are critical to understanding higher trophic level responses. Thus, the ecological breadth and scope of the second component is expected to be somewhat larger than that of other components. The third component will focus on the lower trophic level, including the biological and physical oceanographic parameters on which this portion of the ecosystem is based. Finally, the fourth component, a strong vertically-integrated modeling effort, will be essential to

describe and predict the response (and variability therein) of the portion of the GOA ecosystem to be studied to environmental and anthropogenic processes, including climate change.

Applicants to the three components currently being competed for the GOA IERP program will have the opportunity to join internet seminars with Dr. Jamal Moss, lead principle investigator for the UTL Component, to discuss in detail the upper trophic level needs and how their proposed work may complement the selected UTL component. Dates for these internet seminars are tentatively scheduled for mid-July and early September. Specific dates and instructions on how to participate in these seminars will be posted on the NPRB GOA IERP website ([http://www.nprb.org/science/goa\\_ierp.html](http://www.nprb.org/science/goa_ierp.html)) as soon as they become available. In addition, if you wish to be informed by email of the seminar schedule, please send your request to [Carrie.Eischens@nprb.org](mailto:Carrie.Eischens@nprb.org). Your name will remain confidential on any general notifications.

Full vertical integration across all trophic linkages will be achieved via focal meetings *after* the full proposal selection of all components on January 14-15, 2010. It will be the aim of the winter and spring 2010 post-selection meetings to establish vertical linkages and build cooperation between components. A scientific leadership group made up of the four lead PIs (upper, forage base, lower trophic levels plus modeling components), in coordination with NPRB staff, Science Panel, Ecosystem Modeling Committee, and Advisory Board, will be established and responsible for overall project management and integration.

This notice serves as a **Request for Full Proposals** for the separately competed **Forage-base Component**, the **Lower Trophic Level and Physical Oceanography Component** and the **Ecosystem Modeling Component** of the Gulf of Alaska Integrated Ecosystem Research Program. Individual proposals must identify ONE component category from the above list which your proposal will compete under. **Full proposals are due 2 October 2009.**

## **PROPOSAL REQUIREMENTS**

### **General scope and budget**

A total of eight million dollars (including overall data and program management, as well as education and outreach) may be made available overall for this GOA IERP starting in 2010 and ending in 2014. The NPRB is reserving \$500K for overall IERP program management as well as \$200K for IERP Education and Outreach. \$2.8 million have already been allocated to the UTL Component. It is anticipated that the remaining funds (\$4.5M) will be distributed between the three remaining integrated components as follows: i) Forage base Component: \$2 million, ii) Lower Trophic Level and Physical Oceanography: \$1.5 million and iii) Ecosystem Modeling Component: \$1 million.

### ***Forage-base Component***

**Full forage-base component proposals must include** a planning year (2010), not to exceed \$125,000, two or three major field years (FY2011-2013), with a maximum of \$600,000 in any one year and a maximum total for all three years of \$1,500,000, and one analysis and synthesis year (FY 2014) with a minimum of \$125,000. **The total budget for this component must not exceed \$1.75 million.** The field sampling schedule, at minimum, must be responsive to the needs and timing of the UTL component. (Note that the UTL proposal has a pilot field program in 2011 and full field programs in 2012 and 2013.) A further description of the requirements of these proposals is found on Page 5 under the “Research Plan” section. Applicants must demonstrate that their objectives and products (e.g., data collection/analyses, final report, publications, climate- and human- induced change scenarios, information for resource

managers) are attainable with the requested funds and within the requested award period, and that they meet the data requirements for the selected UTL component project.

### ***Lower Trophic Level and Physical Oceanography Component***

**Full lower trophic level proposals must include** a planning year (2010), not to exceed \$125,000, two or three major field years (FY2011-2013), with a maximum of \$600,000 in any one year and a maximum total for all three years of \$1,500,000, and one analysis and synthesis year (FY2014) with a minimum of \$125,000. **The total budget for this component must not exceed \$1.75 million.** The field sampling schedule, at minimum, must be responsive to the needs and timing of the UTL component. (Note that the UTL proposal has a pilot field program in 2011 and full field programs in 2012 and 2013.) A further description of the requirements of the proposals is found on Page 5 under the “Research Plan” section. Applicants must demonstrate that their objectives and products (e.g., data collection/analyses, final report, publications, climate- and human-induced change scenarios, information for resource managers) are attainable with the requested funds and within the requested award period, and that they meet the data requirements for the selected UTL component project.

### ***Ecosystem Modeling Component***

**Full ecosystem modeling proposals must include** a planning year (2010), not to exceed \$125,000, and four subsequent years (FY2011-2014), with a maximum of \$275,000 in any one year and a total maximum of \$875,000. **The total budget for this component must not exceed \$1 million.** A further description of the requirements of the proposals is found on Page 5 under the “Research Plan” section. Applicants must demonstrate that their objectives and products (e.g., data outputs, analyses, final report, publications, climate and human induced change scenarios, information for resource managers) are attainable with the requested funds and within the requested award period, and that the modeling structure will result in a fully vertically integrated process-based system that will have the capacity to ingest new field data and provide feedback to the field program throughout the life of the project. The temporal and spatial scales of the modeling component, at minimum, must coordinate with and be responsive to the UTL component.

