

**U.S. Department of the Interior
Bureau of Ocean Energy Management**

Program Announcement No. M19AS00006

**Ecological Function and Recovery of Biological Communities within
Sand Shoal Habitats within the Gulf of Mexico**

**FY 2019 Marine Minerals Program
CFDA No. 15.424**

February 28, 2019

I. Funding Opportunity Description:

The Bureau of Ocean Energy Management (BOEM) through the Marine Minerals Program (MMP) is offering a cooperative agreement opportunity to conduct research to serve the public interest in offshore sand resources, coastal restoration, coastal resiliency and to investigate the long-term recovery of benthic and fish communities following dredging of sand resources within Ship Shoal in the Gulf of Mexico.

BOEM needs to observe prolonged biological, physical and chemical recovery of borrow areas located within Ship Shoal to understand the importance of dredged habitats to benthos, fish, and trophic structure/bioenergetics. Environmental monitoring may be a requirement for project proponents to access and use sand resources. However, because of the relative expense, monitoring is generally limited in scope and concluded within a year of project completion. Previous studies have indicated that the recovery time may be greater than 3 years particularly in borrow areas that are repetitively used, such as Ship Shoal (Byrnes, et al. 1999). In one of only two previous long-term (5-10 years) studies, species composition in the borrow area still differed after 5 years (Turbeville and Marsh 1982). The benthic communities may exhibit biomass recovery within 3 months to 2.5 years, however their taxonomic composition can remain different for more than 3-5 years (Michel, et al. 2013).

Existing project-specific, post-construction monitoring is not of sufficient duration or temporal resolution to fully understand these sand complexes. In the absence of extended and temporally-resolved monitoring data, short-term perturbations cannot be differentiated from natural disturbances and seasonal changes, or longer-term trends, such as climatic oscillations. Observations over an extended time frame will allow for BOEM to identify the potential impacts of multiple sediment removal activities at Ship Shoal and determine the extent, nature, and process of disturbance and recovery. Initial data from an on-going comprehensive borrow area recovery study on Canaveral Shoals, Florida (currently funded until Fall 2019) has led to some valuable information. Replication of this data in another location would improve our understanding of recovery spatially and in different physical environments. This information on recovery is necessary for improved regional management of offshore habitat availability for prey and fish species. This knowledge will improve effects analyses in National Environmental Policy Act (NEPA) documents and greatly focus and improve the outcomes of EFH consultations.

Section 1346 of the Outer Continental Shelf Lands Act (OCSLA) mandates the conduct of environmental and socioeconomic studies needed for the assessment and management of environmental impacts on the human, marine, and coastal environments which may be affected by oil and gas or other mineral development. [OCSLA Section 1345](#) authorizes the use of cooperative agreements with affected States to meet the requirements of OCSLA, including sharing of information, joint utilization of available expertise, formation of joint monitoring arrangements to carry out applicable Federal and State laws, regulations, and stipulations relevant to outer continental shelf operations both onshore and offshore.

The study proposed is entitled, “Ecological Function and Recovery of Biological Communities within Sand Shoal Habitats within the Gulf of Mexico.” The study field work must be initiated prior to the dredging operations. The initial monitoring work shall be completed within three years from the date of the award. This effort may lead to an adaptive long-term monitoring program should funding become available, therefore long-term considerations should be factored into proposals.

Study Objectives

The objectives of this study are to examine the relationship of human disturbance to ecosystem services in offshore sand shoal habitats in the Ship Shoal borrow area and nearby control sites off Louisiana. Further, to determine if there are functional differences in control site and borrow sites (pre- and post-dredging) by examining species distribution, diversity, habitat use, population dynamics and rate of recovery of benthic habitats. If so, investigate if these differences correlate with biophysical differences (grain size, flow characteristics). Finally, determine if there are regional differences in recovery (Gulf of Mexico vs. Atlantic).

