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Research Associate position at the Coastal Behavioral Ecology lab

The Dr. Rieucou's Coastal Behavioral Ecology lab (CBEL) (<https://lumcon.edu/grieucou>) at the Louisiana Universities Marine Consortium (LUMCON) is seeking one Research Associate starting early 2020 to participate in a multidisciplinary project funded by the Bureau of Ocean Energy Management dedicated to study the relationship of human disturbance to ecosystem services in offshore sand shoal habitats in coastal Louisiana. The candidate will join a vibrant research team of scientists to understand how marine organisms respond to changing environmental conditions in coastal ecosystems. The candidate will be responsible of the investigation of the quantify spatial and temporal patterns of abundance, size and behavior of the nekton community that use a sand shoal habitat using acoustic surveys. This part of the project will capitalize on the integration of cutting-edge observational methodologies by using high-resolution imaging sonar technology coupled with advanced quantitative analysis and processing methods.

Project Title: *Responses of Ecological Function of the Ship Shoal Biological Communities Subjected to Dredging*

Abstract: Ship Shoal is a large transgressive sand shoal located approximately 10 miles off the central coast of Louisiana. Recently, Ship Shoal became an active dredging site to aid coastal restoration in Louisiana because it contains ~2 billion cubic meters of high quality sand. The shoal is a highly productive and dynamic benthic habitat that is utilized by a diverse and important assemblage of species, including several federally managed species. The shoal is also spawning habitat for commercially important species such as blue crabs, and other nekton as well. To properly manage dredging activity and retain the critical ecological function of the shoal it is necessary to understand the responses of the shoal ecosystem to the changes in physical and biological drivers induced by both natural processes and dredging. We propose to use a modified Before-After Control Impact (BACI) experimental design to determine the biological, physical, and chemical responses of borrow areas on Ship Shoal compared to control sites. Seasonal and diel samples will be collected over the project period that will bracket the period of dredging. We will use bathymetric and side-scan sonar to map each site prior to and after dredging. During each seasonal sampling period we will use box cores, trawling, long line, gillnets and high resolution sonar imaging to quantify the abundances of benthic infauna and to estimate abundance and observe fine-scale behavior of nekton during the day and at night at both control and dredge sites. We will collect tissue samples from nekton, benthic invertebrates, and all potential primary producers to determine food web structure using stable isotope analyses. We will measure primary production rates of phytobenthos to determine

effects of dredging on benthic PP. These data will provide a basis for modeling impacts of dredging on the biological function of Ship Shoal. BOEM has devoted funding through two ongoing projects toward better understanding how dredging pits evolve in Ship Shoal and the potential impacts to infrastructure and/or resources of concern located adjacent to the pits. This new proposed ecology project will build upon the data and resources from current BOEM-funded projects to increase BOEM's decision making ability regarding effects of sand extraction on environmental and cultural resources.

Qualifications: The candidate must have a Master degree in Fisheries Ecology, Behavioral Ecology, or a related field. Opportunities for the candidate to participate in field work and research cruises may require physical effort. We are particularly seeking a candidate with a strong analytical background, experience in data analysis and theoretical concepts in Fisheries Ecology, Behavioral Ecology, Animal Behavior or Ethology. The ability to work in a group setting is essential, as the Research Associate will work collaboratively with PIs, graduate and undergraduate students. Therefore, previous experience in working in laboratories and various research teams is desired. The position requires high organizational and communication skills as well as significant database management capabilities.

Location: The position will be based at the Louisiana Universities Marine Consortium (LUMCON) Marine Center in Cocodrie, LA (visit <http://www.lumcon.edu> for information on the facility).

To Apply: Send a letter of interest, curriculum vitae, and the name, address, phone and email contact for at least three individuals qualified to comment on scientific and work qualifications to Dr. Guillaume Rieucou (grieucou@lumcon.edu) with "Research Assistant position" in the subject line. For questions or more information contact Dr. Rieucou by email or phone (985-223-7421).

Deadline: Review of applications will commence immediately and continue until the position is filled.

LUMCON offers state benefits and is an Equal Opportunity/Affirmative Action Employer that actively seeks diversity among its employees.