

## REQUEST FOR PROPOSALS

### Development and Application of Scientific Knowledge to Ecosystem-Based Management of Coastal Marine Systems

Deadline for submission of proposals:  
Monday, 2 March, 2009 (5:00 P.M. Pacific Standard Time)

The National Center for Ecological Analysis and Synthesis (NCEAS) seeks proposals for Working Groups to develop scientific knowledge about ecological, social, and economic processes that directly affect management and governance of coastal-marine ecosystems. See page 6 for more information about NCEAS. General questions about NCEAS or this Request for Proposals should be directed to Erica Fleishman (fleishman@nceas.ucsb.edu, 805 892-2530) or Ben Halpern (halpern@nceas.ucsb.edu, 805 892-2531).

NCEAS is a research center of the University of California, Santa Barbara. In partnership with the David and Lucile Packard Foundation, NCEAS aims to examine, both conceptually and via empirical evidence, how scientific knowledge can be transferred effectively to planning, decision making, and management of coastal marine systems at different spatial and temporal scales and in different geographic locations worldwide. During 2009 and 2010, we will convene two or three Working Groups that will conduct synthetic research on topics described on page 2. “Synthetic research” means that the Working Group should capitalize on existing sources of information rather than collecting new data in the field. Working Groups are multidisciplinary teams (typically 12–15 individuals) of researchers, managers, and policy makers with diverse affiliations. These groups meet in person several times over a maximum period of approximately two years, with substantial work conducted between meetings at the participants’ home institutions. See page 4 for more information on the characteristics of Working Groups.

This request for proposals builds on the results of a recent survey of ecosystem-based managers that was designed to address two primary questions:

1. What types of information might fill gaps or needs in the practice of ecosystem-based management?
2. What might be the most useful ways to share this information with managers and policy makers?

We define ecosystem-based management as management that is multi-sectoral, considers humans as part of the ecosystem, and has an ecosystem-level rather than (or in addition to) a species-level focus. The process of ecosystem-based management also requires evaluation of ecological, social, and economic tradeoffs among objectives and potential actions for achieving those objectives.

Our survey of managers highlighted a number of challenges encountered by organizations around the world that are trying to develop and implement an ecosystem-based approach to management. Accordingly, **we especially welcome proposals that address one or more of the following topics** that were prominent in responses to the survey.

- Methods for analyzing and projecting ecological and economic costs and benefits of alternative management scenarios or decisions, and for evaluating tradeoffs among multiple objectives
- Methods and estimates for market and non-market valuation of coastal and marine resources and ecological processes that are compatible with processes for making management decisions
- Ecological and economic connections among marine protected areas and adjacent waters that can affect or be affected by management
- Drivers of political will that may foster or impede implementation of an ecosystem-based approach to management
- Methods and tools for communication of science to policy makers and the public
- Methods and tools for communication of information needs from managers and policy makers to researchers
- Transfer and integration of research, planning, and implementation of conservation strategies from the regional level to the local level, and vice versa
- Methods that can be used by local managers to access and manage data, especially geographically distributed and long-term sets of data
- Methods for integrating analysis, or application to management and decision making, of information from both the social sciences (anthropology, economics, geography, politics and policy, psychology, and history) and the natural sciences

Local managers sometimes have limited capacity to develop and apply scientific knowledge to their work because they lack expertise in specific disciplines, equipment or facilities, or time. At the same time, researchers may not understand the information needed by managers and policy makers and the opportunities and constraints for applying that information to planning and management in specific situations. Direct collaboration among researchers and local managers and policy makers can bridge these gaps by providing immediately relevant information on system dynamics (ecological, social, and economic) or the potential effects of management and policy interventions. Therefore, **we especially welcome proposals for work that will be conducted in partnership by researchers, managers, and policy makers, and that demonstrate direct relevance to and intent of use by managers or policy makers in one or more geographic regions.** Proposals should articulate clearly how the work will fill gaps in locally important knowledge or data associated with management and governance of coastal-marine ecosystems.