- Develop an appropriate study design and sampling strategy for baseline characterization and subsequent long term monitoring of the ecosystem. Factor in spatial gradients and temporal and seasonal differences. Pre-disturbance and post-disturbance physical and biological sampling should occur following a Before-After-Control-Impact (BACI) methodology.
- Leverage legacy data or relevant data from other research programs that may contribute to the study objective and foster effective partnerships. BOEM has recently funded a met-ocean permanent observation station in the vicinity of Ship Shoal that will provide important observations. A suite of data from previous monitoring is available including bathymetry, geological and geophysical data, fish and benthic assemblage data.
- Characterize key resident and transient biological communities, including phytoplankton/zooplankton, benthic invertebrates, demersal and pelagic fish, and other relevant shellfish and/or nekton. Relevant attributes to characterize may include density, distribution, movements, foraging/spawning behavior, etc. Must include key federally managed fish species.
- Establish and monitor sufficient proximal control site(s) with similar physical and oceanographic characteristics to differentiate natural ecosystem changes from dredge-related impacts.
- Identify and document relevant physical, hydrodynamic, chemical, or other parameters that are most relevant to describe and understand the use of this habitat (bathymetry, sediment type, water quality parameters, etc.).
- Identify and implement appropriate field, laboratory, and analytical methods including both including geospatial and statistical analyses. Possible field methods include multibeam sonar, Acoustic Doppler Current Profiler (ADCP) wave/current measurements (upward and downward facing), sediment cores, benthic grabs, benthic community analysis, trawls, acoustic telemetry, seasonal

and diel observations, gut content analysis, stable isotope analysis, etc. Data should be gathered from different habitat settings at each site (side of shoal, shoal crest, shoal slipface, and offshore sites seaward and landward of the shoal sand body over multiple seasons during the day and night following a random stratified methodology.

Study Area

The study area is located offshore Louisiana at Ship Shoal borrow areas in the Gulf of Mexico. In addition, the proposal should establish sufficient proximal control sites with similar physical and oceanographic characteristics. Proposals should demonstrate ability to work in proposed areas.

II. Award Information:

- This announcement is specifically to announce intent to undertake the following project: *Ecological Function and Recovery of Biological Communities within Sand Shoal Habitats within the Gulf of Mexico.*
- This is not an open solicitation for proposals. This Program Announcement describes a cooperative agreement that may be awarded to a qualified recipient within the Gulf Coast Cooperative Ecosystem Studies Unit (GC-CESU) network only (http://www.cesu.psu.edu/unit_portals/GUCO_portal.htm). The award is premised on receipt of an acceptable proposal.
- The total amount of funding available for an award based on this announcement is not to exceed \$2,000,000. The total amount of funding available in Fiscal Year 2019 is not to exceed \$1,200,000. An additional \$400,000 is available in both FY 2020 and FY 2021. The award ceiling for the entire proposed project (not per year) is \$2,000,000. Work performance under the cooperative agreement award is estimated to start between July and August 2019 and must be completed within 36 months from the date of award. The award will be a cooperative agreement. This involves substantial involvement by BOEM scientists in various aspects of study development and/or study conduct.

Multi-Year Proposals:

Proposals should clearly define the work to be accomplished each year. BOEM reserves the option to fund only the first year of a three-year proposal with funding for the second and third year contingent upon the availability of funds and satisfactory progress demonstrated by the recipient. Progress will be determined through technical review of quarterly and annual progress reports and other work identified by the BOEM project officer.

III. Eligibility Information:

The specific project identified in Section 2 is intended for the organizations identified through the Gulf Coast Cooperative Ecosystem Studies Unit (http://www.cesu.psu.edu/unit_portals/GUCO_portal.htm). Cooperative research (establishment of teams) is strongly encouraged. Applicants may not be outside of the Gulf Coast CESU, however, the applicant may include subcontracts to non-profit organizations, private institutions of higher education, private companies or public and state controlled institutions of higher education within their proposal.

Contributions of matching funds towards these efforts, either as cash or in-kind contributions (such as salary, equipment, etc., or a combination of both) is strongly encouraged but not required. Match cannot include value associated with collection costs for samples previously collected. Match value for instrumentation and other equipment should be adjusted to the period of use within the project relative to the full life cycle for the item. Matching dollars cannot be from other federal funding sources. Further information can be found at [2 CFR 200.306](#).

