December 23, 2003

MEMORANDUM

To: Regional Executives

From: John D. Buffington */signed/*
Regional Director

Subject: Call for Proposals to Support Science on the DOI Landscape in the West

As you know, we will receive $500,000 in FY04 for science in support of the Department of the Interior (DOI) in the Western Region, exclusive of Alaska. After consulting with you and the regional leadership of DOI bureaus, I have selected the Mojave Desert ecosystem to receive these funds. Although we had a number of excellent proposals, I believe that this effort, with its long-standing DOI partnerships and ongoing work, is in a position to quickly deliver information and products to immediately assist the Department with its trust management responsibilities. We must now work together quickly to prepare integrated proposals for this work.

Science Objectives

The science objectives identified by DOI managers responsible for the Mojave ecosystem are to determine the living and non-living characteristics of high-quality habitat for selected rare, threatened, or endangered species in the Mojave Desert; identify and quantify long-term change that would directly or indirectly impact high-quality habitat in this ecosystem; determine monitoring protocols for short- and long-term evaluation of ecosystem change, particularly in high-quality habitat; and use geospatial models to extrapolate changes identified on monitoring plots to ecosystem scales.

Specifically,

1. Climate and geomorphology are a dominant influence on the distribution and functioning of desert biota/habitats. Desert managers need to understand these relationships in order to distinguish natural from anthropogenic-caused change and to develop an effective monitoring program. Because large areas need to be monitored with limited funds, results from plot level studies must be scaled up to larger landscapes.

   Suggested Approach: Document the effect of climate fluctuations and geomorphic surfaces on invasive plant distribution and productivity; native annual and perennial plant productivity and health; soil health (soil structure/compaction, water infiltration, surface stability, nutrient cycles); soil stability; and decomposition rates. Develop integrated cost-effective monitoring methods for monitoring vegetation, soil, and nutrient cycles, including *establishing thresholds* for each of these factors which, when crossed, require the attention of management, across a range of geomorphic surfaces, climate zones, and vegetation types in the Mojave desert. Develop geo-spatial process models to

scale up plot-level results to larger landscapes. ($200-$250K targeted)

2. The ability to model soil moisture availability and soil texture is essential for understanding the distribution and changes in desert biota.

   Suggested Approach: Develop a soil texture and soil moisture model for the Mojave Desert that incorporates spatial (vertical and horizontal) and temporal variability. Develop methods to scale from site-specific to regional. Develop methods for cost-effective monitoring of soil moisture at the site and landscape level. ($100-$150K targeted)

3. The desert tortoise is of critical concern to Mojave Desert managers. Understanding what constitutes high quality habitat, and how this habitat may be affected by climate and other factors, is an important need.

   Suggested Approach: Develop critical indicators of high quality habitat for the desert tortoise. Map the distribution of this habitat in the Mojave Desert. Determine how these components of high quality habitat may change in the future (e.g., via alterations in precipitation, temperatures, vegetation, aeolian deposition) and then model how these changes will affect the distribution of high-quality habitat. ($75 –$100K targeted)

Funding Levels, Eligibility, Submission Procedure, Evaluation Criteria, and Review

Funding levels and duration

The total amount of funding available is $500,000 per year. Funding targets are suggested for the three science objectives. Multidisciplinary and multi-year (1-4 years) proposals are solicited that address the objectives. It is understood that not all the objectives can be fully addressed with the funds available, but it is expected that successful proposals will be able to address the most critical needs and produce results that will be valued by DOI managers. It is anticipated that the level of funding available will decrease in years 3 and 4 as funds are diverted to support new projects addressing DOI concerns in other ecosystems.

Eligibility

All USGS scientists and staff in the Western Region are eligible to submit proposals as Principal Investigators (PI). In cases where a non-government scientist is PI, a government co-PI must be identified.

Submission Procedure

Because these funds must be expended this fiscal year, it is necessary that a very tight schedule be adopted. Individual scientists should partner with each other to form teams to write proposals (see Attachment for format). Proposals must be no longer than 5 pages (excluding personnel qualifications and budget). Proposals must be submitted through science centers and the Regional Executive of the Principle Investigator and received by the Regional Science Coordinator, Allison Shipp, by close of business, **Friday, January 23, 2004.**

Criteria for Reviewing Proposals

Proposal selection criteria, to ensure both quality science and relevance of science for DOI, include:

- Demonstration of understanding of DOI resource management issues.
- Degree to which the proposed research addresses the stated science objectives.
- Scientific/technical merit – originality, creativity, technical soundness, feasibility.
- Degree to which proposed research is addressed using an integrated science approach.
- Effective coordination and collaboration with existing projects, or pre-existing data, within USGS and in other Bureaus.
- Effective provisions for clear, timely communication of results to DOI resource managers and policy makers.
- Potential for delivery of some results in the first year.
- Potential for leveraging additional resources through collaboration with partners.
- Budget and personnel appropriate to accomplish goals, realistic in terms of resources.
- Potential for successful completion of objectives within specified time constraints and budget.

Review Panel

A panel of scientists and resource managers from within USGS and other DOI agencies will be established to evaluate submitted proposals. Scientists and managers on the panel will have experience in research and land management needs and will have no direct interest in any of the projects being reviewed. The Review Panel is expected to complete its work by **Friday, February 6, 2004.** Review panel recommendations will be sent to the Regional Director who will make final selections and funding decisions by **Wednesday, February 11, 2004** for immediate initiation of research.

ATTACHMENT

PROPOSAL FORMAT

PROJECT TITLE:

PRINCIPAL INVESTIGATOR(S):

Title:
Affiliation:
Address:
Telephone/fax number:
Email:

Provide name, title, affiliation, address, phone and fax number, and email address for the Principal Investigator to whom all communications from the Region should be directed.

DURATION OF PROJECT:

FY 2004 FUNDING REQUEST: Gross dollars (include cost center assessments)

BACKGROUND: Develop the problem or issue, its significance to DOI resource management needs, and the science needed to address those needs.

HYPOTHESIS/QUESTION: State the hypothesis or question to be addressed.

APPROACH: Describe the approach and how the hypothesis will be tested or question answered. Discuss new or novel approaches proposed and the likelihood of their successful application. Explain any sampling and surveying techniques, modeling, acceptance/rejection criteria, quality assurance and control procedures, statistical analysis, and data management.

PRODUCTS: Describe products and outcomes (e.g., models, written reports, scientific publications, maps, understanding). Explain how and when project results will be made available.

LITERATURE CITED: References cited should be listed according to standard Bureau citation format.

PROJECT PERSONNEL QUALIFICATIONS: Briefly describe the roles and responsibilities. Include education and relevant work experience, accomplishments, and references.

BUDGET: The proposal should use salary and benefits amounts available in BASIS+. Non-salary expenses should be itemized (travel, equipment, contracts, etc.). Cost center assessments need to be included, calculated using rates available in BASIS+.