Staying within the financial boundaries set by NPRB will require the successful IERP proposals to demonstrate thorough understanding and maximum leveraging of existing observational and modeling programs (see GOAIERP Implementation Plan ([http://www.nprb.org/science/goa\\_ierp.html](http://www.nprb.org/science/goa_ierp.html)) for details). Such a leveraged program will employ the major research activities (monitoring, process studies, retrospective analysis, and modeling) to the extent they are necessary to elucidate relevant patterns and trends, and their associated causal processes and mechanisms. ***The critical aspect is vertical integration.*** Given the focus on quantitative predictions, continuous communication between field work results and modeling will play a crucial role. The exact structure of the awards will depend upon the decision of the NPRB on exact funding amounts, review by NPRB, review by Department of Commerce officials, and the results of post-selection negotiations between the program and NPRB staff.

### **Submission and Deadline**

#### ***Submission***

Full proposals must be submitted online at ([http://www.nprb.org/science/goa\\_ierp.html](http://www.nprb.org/science/goa_ierp.html)). The system will become available in late August 2009. Applicants will need to prepare the following information and documents (described in more detail below).

1. Proposal summary (abstract of max 250 words)
2. Proposal classification
3. Contact information for the lead Primary Investigator, all other Primary Investigators, co-Investigators, Collaborators, and a Administrative Grant Managers for each institution requesting funds, as well as suggested potential Reviewers
4. Research Plan (**max 20 pages, use provided template**)
5. Budget Information and Budget Narrative (**use provided templates**)
6. Résumés (max 2 pages per person)
7. Current and Pending Support for each PI and co-PI (**use provided template**)
8. Letters of support
9. Other Requirements

**All applicants should refer to ([http://www.nprb.org/science/goa\\_ierp.html](http://www.nprb.org/science/goa_ierp.html)) for a copy of proposal application materials, templates and other support documents.** If you require further information or clarification, please contact either Carrie Eischens ([carrie.eischens@nprb.org](mailto:carrie.eischens@nprb.org), 907-644-6712) or Francis Wiese ([francis.wiese@nprb.org](mailto:francis.wiese@nprb.org), 907-644-6713).

Online submission for full proposals will be available from late August through October 2, 2009. During the submission process you will create an account to which you can return at a later date if needed. You will be asked to fill in a variety of forms with information from the list above as well as to upload files (research plan, CV's, etc.). **Templates** for forms such as research plan, budget summary, budget narrative and current support will be provided and **must be used**. Download these templates, fill them in and upload them again in the appropriate places. Your information will be saved as you move through this process and you will have the ability to update any information you have provided at any time before your final submission. If you encounter any technical difficulties at any stage during your application process contact Igor Katrayev (907-644-6711; [igor.katrayev@nprb.org](mailto:igor.katrayev@nprb.org)).

Once submission is complete, a link to generated summary pages will appear. These pages will contain the full address and contact information for each agency or entity that will be legally bound to perform the research if funded, names of all principal investigators and co-investigators that will be associated with the project and their agency/organization affiliation and email address, the 250 word project summary (described below) and a place for a legally binding signature for individual agency or entity involved in the project. Note: this page is not confidential and will be made available to the public. Please print these pages, have them signed by the appropriate representatives of each institution participating in this research, and mail them to:

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

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

### *Deadline*

**Full Proposals** must follow the guidelines and criteria specified herein and **must be submitted online by 4 p.m., Alaska time, October 2, 2009**. In the interest of fairness, **no proposals received after the deadline will be considered for funding. Please note that it is in your best interest to have fully submitted your proposal ahead of the deadline and not wait until the last minute. This will allow NPRB staff time to help you should you run into any technical difficulties. The online system will automatically close at the time noted above. Even if you are partially done, your proposal**

submission will be interrupted and no further work allowed. This will lead to immediate rejection of your proposal. You may contact NPRB staff if you have trouble submitting your proposal, but you still will be entirely responsible for getting the proposal in by the deadline. You will receive a confirmation email once your proposal submission has been completed successfully. Please also note that no substitution documents will be accepted after the deadline. Documents submitted by the time of the above deadline will be the documents which go through the review process.

The signed summary pages generated by the system at the end of the application process must be received at the NPRB office no more than seven days after this deadline, i.e. 4 p.m., Alaska time, October 9, 2009. This is part of your application and your proposal will be considered incomplete and not processed if these documents are not received within the specified timeline. Please note that courier and express deliveries to Anchorage, Alaska, normally require a minimum of two days for delivery.

### Proposal Package

The full proposal package consists of nine elements:

#### 1. Proposal Summary

In 250 words or less, briefly explain the goal and value of the proposed work and why NPRB funds should be used, in language understandable by individuals not familiar with the specific subject area (e.g. members of Congress and the general public). This summary should include the main issue to be addressed, methodology, and expected management application. In addition, this section should identify how the proposed project links to the selected UTL Component project. This summary will appear on the generated summary page described above and will be made available to the public.