Federal entities as partners are allowed, however tasks performed by the Federal partner and the associated budget must be presented separately. The Applicant's proposal and the Federal proposal should be cross referenced to each other, but each should stand alone. Other non-federal organizations may be partners and their tasks should be included in the Applicant's proposal.

IV. Application and Submission Information:

1. Location of Application Package

All applications must be submitted through www.grants.gov by the due date noted on the Synopsis to this announcement. Information on the application process can be found under the "Applicants" tab. Applicants can locate the application package by visiting the grants.gov portal and searching on CFDA number 15.424 in the grants.gov search engine.

The electronic submission system requires several preliminary registration steps before the actual application can be submitted, including obtaining a DUNS number (see www.dnb.com), registering in SAM.gov (see www.sam.gov) and registering a Grants.gov account (go to www.grants.gov and click on "Register" in the top right hand corner).

2. Content and Form of Applications

The application process begins by downloading <https://www.grants.gov>. The application portal will enable the applicant and all interested parties to view and complete the following required application forms:

SF-424 Application for Federal Assistance
SF-424a Budget Information – Non-Construction Programs
SF-424b Assurances – Non-Construction Programs
Project Narrative Form
Budget Narrative Form
GG Certification Regarding Lobbying Form
(Complete the Optional SF-LLL Lobbying form if lobbying has occurred)

Complete the required SF-424 and Lobbying forms.

3. Proposal Narrative: The first page of this proposal shall contain the following information:

Project Title:

Principal Investigator(s):

Name:

Address:

Phone:

FAX:

Email:

Name of university, state agency, or other organization:

Contact information for Technical and Administrative Negotiations

Project Status: New/Continuation

Project Duration: (years)

Proposed Start Date:

Project Deliverable: (e.g. final report, data)

Matching Funds Available:

Funds Requested:

Total Project Cost:

Proposal Text: text should be no longer than 20 pages. The text for multi-year proposals may be up to 30 pages. Please include the following:

1. Abstract
2. Background/Relevance - Give a brief introduction to the research problem. Specify the contribution to science related to MMP issues and the benefits that the public will receive from the project. Explain why the work is important and how the proposal addresses BOEM goals. Provide a brief summary of findings or outcomes of any prior work you have completed in this area.
3. Objectives/Hypotheses - Clearly define goals of the project.
4. Methods/Analyses – Thoroughly discuss planned methods and analyses and include all relevant literature references to support the approach described.
5. Data management, data archiving and data security plan as appropriate. Include the disposition and archiving of sample collections as well as datasets.
6. Logistics plan when appropriate

7. Safety management when appropriate
8. Permits/Interagency coordination when appropriate
9. Local involvement/Traditional knowledge when appropriate
10. Project management/Staffing plan -- **Describe the performance measures or devise a performance plan that will be used to assess the accomplishment of the goals of the project.** These performance measures will be incorporated in the cooperative agreement award and should be used by the recipient when creating the Progress Report. Describe the applicant's plan to monitor performance of contractors and sub-grantees. List the University Principal Investigator first, followed by the names of other individuals. Indicate the role for each participant in the project (oceanographer, geochemist, field assistant, etc.). Include a brief curriculum vitae for each investigator.
11. Planned Products - List product(s) (reports, analyses, maps, digital data, video, photos, etc.) that will be delivered at the end of the performance period. **quarterly, and annual progress reports and draft and final reports and draft and final technical summaries are required.** Also publication of results in peer-review journals is encouraged.
12. Budget justification (see item 4. "Budget Narrative" below)
13. Budget (include personnel, travel, services, supplies, equipment, tuition, indirect costs, anticipated match for each year, as well as total for all three years)
14. Suggested Peer Reviewers of deliverables
15. Project Schedule (including deliverables)
16. Critical Starting Date (e.g. for season-limited field work)

4. Budget Narrative

This information will provide more details than the SF-424A form and will provide adequate information for the Contracting Officer to conduct a detailed analysis of the costs to determine they are reasonable, allowable and allocable. Please include the following:

