

July 2008

Request for Proposals:

Experimental design for detection of species response to management actions across scales

National Center for Ecological Analysis and Synthesis

Proposal Deadline: 30 September 2008

Pre-submission Inquiries: Prospective principal investigators should contact Dr. Stephanie Hampton, Deputy Director, NCEAS for further information prior to proposal submission. hampton@nceas.ucsb.edu 805-892-2505

Proposal Submission: Email proposal as a single file (e.g., PDF) to hampton@nceas.ucsb.edu – please see proposal guidelines in this announcement

The Problem:

Broad-scale ecological experiments (e.g., in management, restoration, or basic research) are frequently undertaken but are often opportunistic in nature, such that they are difficult to design and coordinate. Many lack a conceptual framework articulating linkages across scales (hypotheses) - from the scale of the individual experimental unit to the scales relevant for ecological responses. This disconnect limits a researcher's capacity to attribute causation when variables of interest change, such as species responses to specific restoration actions or other environmental drivers. Furthermore, a lack of long-term temporal information can hinder our ability to understand the ecological relevance or to fully interpret the magnitude of observed responses to any given management or other experimental action.

New and creative approaches and novel syntheses are required to address these challenges, particularly if they are to be adopted and adapted by managers, restoration professionals, and scientists conducting experiments in natural systems. Thus, we ask: Is it possible to design experiments in natural ecosystems such that the effects of manipulations (or treatments) on species (or other variables of interest) can be detected and attributed correctly? If so, what are the rules for effective experimental design, implementation and interpretation over multiple scales of detection? Further, given the uncertainty associated with data from natural systems, what additional or alternative data collection regimes would allow extrapolation across multiple scales? Finally, what are the opportunities for and constraints on extrapolation across systems and scales within systems?

Anticipated Working Group Approach:

Proposals should present a plan for a Working Group to undertake these challenges in dealing with design of large scale experiments. NCEAS will host a Working Group of recognized experts working in diverse fields with experience relevant to multi-scale experimental design in situations where replication and extrapolation are challenging. As with other NCEAS projects, the group will rigorously analyze and synthesize existing sources of information - such as data, literature and models. The group will ask general questions about approaches that lead to the detection of effects in landscape and population contexts. Although we anticipate application of the findings to salmon and their ecosystems in the Pacific Northwest, the RFP is open to projects focusing on any ecosystem or suite of ecosystems.

The successful proposal will incorporate a solid conceptual framework, with attention to multi-scale experimental design. Groups are encouraged to consider novel methods for incorporating long-term temporal information, such as historical or monitoring data, while specifying data availability for the proposed work. Successful proposals will articulate a plan for producing general guidelines, targeted for peer-reviewed publication, that could inform experimental design for managers and scientists interested in undertaking broad-scale experiments across systems, rather than simply providing a critique of the current state of management and large-scale experimentation.

Working Group Characteristics

- The Working Group 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 through NCEAS.
- The Working Group should include 15 or fewer scientists and practitioners. Every reasonable effort should be made to include a diverse group of participants (gender, ethnic background, organizational affiliation), with an eye toward creating new collaborations rather than simply bolstering existing partnerships among group members.
- Based on NCEAS' experience, we recommend that the duration of each meeting of the Working Group be approximately five days. We expect that the Working Group will meet two or three times over a period of approximately 18 months. We expect that synthesis 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/datapolicy>). 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. NCEAS respects the intellectual property rights of data owners who contribute their data to research 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 in residence at NCEAS. Where appropriate, NCEAS encourages interactions between resident scientists and the visiting scientists in Working Groups.
- Reporting requirements: The primary responsibility of participants in the Working Group is to fulfill their goals for the research activities undertaken at NCEAS. Accordingly, Working Group leaders are asked to provide a brief summary of their efforts within two weeks after each group meeting concludes. In addition, NCEAS support should be cited in publications, and copies of articles published should be sent to NCEAS.

Proposal Guidelines

Proposals must be no more than 2000 words, excluding references, figures, tables, curricula vitae, and budgets. Proposals must include the following elements.

1. Descriptive title
2. Abbreviated title (maximum 25 characters)
3. Name(s) and complete contact information for the principal investigators
4. Project summary of no more than 200 words
5. Goals and objectives
6. Methods: Description of anticipated analytic framework, including known data sets
7. Names and affiliations of participants: Indicate whether each participant has confirmed interest and availability
8. Anticipated timetable of activities
9. Literature cited
10. Curriculum vitae for each principal investigator (two pages maximum per investigator)
11. Budget (see below for instructions; a template is provided)

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 will be reviewed by the advisory panel for the Broad-Scale Experimental Design project.

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.

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