#### 2. Proposal classification

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

- a. *GOAIERP component*: The online submission system will be used by applicants to the three remaining components of the GOAIERP. It is therefore **critical** for you to identify that this proposal is for the Forage base component **or** the Lower Trophic Level and Physical Oceanography Component **or** the Ecosystem Modeling Component.
- b. *Focal species*
- c. *Over-arching hypothesis*
- d. *Processes to be investigated*
- e. *Geographic Location*: List the specific geographic location(s) within the Gulf of Alaska region in which the study will take place.
- f. *Field years and months*
- g. *Research platforms and funding source (if applicable)*
- h. *Keywords*: Describe your project with 5-10 keywords.
- i. *Total Budget*: State the total budget for your proposed project, indicating the amount of funds requested and the total amount of other support being provided to the proposed project.
- j. *Reviewer Expertise Criteria*: Consider the required expertise for a reviewer of your proposal. During your online submission you will need to fill in these criteria.

#### 3. Contact information

Provide full contact information for the Applicant, the lead Principal Investigator, a Principal Investigator *from each organization requesting funds (one of these may be the lead PI)*, all Co-investigators, Collaborators, and an Administrative Grant Manager *from each organization*

*requesting funds*. Note that it is crucial that you spell the name of each organization the same way throughout. Otherwise the online system won't find a match between investigator and grant administrator and will generate an error.

4. Research Plan (use provided template, 20-page maximum excluding references, but including Figures and Tables; upload your plan as a WORD document.

The main body of the proposal will be your research plan, **limited to 20 consecutively numbered pages** formatted as follows: All pages (*including the reference section*) must have **1-inch margins** at the top, bottom and sides. Text (*including tables, figure legends, citations and references*) must be single-spaced, and the font and size must be **Times New Roman 11 point**. No page in the proposal and supporting material may be formatted to any size other than 8.5x11 inches. Color graphics are allowed, but may be reproduced in black and white and thus should be sufficiently descriptive. Note that submitted proposals will be subsequently converted to PDFs, and this conversion may impact the quality of your graphics. Please ensure an appropriate resolution is used. The research plan (and only the research plan) **must have continuous line numbers** from beginning to end to facilitate review.

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

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

A. Project Title

B. Proposal Summary. Briefly explain the project goal and value, and why NPRB funds should be used, in language understandable by individuals not familiar with the specific subject area, such as members of Congress and the public. You can use the 250-word summary from the Proposal Summary Page if you like.

C. Soundness of Project Design and Conceptual Approach

(1) State the hypothesis and objectives which will be addressed by the proposed research.

(2) Using information provided in the GOAIERP Implementation Plan and the selected UTL Component project as guidance, provide a justification and demonstrate an understanding of the issues to be addressed by:

- (a) Describing the elements and quantifiable process of your research. Specifically,
  - identify and justify the study species/parameters/measurements that will form the basis of your proposed work. Justify why these are essential to address your objectives in terms of ecological significance.
  - identify and justify the essential processes to be investigated. Justify why these are essential to address your objectives in terms of ecological significance.
  - describe the present state of knowledge (including ongoing NPRB and other research) relevant to your proposed work;
  - describe and justify the proposed work in relation to the selected UTL Component project which your proposed project **must** link to;
  - describe the proposed work's relation to previous work and/or work in progress by all principal and co-investigators;
  - describe the data sources (retrospective and current) to be used;

- indicate and justify the geographic location(s) and the spatial and temporal scales to be investigated (these must be relevant to and in context with the chosen UTL component project);
- (b) Describing how each applicable research activity (monitoring, process, retrospective, modeling) will be employed for each element and/or quantifiable process identified in (a) above and how these different activities will inform each other.
- (3) In developing your quantitative predictions, describe the conceptual framework/hypotheses underlying your proposed research and describe how these hypotheses will be represented in the resulting product. Describe the experimental approach (and associated power analysis) and the analytical approach, including assumptions required, sample size, other relevant information needed to determine the utility and technical feasibility of accomplishing your research, and the expected outcome.
  - (4) Describe your data needs from the other three GOAIERP components so NPRB will understand what is necessary in a composite vertically-integrated program. The description of data and models needed from the other components should be both relevant to the vertical integration as well as feasible given the planned budget detailed above.
  - (5) If applicable, indicate what long-term monitoring is part of this proposal and justify why continuing data collection from this monitoring project is critical to the success of this research program, and why it is not being funded by other organizations. Demonstrate the broader applicability of the proposed data collection and identify other on-going activities at the proposed site(s) that would benefit from this.
  - (6) ***If your proposal is responding to the ecosystem modeling component***, your proposed work must include a modeling component that examines the effects of fishing pressure on the population and recruitment projections of the 5 key fish species outlined in the UTL Component. Additionally, your Research Plan must provide sufficiently detailed descriptions of models (e.g., circulation, NPZ, biomass estimates, ecosystem simulations, economic) that will be used or developed, including: constraints/assumptions, uncertainty, skill, validation, and predictive/forecasting capability to be developed. Specifically, you must address the following model design criteria specified by the NPRBs Ecosystem Modeling Committee (EMC, see *Appendix 1* and [http://www.nprb.org/science/goa\\_ierp.html](http://www.nprb.org/science/goa_ierp.html) for more details):
    - a. What is the model intended to predict?
    - b. What specific aspect of the prediction is anticipated to be of direct value for fisheries management?
    - c. What measure of "accuracy" in the prediction is crucial to determining the usability of that prediction to fisheries management?
    - d. What alternative models (other mechanisms, greater degrees of spatial and temporal aggregation, simple statistical predictors) are plausible competitors whose performance should be tested against the model being developed?
    - e. How will the achieved predictive power of the model be compared against the performance of plausible alternatives, and how will this guide subsequent choices about model form and parameterization?
    - f. What data are available (temporal and spatial resolution, time span covered, data quality) to drive, calibrate, and test the model?
    - g. How will the existing data be used to quantify model fit and predictive power?
    - h. What pertinent future data are anticipated to become available within the time frame of the project?