- a. Salaries and Wages. List positions, rate of compensation and estimated number of hours. If contract employees are hired, include their total time, rate of compensation, job titles, and roles.
- b. Fringe benefits/labor overhead. Indicate the rates/amounts in conformance with normal accounting procedures. Explain what costs are covered in this category and the basis of the rate computations. Provide a copy of the Negotiated Rate Agreement with the cognizant federal audit agency for the Recipient, and all sub-grantees.
- c. Field Expenses. Briefly itemize the estimated travel costs (i.e., number of people, number of travel days, lodging and transportation costs, and other travel costs).
- d. Lab Analyses. Briefly itemize cost of all analytical work.
- e. Supplies. Enter the cost for all tangible property. Include the cost of office, laboratory, computing, and field supplies separately.

Provide detail on any specific item, which represents a significant portion of the proposed amount. Provide a statement that supplies will be purchased in accordance with 2 CFR 200.317.

- f. Equipment. Show the cost of all special-purpose equipment necessary for achieving the objectives of the project. "Special-purpose equipment" means scientific equipment having a useful life of more than 1 year and having an acquisition cost of \$5,000 or more per item. Each item should be itemized and include a full justification and a dealer or manufacturer quote, if available. General-purpose equipment (used for purposes other than this project) must be purchased from the applicant's operating funds. Title to non-expendable personal property may remain with the government or it may be vested solely with the Recipient. Under no circumstances shall property title be vested in a sub-tier recipient. Provide a statement that equipment will be purchased in accordance with 2 CFR 200.317 and managed in accordance with 2 CFR 200.313.
- g. Services or consultants. Identify the tasks or problems for which such services would be used. List the contemplated sub-contractors by name (including consultants), the estimated amount of time required, and the quoted rate per day or hour. In addition, sub-grantee budgets must provide the same level of detail as the recipient's proposal. Note that tasks conducted by Federal partners must have a separate proposal and budget.
- h. Travel. State the purpose of the trip and itemize the estimated travel costs to show the number of trips required, the destinations, the number of people traveling, the per diem rates, the cost of transportation, and any miscellaneous expenses for each trip. For travel to professional conferences or workshops, include if any publications or professional paper, presentation, poster session will be presented. Calculations of other special transportation costs (such as charges for use of applicant-owned vehicles or vehicle rental costs) should also be shown.
- i. Publication costs. Show the estimated cost of publishing the results of the research, including the final report. Include costs of drafting or graphics, reproduction, page or illustration charges, and a minimum number of reprints.
- j. Other direct costs. Itemize the different types of costs not included elsewhere; such as, shipping, computing, equipment-use charges, or other services.
- k. Total Direct Charges. Totals for items a - j.
- l. Indirect Charges (Overhead). Indirect cost/general and administrative (G&A) cost. Show the CESU proposed rate. Unless the sub-grantee or subcontractor has agreed to or is bound by the 17.5% CESU indirect cost rate, they are not restricted to this rate. If it's not applicable, show the cost base, and proposed amount for indirect costs based on the cost principles applicable to the Applicant's organization. If the sub has separate rates for recovery of labor overhead and G&A costs, each charge should be shown.

As stated in (b) above, provide a copy of the Negotiated Rate Agreement with the cognizant federal audit agency for all sub-grantees.

- m. Amount proposed. Total items k and l.
- n. Multi-year projects. The Applicant shall provide summary information as well as a detailed budget for each year.

V. Application Review Information:

Reviewers will include BOEM scientists, program managers and may also include external peer review. Reviewers have expertise in federal offshore programs and/or the specific scientific discipline of the proposal.

Evaluation Criteria. All proposals will be evaluated in accordance with the following criteria shown in descending order of importance:

1. Scientific Quality and Impact (25 Points):

Are the hypotheses of high quality and clarity? What is the relevance to BOEM mission?

2. Work Plan/Methodology (25 Points):

Is the strategy clear? Are the scientific objectives appropriate for proposed time frame? Are the methods and instruments selected appropriate for the research proposed? Does the proposal address contingency plans for missed field work, equipment failure, and other problems?