### **Proposal Guidelines**

Proposals must not exceed 2500 words, excluding literature cited, figures, tables, letter of intent, curricula vitae, and budget. Proposals must include the following elements.

1. Project title. Keep it succinct.
2. Name(s) and complete contact information for the principal investigators
3. Project summary. Do not exceed 200 words.
4. Goals and objectives. Provide a clear statement of project aims, conceptual approach, and direct relevance to the science and implementation of ecosystem-based management.

5. Methods. Briefly describe your anticipated framework for analysis, including known sets of data (quantitative, qualitative, or both).
6. Names and affiliations of participants in the working group. Indicate whether each participant has confirmed his or her interest and availability.
7. Anticipated timetable of activities.
8. Communications. Specify the potential audiences for your results and inferences, and suggested mechanisms for communicating with those audiences.
9. Supplemental communications work. If the principal investigators are not communications professionals, please indicate your willingness to dedicate additional time to working closely with such experts if supplemental funds are available.
10. Evaluation. Suggest measures (qualitative, quantitative, or both) for evaluating whether the project has met its goals and objectives.
11. Literature cited.
12. Letter of intent from site-based managers, policy makers, or both to apply the results and inferences from the working group to their practice.
13. Curriculum vitae for each principal investigator (two pages maximum per investigator).
14. Budget (see below for instructions; a template is on page 7). We expect that budgets will be less than \$75,000. The budget may not exceed \$100,000.
15. Suggested reviewers. Please list a maximum of five individuals who are qualified to review the scientific merit or practical relevance of the proposal.

Proposals will be accepted in black and white digital format only, as a Microsoft Word or PDF file. All elements of the proposal should be included in a single document, formatted to United States standard letter size (8.5" wide by 11" tall). Use a standard 12-point font such as Times. Use 1" margins. Graphics should be embedded directly in the document. Do not send compressed collections of files, such as .ZIP files.

Proposals that do not meet these guidelines will be returned to the author for revision and risk missing the deadline for submission of proposals.

Proposals must be submitted electronically to Ben Halpern (halpern@nceas.ucsb.edu) **no later than 5:00 P.M. Pacific Standard Time on Monday, 2 March, 2009**. We expect that the first meetings of the Working Groups will be held in the third quarter of 2009.

Proposals will undergo an initial review by members of a multidisciplinary advisory group for NCEAS's current work on ecosystem-based management. Proposals that meet the guidelines for content and format as outlined above then will be reviewed in detail by two or more individuals who have specific expertise in the topic area emphasized in the proposal, as well as by one or more members of the advisory group (these are not mutually exclusive categories). For example, proposals with a focus on social marketing might be reviewed by conservation psychologists; proposals with a strong remote sensing component might be reviewed by geographers. The advisory group will prioritize proposals based on these reviews and forward their recommendations to staff at NCEAS.

We expect to make decisions and notify applicants by early April 2009.