- i. How will the future data be used to quantify model fit and predictive power?
- j. How has it been determined that the proposed quantity and quality of data can be expected to be sufficient for the intended use in tuning and testing the model?
- k. How will the probabilistic nature of model forecasts be represented in model output, and how will this be communicated to eventual users of the model predictions?
- l. What is the schedule for providing NPRB with specified data files of observations and model output fields, and how does this set of observations and outputs ensure transparency and verifiability?

Also, you must provide a schematic, including: coupling of output from various models, coordination between process studies and modeling, choice and criteria for evaluating model outputs, interaction with human-induced impacts, and linkages between the scientific question and management needs. If your project is funded, we anticipate continuous interaction between your modeling group and the EMC. Proposals to the **Ecosystem Modeling Component** may add up to an additional 5 pages to their research plan to address these criteria.

- (7) Local and Traditional Knowledge (LTK) is not a specific requirement of the proposal. However, given NPRB's desire to promote LTK, this type of research is encouraged. Indicate if LTK will be included in the proposed research and if so, describe how it will be used to further your research objectives. Please relate it to the various LTK approaches defined in the NPRB Science Plan.
  - (8) The Gulf of Alaska ecosystem is closely linked to the economy and sustainability of multiple communities around the Gulf. As a result, while not a specific requirement of the proposals, NPRB encourages community involvement in your research plan. Indicate if any communities will be involved in the proposed research, and describe the activities in relation to community involvement approaches described in the NPRB Science Plan.
- D. **Project Responsiveness.** State how your proposal is responsive to the data and information needs of the selected UTL component. Also indicate what information and data your proposed work will provide to the two other components of the GOAIERP.

Include a description of how this proposed work **differs from and builds upon past approaches** (e.g., GLOBEC, FOCI) and point out the new and innovative approaches you have designed to be able to address these questions. Also, if appropriate (e.g. applicants from federal and state agencies) explicitly describe how the research activities envisioned in this proposal differ from normal agency activities that are carried out in response to their mission requirements.

Please note that proposal evaluation by the Science Panel and the Board will be on the basis of the scientific merit and on how well the proposed work informs and integrates with the UTL component and the overall vertically integrated program.

E. **Program Management, Timeline and Milestones**

(1) ***Program Management:***

- a. Identify the research team including one lead Principal Investigator that will be responsible for the execution and oversight of the proposed project. Component teams are encouraged to include co-investigators from research non-profits, universities, community-based organizations, private sector and other organizations as appropriate. Provide a discussion of the experience and qualifications of the principal and co-investigator(s) and how you will ensure structurally that all information will be

integrated. The proposed team is encouraged to include post docs and graduate students.

- b. If appropriate (e.g. if investigators are full-time federal or state employees), describe how an employee's current duties will be reassigned or backfilled if the employee takes on responsibilities for activities supported under the GOAIERP, whether that employee is supported within the overall GOAIERP program budget or by matching contributions.

(2) *Research Platforms*: Identify each research platform (e.g. ships, ROVs, AUVs) to be used and specify the funding institution. If funding is not from NPRB (i.e., not requested as part of this proposal), specify if that funding is secured or pending, whether it is a cruise dedicated to this purpose or whether it is a vessel of opportunity, and if the latter, identify how much control you would have over the mission to ensure your proposed research can be carried out. If funding for these research platforms comes from elsewhere, please include letters of support or memorandums of agreement, as applicable.

(3) *Timeline and Milestones*.

- a. Provide a table clearly detailing your timelines and indicate how they are coordinated with the UTL needs and timeline. Also indicate the associated measurable milestones that will be used to track and evaluate your project performance through the entire award period. This timeline should include when data from each element of the proposed work will be available within and between the different components of the overall vertically-integrated GOAIERP (e.g. field data to models, model outputs to field work planning, etc.; see also data management plan below). Note that timelines may be adjusted following the post-selection focal meetings between selected proposals to facilitated better integrations of all projects.
- b. Indicate and justify how many field years (2 or 3) are planned for the proposed study within the funding limitations described below (Section 5: Budget Information and Budget Narrative). Describe the implication of the number of field seasons chosen on the study outcome and if they differ from those in the UTL component, justify differences.

(4) *Products*

- a. Describe the products and deliverables of your project. Are they attainable with the requested funds and within the requested award period? How will they meet the data requirements for the UTL component project? What data will be needed and provided to the other components of the IERP, and in what timeframes. Also indicate how your work will enhance and focus future work on the GOA ecosystem.
- b. Describe how you plan to disseminate the research results.

F. Data Management Plan

Data management for the entire vertically integrated module is included as part of the UTL Component responsibilities (see statement of work of selected UTL proposal). However, you should describe the overall data management needs of your component, including data storage space, computation time required, when you would require data from other components of the GOAIERP and when your data would be available to other investigators in the GOAIERP team.

