

Project Title: Dry Season Prey Trophic Concentrations

REQUEST FOR STATEMENTS OF INTEREST

NUMBER W81EWF-20-SOI-0003

PROJECT TO BE INITIATED IN 2020

Responses to this Request for Statements of Interest will be used to identify potential investigators for a project to be funded by the Engineering Research Development Center (ERDC) which provides key baseline information for the relationship between dry season aquatic fauna and wading birds in the Everglades, which is likely to be impacted by Comprehensive Everglades Restoration Plan (CERP) activities. Approximately \$212,857.00 is expected to be available to support this project for one (1) year. Additional funding may be available for work in subsequent fiscal years up to 4 years at \$212,857.00 per year for a total of \$1,064,285.00 over 5 years.

Background:

The Water Resources Development Act (WRDA) of 2000 authorized the CERP as a framework for modifications and operational changes to the Central and Southern Florida Project needed to restore the south Florida ecosystem. Provisions within WRDA 2000 provided for specific authorization for an adaptive assessment and monitoring program. The CERP Monitoring and Assessment Plan (MAP) was developed as a framework for measuring and understanding system responses to CERP, determining how well CERP is meeting its goals and objectives, and identifying opportunities for improving the performance of CERP where needed.

One uncertainty that MAP aims to address is how wading birds will respond to changes in hydrologic conditions under CERP. It has been hypothesized that the collapse of wading bird nesting colonies in the southern Everglades can be attributed to declines in population densities and seasonal concentrations of marsh fishes and other aquatic prey organisms. Restoration of natural hydrologic conditions is predicted to re-establish distributions of prey densities and concentrations across the landscape that in turn will support the return of large, successful wading bird nesting colonies to the southern Everglades. Recent evidence suggests that the amount of prey available to wading birds may be determined more by factors affecting the concentration of prey into small patches than by factors that produce large prey population sizes. This project will draw upon prior research conducted in the area and continue to provide a linkage among hydrologic fluctuations, fish populations, and wading bird populations.

Brief Description of Anticipated Work:

The purpose of this research is to collect baseline data on dry season prey trophic concentrations. Specifically, the objectives include:

Objective 1: Collect field data to evaluate the spatial patterns of maximum aquatic fauna densities in the landscape.

Objective 2: Use field data to evaluate inter-annual variation in maximum aquatic fauna densities.

Objective 3: Assess possible correlates between maximum aquatic fauna densities and local site characteristics, hydrologic patterns, and regional aquatic fauna population size.

Objective 4: Assess possible correlates between maximum aquatic fauna densities and wading bird foraging and nesting patterns.

Objective 5: Provide summary analysis of wading bird foraging and nesting patterns in response to aquatic fauna densities and hydrologic changes.

Public Benefit:

This project will play a critical role in building the knowledge base for understanding the relationship between hydrology, wading birds, and aquatic prey concentrations in the Everglades. This information is important to the public as wading birds act as ecosystem indicators for the Everglades ecosystem, hence providing information on ecosystem health. Improvements in ecosystem health provide a direct benefit to the public. Recreational benefits provided include outdoor recreation opportunities and improved access to Everglades marshes for tourists and Floridians.

Vendor Requirements:

The Vendor must be a non-federal partner of the South Florida – Caribbean CESU Unit willing to accept the negotiated CESU indirect cost rate of 17.5%. Successful applicants should have expert knowledge of the Everglades ecosystem and a record that demonstrates research experience with collecting and analyzing aquatic fauna during the dry season. The candidates should have prior experience with float helicopter sampling protocols, throw trap sampling methodologies, identification and processing of aquatic fauna species, monitoring of wading bird foraging and nesting colonies, and relating prey base and predator population responses to hydrological change. The candidates will be required to prepare a Statement of Work and Work Plan regarding the research to be conducted. The candidates will also be required to submit three (3) quarterly status reports, one (1) annual report each year, and one (1) final

report for all years of the contract to provide updates on monitoring, data collection and analyses, and assessments regarding the impacts of CERP implementation on aquatic fauna and wading bird populations.

Government Participation:

The USACE will participate in study site selections, design, and work plan development. USACE will participate in field data collection efforts as appropriate, will review quarterly status reports, and will provide input to data interpretation for final reports, as well as review annual and final reports. USACE will incorporate the data and analysis into a system-wide database that assesses and evaluates ecosystem restoration efforts in central and southern Florida. Scientific and technical information generated from the project will be utilized to evaluate project/restoration performance and system responses to be used in the development of assessment reports describing and interpreting those responses.

Materials Requested for Statement of Interest/Qualifications:

Please provide the following via e-mail attachment to:

Deberay.R.Carmichael@usace.army.mil

(Maximum length: 2 pages, single-spaced 12 pt. font).

Name, Organization and Contact Information

Brief Statement of Qualifications (including):

Biographical Sketch,

Relevant past projects and clients with brief descriptions of these projects,

Staff, faculty or students available to work on this project and their areas of expertise,

Any brief description of capabilities to successfully complete the project you may wish to add (e.g. equipment, laboratory facilities, greenhouse facilities, field facilities, etc.).

Note: A proposed budget is NOT requested at this time.

Review of Statements Received: Based on a review of the Statements of Interest received, an investigator or investigators will be invited to prepare a full study proposal. Statements will be evaluated based on the investigator's specific experience and capabilities in areas related to the study requirements. Additionally, the evaluation method and selection criteria for research and development awards must be: (1) The Technical merits of the proposed research and development; and (2) Potential relationship of the proposed research and development to the Department of Defense missions.

Please send responses or direct questions to:

Deberay Carmichael

U.S. Army Engineer Research and Development Center (ERDC)

ERDC Contracting Office (ECO)

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Vicksburg, MS 39180

Deberay.R.Carmichael@usace.army.mil

Availability of Opportunity:

Statements of Interest must be received by December 13, 2019 to be eligible for consideration.