## Working Group Characteristics

- In most cases, Working Groups will convene at NCEAS, a research center of the University of California, Santa Barbara. NCEAS is located in downtown Santa Barbara near hotels, restaurants, and other amenities. NCEAS provides visitors with meeting rooms, computing facilities, and administrative support. Local arrangements (e.g., reserving a block of rooms at a local hotel) will be made by NCEAS.
- A maximum of 10% of the proposed budget or \$10,000 (the lesser amount) may be earmarked for site visits among researchers and local managers and policy makers. The need for these visits must be justified carefully in the proposal.
- The Working Group should include a total of 15 or fewer scientists, managers, and policy makers. Every reasonable effort should be made to include a diverse group of participants (organizational affiliation, gender, ethnicity, career stage).
- Based on NCEAS's experience, we recommend that the duration of each meeting of the Working Group be approximately four days. We expect that the Working Group will meet three or four times over a period of approximately 24 months. We expect that synthetic activities will be conducted on site at NCEAS, with additional work conducted between meetings by participants at their home institutions.
- The proposal must designate at least one participant with considerable analytical expertise who will serve as the liaison with informatics staff at NCEAS.
- The proposal must designate at least one participant who will be responsible for ensuring that the requirements of the NCEAS Data Policy and Information Policy are met (see <http://www.nceas.ucsb.edu/fmt/doc/?nceas-web/opportunity/datapolicy.html>). NCEAS requires that derived data generated as part of an NCEAS research project be well documented and made available to the public, and provides technical assistance to do so. We urge that data used to generate derived products be well documented and made available to the public, and provide technical assistance to do so. NCEAS respects the intellectual property rights of data owners who contribute their data to projects conducted at NCEAS.
- NCEAS encourages participation of graduate students and postdoctoral fellows in Working Group activities. The students and fellows should be full intellectual participants; they are not expected to serve in a support or administrative role for the group. In addition, at any given time, approximately 15 postdoctoral fellows are resident at NCEAS. Where appropriate, NCEAS encourages interactions between resident scientists and the visitors in Working Groups.
- Reporting requirements. The primary responsibility of participants in the Working Group is to fulfill their goals for the activities undertaken at NCEAS. Leaders of Working Groups are asked to provide a summary of their efforts no later than two weeks after each meeting of the group concludes.

## **Financial Information**

- Support includes reimbursement for travel to and from Santa Barbara, lodging in Santa Barbara, and per diem expenses. No salary support is provided. Working Group leaders are responsible for providing lists of the names, addresses, and contact information for participants invited to their meetings.
- Support is allocated by the University of California, Santa Barbara. Grants or subcontracts to other institutions will not be awarded as part of this project.

## **National Center for Ecological Analysis and Synthesis**

The National Center for Ecological Analysis and Synthesis (NCEAS), a research center of the University of California, Santa Barbara, supports multidisciplinary research that addresses major issues in ecology, resource management, and conservation through the use of existing data.

NCEAS hosts approximately 25 resident scientists and hundreds of visiting scientists each year. Since 1995, NCEAS has hosted more than 3500 individuals from 50 countries. To date, NCEAS has supported 430 projects yielding more than 1200 scientific articles and 28 books. Many of these articles have been published in top scientific journals, leading NCEAS into the upper 1% of 38,000 institutions ranked for scientific impact in ecological and environmental research.

In 2006, NCEAS initiated a new program specifically dedicated to serving the needs of public and private institutions that engage in conservation and resource management. Employing the NCEAS model of in-depth analysis of existing information, projects typically aim to develop approaches that are both scientifically reliable and cost-effective. Often, projects also aim to evaluate the potential response of ecological systems to natural and anthropogenic environmental change. Projects may involve the wide array of disciplines that are relevant to conservation including ecology, sociology, economics, and the physical sciences. NCEAS' record of independence and productivity provides a level of credibility that enhances the research and analytical results.

NCEAS is actively involved in developing tools to locate, access, integrate, analyze, and curate ecological data, which are highly dispersed and heterogeneous. Concurrently, research is being conducted to incorporate data from allied disciplines in the physical and social sciences. A central goal of the research is to promote free and open access to data gathered by scientists and make them available to a broad community of users.

## WORKING GROUP BUDGET TEMPLATE

	YEAR 1	YEAR 2
A. Travel*		
1. Participants based within the United States		
a. Number of participants	_____	_____
b. Total travel expenses	_____	_____
2. Participants based outside the United States		
a. Number of participants	_____	_____
b. Total travel expenses	_____	_____
 B. Daily costs		
1. Number of participants	_____	_____
2. Number of travel days (days in transit plus days at NCEAS) per participant	_____	_____
3. Number of participant days (B1 * B2)	_____	_____
4. Total daily costs (B3 * \$200)	_____	_____
 C. Total	_____	_____

\* Assume the following travel costs  
    \$450 from the western United States and Canada  
    \$600 from the midwestern United States  
    \$700 from the eastern United States and Canada  
    \$1100 from western Europe and South America  
    \$1800 from Australia, eastern Europe, and Asia  
    \$2000 from Africa and Russia