G. Outreach and Education Plan

Education and Outreach efforts for the overall GOAIERP will be developed under the supervision of NPRB's Education and Outreach Coordinator once the overall program has been defined. No funds for E&O should be included in your budget. However, applicants should describe (1) how their project will leverage collaborating E&O resources (i.e. in your institution, or with collaborators not requiring separate funding), and (2) proposed directions or ideas for effective and useful E&O opportunities stemming from or associated with the proposal.

H. Coordination Strategy

Proposals should describe how the project will coordinate and/or collaborate with other ongoing and planned programs and projects (NPRB funded or others) and how this may leverage the proposal with support from other sources. Coordination and cooperation with other programs are highly encouraged and are essential to provide horizontal and vertical expansion of the issues being addressed and will thus result in a much broader scope: the total project would be greater than the sum of the individual programs. Some of the relevant past and present programs and projects have been mentioned in the GOAIERP Implementation Plan, although those descriptions should not be viewed as a comprehensive list.

I. Figures and Tables

Figures and Tables **are part of the 20-page limit** and should be embedded in the text of the research plan. Please ensure they are of sufficient quality to be legible when converted to PDF and/or printed in black and white.

**[You do not need numbered lines beyond this point]**

J. References

References are **NOT part of the 20-page limit.** 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.

5. Budget Information and Budget Narrative (use templates)

**The budget for the Forage-base Component of GOAIERP should not exceed \$1.75 million** over 5 fiscal years (starting in January 2010 (FY 2010) and ending in FY 2014). Budgets must be allocated by federal fiscal years (Oct 1- Sep 30) and organizations requesting funds.

The budget must include funds for:

- A planning year: January through Sep 2010 (FY 2010), not to exceed \$125,000. Applicants should include the costs for all PIs to attend at least two PI focal/coordination meetings in Anchorage (likely in winter and spring 2010).
- Two or three major field years (FY 2011-FY 2013), with a maximum of \$600,000 in any one year and a maximum total for all three years of \$1,500,000.
- One analysis and synthesis year (FY 2014) for a minimum of \$125,000 per year.
- Ship time must be specifically detailed (year, amount, funding source – NPRB or other support, see above).

- Budgets must include annual travel for all PIs to a special PI meeting in Alaska **and** for all lead PIs to attend the Alaska Marine Science Symposium (takes place each January in Anchorage) during each year of the study. Note that annual PI meetings might not occur in conjunction with the Alaska Marine Science Symposium. Travel to the annual symposium by lead PIs **the January following the end of the project period**, to present the results is also required. If travel funds from other projects have already been allocated for travel to the Alaska Marine Science Symposium and are not necessary for inclusion in this proposal, please state in the budget narrative.
- Preparing all required reports and publication of results in appropriate scientific journals.
- Anticipated other support and cost leveraging per year and organization.

**The budget for the Lower Trophic Level and Physical Oceanography Component of GOAIERP should not exceed \$1.75 million** over 4-5 fiscal years (starting in January 2010 (FY 2010) and ending in FY 2014). Budgets must be allocated by federal fiscal years (Oct 1- Sep 30) and organizations requesting funds.

The budget must include funds for:

- A planning year: January through Sep 2010 (FY 2010), not to exceed \$125,000. Applicants should include the costs for all PIs to attend at least two PI focal/coordination meetings in Anchorage (likely in winter and spring 2010).
- Two or three major field years (FY 2011- FY 2013), with a maximum of \$600,000 in any one year and a maximum total for all three years of \$1,500,000.
- One analysis and synthesis year (FY 2014) for a minimum of \$125,000 per year.
- Ship time must be specifically detailed (year, amount, funding source – NPRB or other support, see above).
- Budgets must include annual travel for all PIs to a special PI meeting in Alaska **and** for all lead PIs to attend the Alaska Marine Science Symposium (takes place each January in Anchorage) during each year of the study. Note that annual PI meetings might not occur in conjunction with the Alaska Marine Science Symposium. Travel to the annual symposium by lead PIs **the January following the end of the project period**, to present the results is also required. If travel funds from other projects have already been allocated for travel to the Alaska Marine Science Symposium and are not necessary for inclusion in this proposal, please state in the budget narrative.
- Preparing all required reports and publication of results in appropriate scientific journals.
- Anticipated other support and cost leveraging per year and organization.

**The budget for the Ecosystem Modeling Component of GOAIERP should not exceed \$1 million** over 5 fiscal years (starting in January 2010 (FY 2010) and ending in FY 2014). Budgets must be allocated by federal fiscal years (Oct 1- Sep 30) and organizations requesting funds.

The budget must include funds for:

- A planning year: January through Sep 2010 (FY 2010), not to exceed \$125,000. Applicants should include the costs for all PIs to attend at least two PI focal/coordination meetings in Anchorage (likely in winter and spring 2010).
- Four major processing, analysis and synthesis years (FY 2011-2014), with a maximum of \$275,000 in any one year and a maximum total for all years of \$875,000.
- Budgets must include annual travel for all PIs to a special PI meeting in Alaska **and** for all lead PIs to attend the Alaska Marine Science Symposium (takes place each January in Anchorage) during each year of the study. Note that annual PI meetings might not occur in conjunction with the Alaska Marine Science Symposium. Travel to the annual symposium by lead PIs **the January**

**following the end of the project period**, to present the results is also required. If travel funds from other projects have already been allocated for travel to the Alaska Marine Science Symposium and are not necessary for inclusion in this proposal, please state in the budget narrative. Modelers also need to include travel to two meetings in Seattle per year during the first three years of the program to meet with the Ecosystem Modeling Committee.

