

REQUEST FOR STATEMENTS OF INTEREST SOUTH FLORIDA – CARIBBEAN CESU NUMBER W912HZ-19-SOI-0033

PROJECT TO BE INITIATED IN 2019

**Project Title: Monitoring of Aquatic Fauna and Periphyton for
Establishment of Baseline Conditions for the Broward County WPA
Restoration Project**

Responses to this Request for Statements of Interest will be used to identify potential investigators for a project to be funded by the U.S. Army Corps of Engineers (USACE) Jacksonville District to monitor aquatic fauna and periphyton in order to provide baseline data for comparison in response to hydrological changes associated with the restoration of the C-11 aspect of the Broward County Water Preserve Areas (BCWPA) Project under the Comprehensive Everglades Restoration Plan (CERP) program. Approximately

\$134,500 is expected to be available to support this project for one (1) year. Funding for efforts in future years may be available up to 4 years at \$134,500/yr for a total of

\$672,500 over 5 years.

Background:

The Water Resources Development Act (WRDA) of 2000 authorized the Comprehensive Everglades Restoration Plan (CERP) as a framework for modifications and operational changes to the Central and Southern Florida Project needed to restore the south Florida ecosystem. The Broward County Water Preserve Areas (BCWPA) is part of the CERP. The project area is located in western Broward and Miami-Dade counties in south Florida. The project lands are bordered by WCA 3A/3B, Interstate 75, and the Miami Canal (C-6), and are within the city limits of Weston, Pembroke Pines, Miramar, and the town of Southwest Ranches. When completed, the project will reduce

water loss from the central Everglades. The project is designed to perform two primary functions: reduce seepage loss from Water Conservation Area (WCA) 3A/3B to the C-11 and C-9 basins; and capture, store and distribute surface water runoff from the western C-11 basin that has been discharged into WCA 3A/3B.

Given these two primary goals of the project, the project will need to evaluate the effects of hydrologic change associated with the BCWPA. Of concern is the effects on primary production towards the eastern boundary of WCA-3A/3B near the BCWPA project area and in the C-11 Impoundment. In order to assess restoration success after completion of the BCWPA project, baseline information on primary production is needed.

Primary production, represented by periphyton, is directly affected by hydrologic and nutrient stressors that can cause changes in periphyton communities and overall biomass available to support aquatic fauna production, especially during the wet season.

Periphyton and associated aquatic fauna good indicators of oligotrophic nutrient status in the Everglades ecosystem, which is a key defining characteristic of a restored healthy Everglades system.

Brief Description of Anticipated Work:

This project should be designed to determine the present population status of periphyton and aquatic fauna including periphyton nutrient content, diatom species composition, biomass metrics, aquatic fauna population metrics including production, species richness, species diversity, and population status.

The objectives of the proposed monitoring effort include:

Objective 1: Establish baseline reference conditions and variability in periphyton and aquatic fauna.

Objective 2: Determine status and trends of periphyton and aquatic prey populations over short-term temporal scales

Objective 3: Establish baseline for response to ecosystem (periphyton oligotrophic nutrient status and wet season prey production) to local and regional environmental changes.

Public Benefit:

This project will play a critical role in building a baseline for periphyton and aquatic fauna for future assessment of restoration success associated with the BCWPA project. Future evaluation of periphyton and aquatic fauna will be compared to the baseline developed by this project. Data collection associated with this CESU opportunity will also provide information needed to properly assess thresholds and targets associated with the BCWPA adaptive management plan, which helps guide future restoration efforts associated with the BCWPA, should the project track short of restoration targets.

This project will also play a critical role in building the knowledge base of periphyton status, environmental setting, and trophic interactions of the periphyton food web along the eastern boundary of WCA-3A/3B and the C-11 Impoundment. This information is important to the public as it relates to ecosystem health. Improvements in ecosystem health provide a direct benefit to the public by providing improved water resources which translates to improved recreational opportunities including kayaking, canoeing, fishing, and wildlife observation.

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 (in particular the Greater Everglades ecosystem including WCA-3A/3B and C-11 Impoundment) and a record that demonstrates research experience with periphyton and aquatic fauna in south Florida.

Candidates will be required to prepare a Scope of Work and Work Plan regarding the monitoring to be conducted. Successful applicants will be required to submit three (3)

quarterly reports and one (1) annual report for each year of the contract to provide updates on monitoring, data collection and analyses, and assessments regarding population dynamics and status associated with periphyton and aquatic fauna along the eastern boundary of WCA-3A and the C-11 impoundment

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

1. 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.

Please send responses or direct questions to:

Deberay R. Carmichael

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

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Timeline for Review of Statements of Interest: Review of Statements of Interest will begin after the SOI has been posted on the CESU website for 10 working days.