

REQUEST FOR STATEMENT OF INTEREST And Qualifications FOR A PROJECT TO BE INITIATED THROUGH THE SOUTH FLORIDA CARIBBEAN COOPERATIVE ECOSYSTEM STUDIES UNIT (SFC-CESU)

Project Title: Status survey of Garber's spurge (*Chamaesyce garberi*) and Cape Sable thoroughwort (*Chromolaena frustrata*) following Hurricane Irma

Responses to this Request for Statement of Interest will be used to identify potential collaborators for a project funded by the National Park Service (NPS) to assist with assessing impacts from Hurricane Irma on two federally listed plant species, Cape Sable thoroughwort (*Chromolaena frustrata*) and Garber's spurge (*Chamaesyce garberi*). Both species occur in coastal habitats within Everglades National Park (ENP) that were impacted by Hurricane Irma in 2017. Post storm observations of both species indicated that storm surge where populations occur resulted in habitat modification and mortality of plants from physical damage and deposition of marine debris and sediment. A quantitative assessment of the current status of populations of both species needs to be completed in order to understand the population level impacts of the storm on those species. The NPS is requesting information on your interest and qualifications to provide this support.

The authority for this Cooperative Agreement is 54 U.S.C. § 101702(b) (Cooperative Research and Training Programs). Substantial involvement is expected between the NPS and nonfederal partner when carrying out the activities specified in the scope of work and may include activities such as the NPS's involvement in the development of study methodology, data gathering and analysis; review of work plans, reports and all deliverables; providing staff time to oversee and participate in the collection of field data.

This proposed project contributes to the objectives of the CESU network by providing usable knowledge to support informed decision making; creating and maintaining effective partnerships among the federal agencies and universities to share resources and expertise; encouraging professional development of current and future federal scientists, resource managers, and environmental leaders; and managing federal resources effectively. In addition, this work is consistent with the South Florida Caribbean CESU mission of providing research, technical assistance, and education to federal land management, environmental, and research agencies.

Background and overview:

In September of 2017, the eye of Hurricane Irma passed just south of Flamingo in southern ENP, producing high wind and major storm surge flooding of coastal habitats. Storm surge and wind effects impacted habitat and individuals of Cape Sable thoroughwort (Federally endangered) and Garber's spurge (Federally threatened). Observed effects in Cape Sable thoroughwort habitat include large scale mortality of herbaceous understory plants, mortality of woody understory shrubs, windthrow of overstory trees and deposition of as much as 2cm of marine sediment (marl). In beach dune communities where Garber's spurge occurs, tidal overwash led to deposition of significant quantities of tidal wrack, erosion and deposition of sand and mortality of herbaceous plant species.

Garber's spurge:

Garber's spurge occurs in open coastal dune communities in the Cape Sable region of ENP, with large populations observed on both Northwest and Middle Cape Sable. In 2007, 9 transects were established to estimate the population size at Northwest Cape Sable (Green et al 2008). Intercept and plot based counts of individuals along those transects led to a total population estimate of over 1,000,000 plants for the site. No quantitative estimates of population size have been made at the site since then. In order to assess post hurricane population conditions of Garber's spurge at Northwest Cape Sable, ENP seeks to re-monitor those transects or otherwise collect numerical population data in a manner that allows for the preparation of a current population estimate that is comparable to the existing one from 2007. Garber's spurge also occur in pine rockland within the Long Pine Key region of ENP. Assessment of this populations is not being requested under this request for a statement of interest.

Cape Sable thoroughwort:

Cape Sable thoroughwort occurs in coastal buttonwood and hardwood hammocks in southern ENP between Clubhouse Beach and Little Madeira Bay. In 2014, 26 transects were established to prepare a quantitative estimate of population size in the two largest known occurrences of this species. That work led to an estimate of ~370,000 plants at one location and ~6,200 plants

at the other (van der Heiden et al 2015). Qualitative surveys following Hurricane Irma resulted in the observation of plants at both of the previously monitored sites, but a population estimate has not been made since the 2014 study.

Objectives:

The objective of this project is to develop an up-to date status assessment of Cape Sable thoroughwort and coastal populations of Garber's spurge within ENP following impacts from Hurricane Irma.

Specific Tasks:

Remonitor previously installed transects on northwest Cape Sable to assess current status of Garber's spurge at that site.

Remonitor previously installed transects along Coastal Prairie Trail to assess current status of Cape Sable thoroughwort at that site.

Compare post storm data with pre-storm data to assess effects of Hurricane Irma on populations of both species.

Literature:

Green, S.E., K.A. Bradley and S.W. Woodmansee. 2008. Status survey of federally threatened *Chamaesyce garberi* in South Florida. Report to the U.S. Fish and Wildlife Service prepared by The Institute for Regional Conservation, Miami, Florida. 62 pages.

Van der Heiden, C., J. Johnson and J. Lange. 2015. Cape Sable thoroughwort (*Chromolaena rustrate*) populations in the vicinity of Flamingo, Everglades National Park. Report to National Park Service, Everglades National Park prepared by the Institute for Regional Conservation, Delray Beach, Florida. 15 pages.

Period of Performance

The period of performance for this Task Agreement will be 12 months from the awarded date. The NPS plans to have an agreement signed by October 15, 2019 and begin project work shortly thereafter.

Materials Requested for Statement of Interest/Qualifications

Please prepare a brief (3-4 page) summary of how you would envision conducting such a collaborative project. Include your name, CESU affiliation (university or non-profit organization) and contact information as well as any relevant experience, past projects and staff, faculty and students that would be available to work on the project. Note: A proposed budget is NOT requested at this time.

Review of Statements Received:

All statements of interest received will be evaluated by a committee comprised of two or more National Park Service scientists, who will determine which statement(s) best meet the program objectives. 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 demonstrated skills in conducting plant surveys, particularly assessments of plant community species of management concern (i.e., rare and threatened species). Previous experiences studying at the park or region will also be considered, including experience conducting National Park Service natural resource damage assessments. Because of the broad scope of this project, an interdisciplinary approach is necessary.

Please direct all questions to:

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Replies requested by: Not later than Aug 26, 2019, 11:59 PM EST. Please submit electronic statements of interest to:

Carol B. Daniels, NPS Senior Science Advisor

c/o DOI, Office of the Secretary, OERI at:

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