- Preparing all required reports and publication of results in appropriate scientific journals.
- Anticipated other support and cost leveraging per year and organization.

### *Budget Summary Template*

Fill in the template and upload the completed Excel spreadsheet using the online submission system. The **Budget Summary** is a series of spreadsheets (one for each institution/organization requesting funds) that detail by year (where years are federal fiscal years starting in October 1 and ending September 30) the following mandatory budget categories: salaries, fringe benefits, travel, capital equipment, supplies/commodities, contracts/consultants, other expenditures, indirect costs (F&A), and other support/cost sharing with other programs. The template Budget Summary includes a summary page that automatically combines all information for up to six different organizations. You may revise this template to include more institutions if necessary. Please note that each organization requesting funds must designate, at the top of the budget summary template, a **Principal Investigator and a Grant Administrator** to be responsible for the organization's sections of the project and budget. **You must ensure that your total budget requested matches the one entered online. If discrepancies are found between the two, we will assume the lower amount is correct.**

### *Budget Narrative*

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

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

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

Do not include any budget support for education and outreach activities. Those activities are being funded elsewhere.

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. Other support is not required for this program. Please be advised that although EIRF-based (Environmental Improvement and Restoration Fund) funds are not appropriated, the U.S. Department of Commerce has made a finding that EIRF funds should be considered to be federal funding since an authorization act creates the "fund" in the U.S. Treasury. For non-federal applicants, other federal funds cannot be used for cost-sharing purposes.

Indirect Costs (sometimes referred to as overhead or F&A). The budget form may include an amount for indirect costs if the applicant has an established indirect cost rate with the Federal government. The total dollar amount of the indirect costs proposed in an application under this program must not exceed the

indirect cost rate negotiated and approved by a cognizant Federal agency prior to the proposed effective date of the award, or 100 percent of the total proposed direct cost dollar amount in the application, whichever is less. If applicable, a copy of the current, approved, negotiated indirect cost agreement with the Federal government must be included. It will be retained in the office and not distributed to reviewers.

*Please ensure that your budget has been approved according to your organization's standard proposal approval process. Also, please check your final budget before submission to ensure that the addition of indirect costs as a percentage or some other revision to your budget does not cause your total budget to exceed the yearly funding cap for year of the study as detailed above.*

**If your proposal exceeds the specified cap for the GOAIERP component you are applying to compete under it will be returned without further processing.**

6. Resumes (limited to 2 pages per individual)

Upload Word or PDF documents using the online submission system. The resumes of the lead principal investigator, and all principal/co-investigators involved in the proposal must be provided (collaborators do not need to submit their resumes). Each resume is limited to two consecutively numbered pages and must include the following information:

- a. A list of professional and academic credentials, mailing address, and other contact information including work phone and email address.
- b. A description of current activities relevant to the proposed project.
- c. A list of up to five of your most recent/relevant publications most closely related to the proposed project and up to five other significant publications as appropriate. Please highlight publications that are based on research supported by NPRB funds.
- d. A list of all (or if too many, the most relevant) persons (including organizational affiliations) in alphabetical order with whom the lead principal investigator and all other principal/co-investigator has collaborated on a project or publication within the last four years. If none, this should be indicated.

7. Current and Pending Support Form (use provided template)

For each of the principal/co-investigators and other senior personnel involved in the proposal (as above), use the provided template to disclose any current and pending financial resources that are intended to support research related or similar to that included in the proposal, or that would consume the time of the proposer(s). *A separate current and pending form should be included for each individual.* Upload the current and pending forms to the online submission system where appropriate. The proposer must also disclose if they have submitted the proposal to other funding sources or if other funds are being used to support the research funded by the Board.

8. Letters of Support

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

## 9. Other Requirements

Applicants should ensure that the following are included in their proposal where appropriate:

MOUs and data sharing agreements among institutions and/or letters of collaboration to indicate the level of organizational coordination and integration among the project team detailed in the Research Plan (sections F and H) above. Upload them in the appropriate place during proposal submission.

Permits that may be required as part of the project should be documented in the research plan and, if available, permit applications or granted permit numbers should be provided.

Graduate Students and Post-docs are encouraged to be included as part of the project team. In your research plan list the number of graduate students and post-docs you intend to make part of your project. Include the level (M.Sc., Ph.D.), duration, and level of support they will receive.

### **FULL PROPOSAL REVIEW AND SELECTION PROCESS**

Initial Screening of Full Proposals. Upon receipt, the NPRB staff will screen the full proposals for conformance with the format and structure requirements set forth in this notice. If needed, the Executive Director will request an *ad hoc* committee of available Science Panel members to help in the initial screening. Proposals that are found by the Executive Director and the *ad hoc* committee to not comply with the requirements will be rejected without further processing.

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

Independent Technical Evaluations. All proposals that pass the initial screening will undergo independent, anonymous, technical peer review, conducted by regional and national experts. Reviewers for NPRB will be asked to provide comments and qualitative assessments of the technical aspects for each proposal, as indicated below, and an overall summation.