3. Experience/Competence of Research Personnel (20 Points):

Have the applicants demonstrated (through bibliographic references, previous relevant experience, awards, etc.) that they are capable of doing the proposed research? Have the applicants demonstrated a thorough knowledge of the scientific problem? Have products been on schedule and within budget?

4. Budget Justification and Clarity (20 Points):

Is staff sufficient to accomplish the proposed goals? Are field expenses, supplies, lab work, and other expenses appropriate? Are expenses adequately itemized?

5. Planned Products and Dissemination of Results (10 Points):

Are the products clearly defined? Will they be useful for environmental stewardship and marine minerals management activities? Will sample collections and datasets be properly archived and accessible to the public? Will the results be published in a peer-reviewed form?

VI. Award Administration Information:

The recipient is responsible for managing the day-to-day operations of the cooperative agreements and sub-awards to ensure compliance with applicable Federal statutes, regulations and policies. The recipient is also responsible for meeting the performance goals identified in the Project Narrative.

Acceptance of a Federal Financial Assistance award from the Department of the Interior (DOI) Bureau of Ocean Energy Management carries with it the responsibility to be aware of and comply with the terms and conditions of award. Acceptance is defined as the start of work, drawing down funds, or accepting the award via electronic means. Awards are based on the application submitted to, and as approved by BOEM, and are subject to the terms and conditions incorporated either directly or by reference in the following:

- Program legislation/regulation.
- Special terms and conditions.
- Code of Federal Regulations/Regulatory Requirements, as applicable (contact the Contracting Officer with any questions regarding applicability of the following):

2 CFR Part 200 Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards

2 CFR Part 25 Universal Identifier and System for Award Management

2 CFR Part 170 Reporting Subaward and Executive Compensation Information

2 CFR Part 175 Award Term for Trafficking in Persons

2 CFR Part 182 Governmentwide Requirements for Drug-Free Workplace (Financial Assistance)

2 CFR Part 1400 NonProcurement Debarment and Suspension

2 CFR Part 1401 Requirements for Drug-Free Workplace (Financial Assistance)

2 CFR Part 1402 Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards

43 CFR Part 18 New Restrictions on Lobbying

The following provisions are included in full text:

Conflicts of Interest

(a) Applicability.

(1) This section intends to ensure that non-Federal entities and their employees take appropriate steps to avoid conflicts of interest in their responsibilities under or with respect to Federal financial assistance agreements.

(2) In the procurement of supplies, equipment, construction, and services by recipients and by subrecipients, the conflict of interest provisions in 2 CFR 200.318 apply.

(b) Requirements.

(1) Non-Federal entities must avoid prohibited conflicts of interest, including any significant financial interests that could cause a reasonable person to question the recipient's ability to provide impartial, technically sound, and objective performance under or with respect to a Federal financial assistance agreement.

(2) In addition to any other prohibitions that may apply with respect to conflicts of interest, no key official of an actual or proposed recipient or subrecipient, who is substantially involved in the proposal or project, may have been a former Federal employee who, within the last one (1) year, participated personally and substantially in the evaluation, award, or administration of an award with respect to that recipient or subrecipient or in development of the requirement leading to the funding announcement.

(3) No actual or prospective recipient or subrecipient may solicit, obtain, or use non-public information regarding the evaluation, award, or administration of an award to that recipient or subrecipient or the development of a Federal financial assistance opportunity that may be of competitive interest to that recipient or subrecipient.

(c) Notification.

(1) Non-Federal entities, including applicants for financial assistance awards, must disclose in writing any conflict of interest to the DOI awarding agency or pass-through entity in accordance with 2 CFR 200.112, Conflicts of Interest.

(2) Recipients must establish internal controls that include, at a minimum, procedures to identify, disclose, and mitigate or eliminate identified conflicts of interest. The recipient is responsible for notifying the Financial Assistance Officer in writing of any conflicts of interest that may arise during the life of the award, including those that have been reported by subrecipients.

(d) Restrictions on Lobbying. Non-Federal entities are strictly prohibited from using funds under this grant or cooperative agreement for lobbying activities and must provide the required certifications and disclosures pursuant to 43 CFR Part 18 and 31 USC 1352.

