

**Strategic Environmental Research and Development Program
(SERDP)**

FY 2017 STATEMENT OF NEED

Resource Conservation and Climate Change (RC) Program Area

**LONG-TERM ECOLOGICAL STUDIES:
TESTING PREVIOUS HYPOTHESES AND CONCLUSIONS**

1. Objective of Proposed Work

The objective of this Statement of Need (SON) is to collect and analyze additional data associated with previously completed ecological studies whose ultimate tests of theory, treatment success, or management relevance require timeframes longer than the typical research project. Proposed work should focus on study areas and ecological questions from which earlier datasets either (1) were obtained as part of a previously completed SERDP project or (2) resulted from other funded work at any Department of Defense (DoD)-relevant study area where sufficient data exist to conduct a thorough follow-up evaluation.

Proposers must address one or more of the following research needs:

1. Facilitate confirmation, modification, or abandonment of initial hypotheses and conclusions regarding treatment effects, mechanistic understanding of system processes, or management implications.
2. Extend the degree of inference of results from previous studies in statistically relevant ways.
3. Determine reduced-form datasets from more complex studies that would enable effective and cost-efficient monitoring of treatment effects and management implications by DoD resource managers.
4. Translate findings from additional data collection and analysis into actionable information for DoD resource managers.

Proposed study areas and ecological questions must meet the following requirements:

1. Previous data collection preferably should have occurred on DoD lands; however, provided the relevance to a DoD resource management interest can be demonstrated, work at non-DoD sites will be considered.
2. Proposers are not required to have conducted the prior work; however, they must have access to the necessary datasets, the specific methodological approaches used, and, if warranted, access to the same study areas and plots.¹ In addition, prior work

¹ SERDP does not maintain archival datasets. Proposers should contact the original investigators, the host DoD installation, or other site on which the research occurred for data availability.

must have resulted in sufficient documented data to enable a thorough comparison of data collected during the prior work and proposed future data collection.

3. In general, this SON is not intended to fund initiation of new treatments or management actions nor revisit research in which treatments were conclusively unsuccessful. If some level of treatment is integral to accomplishing one or more of the research needs above, the proposer must justify this linkage.
4. Proposers must demonstrate that the study area has not been substantially altered since the completion of prior work.
5. Prior treatment or data collection activities should have been completed at least two years prior to the time of new planned data collection.
6. The ecological question(s) under study must still be of relevance to DoD resource managers.

2. Expected Benefits of Proposed Work

The DoD manages a broad range of ecosystems covering millions of acres on installations across the U.S. and its territories. Research conducted under this SON will facilitate a fuller understanding of ecological response and its implications for management by providing a unique opportunity to revisit prior ecological research. Such research, whether addressing treatment effects or process understanding may have been hampered in its ability to draw management-relevant, robust conclusions and inferences by the limited timeline over which the prior work could be funded. This SON aims to rectify this shortcoming by enabling follow-up assessment of prior research and its management implications.

3. Background

SERDP and other funding sources have funded numerous ecological studies that have tested theory, treatment success, or management action over the past 20 years. Ecological studies, however, often are hampered by the typical timeframe of only a few years over which they can be funded and conducted. Initial insights often can be masked by natural variability and the timescales over which ecological processes operate. Dependent on the ecological process or question under study, it could take extended periods of time to account for these effects, but doing so facilitates process understanding or clear distinction of experimental treatment effects. Revisiting previously conducted studies and data sets by collecting additional, comparable data enables an evaluation of whether the hypotheses and conclusions that emanated from those earlier studies still hold. Furthermore, earlier studies may have provided the basis for management recommendations that have either since been implemented or are on hold pending additional confirmation of treatment effectiveness over longer time periods. By collecting and analyzing ecological data over appropriate temporal scales, we can improve the degree of inference that specific ecological studies provide and give resource managers more confidence in the evidence-based and adaptive decisions they are expected to implement.

Complementary SERDP-Funded Projects: SERDP has supported numerous projects relating to testing and implementing ecological concepts. A brief description of these completed and ongoing projects can be found at the SERDP website (<https://serdp-estcp.org/Program-Areas/Resource-Conservation-and-Climate-Change/Natural-Resources>).

4. Cost and Duration of Proposed Work

The proposed duration of projects should not exceed two years, including one to two seasons of data collection across multiple years, and subsequent time for data analysis and reporting. SERDP intends to fund multiple projects under this SON at a level of approximately \$250,000.

5. Point of Contact

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For Core proposal submission due dates, instructions, and additional solicitation information, visit the SERDP website at www.serdp-estcp.org/Funding-Opportunities/SERDP-Solicitations.