Soundness of Project Design/Conceptual Approach (section C in the Research Plan): Applications will be evaluated on the applicant's comprehension of the problem(s); the overall concept proposed for resolution; justification of species, parameters, locations temporal and spatial scales to be investigated, whether the applicant provided sufficient information to evaluate the project technically; and, if so, the strengths and/or weaknesses of the technical design relative to securing productive results. Particular attention will be given to the inclusion of a clear statement of hypothesis to be tested or objectives to be addressed, the presence of a detailed experimental design with associated power analysis as appropriate, and a list of data sources or requirements. Does the plan clearly describe how the proposed work will be linked with the other 3 components of GOAIERP?

- a. Project Responsiveness to GOAIERP (section D in the Research Plan): How well does the proposed project address or respond to the UTL component?
- b. Program Management (sections E-H in the Research Plan): Evaluation will include the following: Is there a clear description of proper organization and management of the project, including data sharing and management, and do the project's principal investigator(s) and other personnel have the necessary experience and qualifications for the tasks they have been assigned to? Is there a clear description of the research platforms to be used and is the proposed level of effort appropriate? Are a

clear schedule and appropriate milestones and deliverables identified in tabular form in the proposal, and an appropriate plan of how the results will be disseminated? Are the data delivery timetables clearly defined? Does the proposal clearly indicate what data needs they have from the other GOAIERP components? Does the project plan to coordinate and collaborate with other projects and leverage their proposals with support from other sources and are the mechanics of how this will occur well described?

- c. Project Costs (*Budget Summary and Budget Narrative*): The justification and allocation of the budget in terms of the work to be performed will be evaluated. Unreasonably high or low project costs will be taken into account.

Science Panel Review. All proposals to NPRB and their accompanying technical evaluations will be submitted to the NPRB Science Panel for review and scoring based on the above evaluation criteria. The NPRB science panel will meet to review proposals and develop recommendations for the Board. The panel will discuss how well the highly ranked proposals fit into an integrated ecosystem study with respect to the proposals submitted to the other 3 components of the GOAIERP and provide advice to the NPRB concerning how to optimize such a study.

Proposal Selection. The full NPRB will meet in January 2010 to determine which proposals to fund for the integrated program and if additional studies or principal investigators are needed to improve the overall program. Proposals will be evaluated on the basis of meritorious science, societal importance, and how well they contribute to the integrated NPRB program. It is expected that only one proposal per component will be chosen.

**The NPRB reserves the right to fund no proposals and to recompet the GOAIERP if appropriate.**

Successful applicants will be expected to agree to comply with provisions of a project management plan that will be developed by the assembled teams based on requirements identified by NPRB (see below).

Secretary of Commerce Review. By law, all recommendations of the Board are subject to final approval by the Secretary of Commerce, who must ensure that there is no duplication with other projects funded by NOAA or other Federal organizations, and that the projects selected for funding are those that best meet the objectives of this solicitation. The review will include a determination of compliance with federal regulations, including the National Environmental Policy Act, and may result in additional requirements as a condition for funding (see General Condition 2 below).

Confidentiality of Proposals. If a proposal is submitted to NPRB, but not funded, only the proposal title, names of principal investigators, funding amount requested, duration, and the proposal summary page will be released to the public upon request. If a proposal is approved for funding by NPRB and the Secretary of Commerce, then the full research proposal (excluding salary information) will be released to the public.

## Tentative Schedule

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

<u>Scheduled Item</u>	<u>Tentative Timeline</u>
RFP Release for full proposals for forage base, lower trophic and modeling components	June 5, 2009
Internet Seminars with Dr. Jamal Moss, lead PI for the UTL Component of the GOAIERP	July 17, 2009 & September 2, 2009
Full proposal Submission Deadline (all components)	October 2, 2009
NPRB Funding Decisions	January 2010
Notification to PIs	January 2010
Focal meetings to complete vertical integration and coordination	First half of 2010
Preliminary work/planning and organization	Summer 2010-Spring 2011
Field work begins	2011

The exact amounts of funds awarded to an NPRB project will be determined in pre-award negotiations between the applicant and NPRB. Projects should not be initiated in expectation of Federal funding until a Notice of Award document is received. Applicants should not request a project start date before **March 1, 2010**.

## First Year Planning and Organizational Meetings

Winter/Spring 2010 Meetings. All investigators will be required to meet for focal group meetings as necessary during the first half of 2010 to develop agreed-upon procedures for working as one integrated team. This will require a minimum of two face-to-face meetings with all investigators, plus teleconferences and email exchanges as necessary. The intent of these meeting (2-3days) is to introduce PI's to one another, identify team leadership, introduce the scope of the individually proposed components, establish and ensure linkages between the four components, and consequently develop or refine a strategy for program and data management plans that all PIs/Co-PIs agree too. These meetings will initially be chaired by NPRB staff.

## Project Management Plan.

By summer 2010 the selected components will need to demonstrate clearly to NPRB that a coordinated, integrated program has been developed and will be managed as such. Team members will need to develop and agree to a project management plan, based on requirements identified by NPRB program staff. At a minimum, the project management plan will include:

1. Identification of project and team leadership and individual component responsibilities.
2. Protocols and procedures on working together as a seamless team.
3. Schedule of meetings and other activities.
4. Plans for field seasons and selection of chief scientists for cruises, including equipment sharing and ship time scheduling.