(e) Review Procedures. The Financial Assistance Officer will examine each conflict of interest disclosure on the basis of its particular facts and the nature of the proposed grant or cooperative agreement, and will determine whether a significant potential conflict exists and, if it does, develop an appropriate means for resolving it.

(f) Enforcement. Failure to resolve conflicts of interest in a manner that satisfies the Government may be cause for termination of the award. Failure to make required disclosures may result in any of the remedies described in 2 CFR 200.338, Remedies for Noncompliance, including suspension or debarment (see also 2 CFR Part 180).

Data Availability

(a) Applicability. The Department of the Interior is committed to basing its decisions on the best available science and providing the American people with enough information to thoughtfully and substantively evaluate the data, methodology, and analysis used by the Department to inform its decisions.

(b) Use of Data. The regulations at 2 CFR 200.315 apply to data produced under a Federal award, including the provision that the Federal Government has the right to obtain, reproduce, publish, or otherwise use the data produced under a Federal award as well as authorize others to receive, reproduce, publish, or otherwise use such data for Federal purposes.

(c) Availability of Data. The recipient shall make the data produced under this award and any subaward(s) available to the Government for public release, consistent with applicable law, to allow meaningful third party evaluation and reproduction of the following:

- (i) The scientific data relied upon;
- (ii) The analysis relied upon; and
- (iii) The methodology, including models, used to gather and analyze data.

Reporting

The BOEM will conduct oversight and will monitor the work progress and financial status of each cooperative agreement by requiring the following, at a minimum:

1. Federal Cash Transactions Reports

The recipient must submit the Standard Form 425, Federal Financial Report and, when necessary, its continuation form if funds are withdrawn in advance of expenditures. BOEM will use the form to monitor the cash advanced to the recipient, and to obtain disbursement or outlay information for each cooperative agreement.

2. Performance and Financial Status Reporting Requirements

Reporting requirements for the projects are regulated by 2 CFR 200. These regulations specify basic cooperative agreement reporting requirements including performance and financial reports. BOEM will work closely with the recipient to incorporate appropriate performance and financial reporting requirements into each cooperative agreement award, consistent with 2 CFR 200. These regulations provide some flexibility in determining the appropriate content and frequency of performance and financial reports. At a minimum, however, the reporting schedule will require the recipient to report their progress and financial status on a quarterly (Performance Report) and annual basis (Federal Financial Report).

3. Single Audit Requirements

Nonfederal entities that expend \$750,000 or more in Federal funds must have a single or a program-specific audit conducted for that year. Nonfederal entities that expend less than \$750,000 or more in Federal awards are exempt from Federal audit requirements for that year, except as noted in 2 CFR 200.501.

4. Technical Reporting Requirements

Quarterly reports, Draft and Final Reports, and Draft and Final Technical Summaries are required. Specifications for formats will be provided by the BOEM project officer.

VII. Agency Contacts:

Grants.gov:

Technical questions concerning the application process:

Grants.gov Help Desk at:

Phone: 1-800-518-4726

Email: support@grants.gov

Program Announcement and Cooperative Agreement Questions:

Christy Tardiff

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VIII. Other Information:

Dissemination of Research Results: BOEM considers dissemination of research data and results to be an integral and crucial aspect of projects funded by this program. This includes the proper archiving of samples and datasets to maximize public access in the future. Applicants are strongly encouraged to disseminate research results to the scientific community and appropriate professional organizations; local, State, regional and Federal agencies; and the general public. BOEM encourages the Recipient to publish project reports in scientific and technical journals. When appropriate as determined by the project officer, applicants should include in the proposal a plan to present findings at two major meetings, one of which will be the local regional BOEM Information Transfer Meeting.

All projects should plan to provide BOEM with no less than 20-30 digital images related to the research activity. BOEM encourages the Recipient to develop education and/or outreach materials, e.g. teacher's packet, poster, video, etc.

Extensions to the project period: Extensions are discouraged. The timely conduct of funded projects is of great importance to the achievement of the goals of the BOEM. Applicants should consider their time commitments at the time of applying for funding support.

-- End of Program Announcement M19AS00006 --