5. Two-way communications protocols between modelers and field programs, including a detailed plan that will outline when different data sets will be available to the rest of the team and how and at which point they can inform the models and in turn how and when new model outputs will inform the fieldwork.
6. Coordination with other programs.
7. Implementation and monitoring of required data sharing protocols (see below).
8. Plans for annual reviews, progress reports, data analysis, synthesis, and reporting to be responsive to program requirements. These annual reviews may be coupled with the January Alaska Marine Science Symposia and may include a more nationally prominent scientific meeting.
9. Identification of product deliverables from the research, especially as it pertains to synthesis reports, and who will be responsible for such.
10. Dispute resolution.

In the case that a project management plan is not successfully completed to the satisfaction of NPRB, funds may be withheld until all issues and concerns are resolved.

### **Data Sharing Protocols**

NPRB will require data sharing in solicitations and organizational meetings. When the teams are identified and organized, they will need to clearly specify milestones and expectations for the types of data and schedule of availability, and how data will be exchanged between different components of the program. The combined teams will use a data policy developed on the basis of the U.S. GLOBEC Data Policy (GLOBEC Report No. 10, February 1994), existing OPP data policies, and proposed SEARCH data policies.

### **Program Adjustments**

NPRB plans to annually review this comprehensive program and may request adjustments as necessary if something is going wrong.

Program leaders will schedule annual meetings of all principal investigators for planning purposes and to determine if program adjustments are necessary. NPRB expect such attendance costs to be incorporated in the overall budget for their proposals.

Program leaders will identify protocols for making adjustments in the program, if necessary. NPRB cognizant program officers may be consulted also.

### **III. General Conditions**

This RFP is only a solicitation of offers and should not be construed as an expectation of award, or as any reasonable basis for detrimental reliance. NPRB is not obligated to award any specific project or any available funds. There is no guarantee sufficient funds will be available to make awards for all acceptable projects, and NPRB may choose to reject all proposals. No oral statement by any person can supersede or modify the terms of this RFP.

1. All Federal, State, private, and foreign organizations are eligible. Recipient organizations must have a DUNS number and be registered in Central Contractor Registration ([www.ccr.gov](http://www.ccr.gov)) before any award can be made.
2. Responding proposals are firm offers and shall remain open for the NPRB to accept any time before February 15, 2010 in accordance with a standard NPRB agreement for the performance of the work

proposed. A proposal is accepted only when NPRB sends the applicant written approval and has a completed agreement. A proposal accepted for funding does not obligate NPRB to provide additional future funding.

3. The applicant is responsible for obtaining all Federal, State, and local governmental permits and approvals for projects or activities to be funded under this announcement. This includes, as applicable, certification under state Coastal Zone Management Plans, section 404 or section 10 permits issued by the Army Corps of Engineers; experimental fishing or other permits under federal fishery management plans; scientific permits under the Endangered Species Act and/or the Marine Mammal Protection Act; and assistance to the Federal government in developing analysis to meet the requirements of the National Environmental Policy Act. All experiments must be conducted in compliance with law, and only pursuant to mandatory permitting duly granted by the appropriate federal and state agencies. Requirements for special permits, for example, those required for taking marine mammals, should be clearly described and whether the permit is in possession or not. The Secretary of Commerce may withhold final approval or stipulate additional conditions on projects to ensure compliance with the above.
4. Projects that require at-sea research using research vessels must comply with all research vessel safety standards in accordance with the guidelines for the operation of oceanographic research vessels owned, operated or chartered by members of the University-National Oceanographic Laboratory System (UNOLS), to ensure that research at sea is conducted to the highest practicable standards of safety and prudence. Those standards also apply to chartered non-institution vessels. (See: [http://www.gso.uri.edu/unols/saf\\_stand/contents.htm](http://www.gso.uri.edu/unols/saf_stand/contents.htm).)
5. Funded participants are wholly responsible for the conduct of research, submission of required reports, and preparation of the results for publication. Participants will be required to submit semi-annual reports and a final report to be posted on the NPRB web site and in other databases. Final reports may be submitted for peer review at the discretion of the NPRB. Failure to submit timely reports or to respond to peer review comments on final reports may result in withheld payments. Every effort should be made to submit research results for publication by an appropriate scientific journal within one year of the completion of study. The NPRB Executive Director may in his sole discretion grant written exceptions if requested timely. All manuscripts shall acknowledge that funds were provided by the NPRB through the U.S. Department of Commerce, NOAA, and NMFS.
6. Funded projects will be subject to the NPRB Policy on Compliance with Subaward Agreements (Appendix 2), available online at <http://www.nprb.org/about/operating.html>.
7. NPRB plans on annually reviewing this comprehensive program and expects applicants to plan for these meetings and incorporate such attendance costs in the overall budget of the proposal. The NPRB may request adjustments as necessary if the program is not progressing as planned and make continued funding contingent upon such adjustments.
8. Successful applicants will be required to report their metadata and data to an agreed-upon system (e.g. NODC or USGS information infrastructure) within a maximum of one year after each field season. A project specific data management and information transfer plan will be required. Among other requirements, the plan will specify 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.
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. Protocols and permits must be made available to NPRB if requested.

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.