

**REQUEST FOR STATEMENTS OF INTEREST
N40192-24-R-8001
PROJECT TO BE INITIATED IN FISCAL YEAR 2024**

**Project Title: LONGTERM CORAL REEF ECOSYSTEM MONITORING AT JOINT REGION MARIANAS
ADMINISTERED AND LEASED SUBMERGED LANDS**

Responses to this Request for Statements of Interest will be used to identify potential projects to be funded by the Department of the Navy (DoN) in support of longterm coral reef ecosystem monitoring at Joint Region Marianas (JRM) administered and leased submerged lands. Approximately \$1,094,000 is expected to be available to support this program (contingent upon availability of funds). The DoN's obligation to pay or reimburse any costs hereunder is subject to the availability of appropriated funds and limited by funds obligated and nothing in this Agreement will be interpreted to require obligations or payments by the Federal Government in violation of the Anti-Deficiency Act, 31 U.S.C. §1341. Thus, funds have not yet been appropriated for this project and there is considerable uncertainty regarding the level of available funding for FY2024.

Background

Joint Region Marianas (JRM) is responsible for the conservation and management of natural resources on JRM-administered terrestrial and submerged lands. JRM-submerged lands extend three miles offshore from JRM terrestrial holdings that include Naval Base Guam (NBG), Marine Corps Base (MCB) Camp Blaz, Anderson Air Force Base (AFB), Tinian Military Lease Area (MLA), and Farallon de Medinilla (FDM).

The first goal of this project is to continue coral reef monitoring at JRM-submerged lands on Guam, and establish long-term sites to provide a baseline assessment for Tinian MLA and FDM. The Navy has already established a program for coral habitat monitoring on JRM-administered lands on Guam. In 2014 and 2015, long-term monitoring sites were established at NBG Main Base and Anderson AFB to characterize, analyze, and assess benthic habitat; coral, fish, and invertebrate community; water quality; and microbiological biodiversity. Follow-up monitoring surveys at the long-term sites were conducted in 2019 and 2022.

The second goal of this project is to continue water quality monitoring at JRM-submerged lands on Guam and Tinian MLA. In addition to recurring benthic surveys, the Navy has an established program for water quality monitoring at JRM-submerged lands. Eight sensors were installed and deployed at NBG Main Base, MCB Camp Blaz, and Anderson AFB in 2022, and two sensors at Tinian MLA in 2023.

The third goal of this project is to continue acute disturbance assessments, as needed. The Navy established a program to monitor around coral bleaching events and Crown of Thorns (COTS) outbreaks. Coral health assessment is also anticipated following natural disasters (e.g. typhoon) and unanticipated events (e.g. vessel grounding, anchor drags, marine debris) that may damage marine resources.

For JRM-submerged lands on Guam, the over-arching goals of this project is to provide a broad-level,

ridge-to-reef assessment of the marine ecosystem (within scope); describe how the coral reef ecosystem has changed over time (e.g. “then versus now”); determine resilience of corals; provide the impacts of climate to natural resources. For Tinian MLA and FDM, the primary goal of this project is to establish long-term monitoring sites and provide a baseline assessment of the marine community.

Indeed, the goals of this project align with management actions identified in the JRM Integrated Natural Resources Management Plan (INRMP). The JRM INRMP complies with the Sikes Act and other federal requirements (e.g. Clean Water Act, Endangered Species Act, and the National Environmental Policy Act).

Brief Description of Anticipated Work:

Through execution of this project, the Navy continues to meet its requirements for marine habitat management and marine data management. For JRM-submerged lands on Guam, the purpose of this project is to provide an assessment report on marine resources “then” (2014/2015) versus “now.” For JRM-submerged lands at Tinian MLA and FDM, the purpose of this project is to establish long-term monitoring sites and conduct a baseline survey of marine resources.

The project scope contains nine Tasks:

1. Project Management and Performance
2. Coral Reef Surveys (benthic, coral, mobile invertebrates)
3. Fish Surveys
4. Acute Disturbance Assessments
5. Control Efforts
6. Marine Debris Surveys
7. Water Quality Monitoring
8. Data Management
9. Training/Workshop

This project contributes to the following actions identified in the JRM Integrated Natural Resources Management Plan (INRMP) under Marine Habitat Management and Marine Data Management.

Marine Habitat Management

- Establish long-term monitoring programs to track changes in the health of corals and water quality that are compatible with existing monitoring programs in Guam and the region.
- Use similar methods to Schils et al. (2017) to synchronize data from prior surveys and track changes in the health of corals and water quality.
- Assess reef resilience by monitoring, at minimum, macroalgae percent cover, coral community, bleaching resistance, coral recruitment and connectivity, coral diversity, herbivorous fish community, herbivore average functional group biomass, temperature variability, land-based sources of pollution, and accessibility due to wave exposure.
- Identify priority sites for targeted management actions to improve water quality, fisheries management and enforcement, no anchoring areas, outreach, and reef restoration actions.
- Pre-, during, and post-monitoring around bleaching events, coral disease (e.g. stony coral tissue loss disease), acute disturbances (e.g. typhoon) assessments, and active intervention during Crown of Thorn Starfish (COTS) outbreaks.
- Utilize monitoring results to develop and prioritize response actions (e.g. implement control efforts in a timely manner using best available methods).
- Provide a training workshop, both theory and practical, on COTS.

Marine Data Management

1. Update and continuously maintain existing centralized GIS database to inform and guide future management and planning decisions.

The DON is seeking statements of interest from the Hawai'i-Pacific Islands Cooperative Ecosystems Studies Unit (CESU) network.

Proposals should address:

This Agreement requires the Recipient to develop and implement the following minimum requirements (see SOW):

Specific Requirements:

Task 1: Project Management and Performance

1. Kickoff Meeting
2. Organizational Chart
3. Plan of Action and Milestones
4. Base Access
5. Camera Pass
6. Accident Prevention Plan, Activity Hazard Analysis, Site Safety & Health Plan
7. Hazard Analysis and Critical Control Plan
8. Dive Operations Plan
9. Planning Meetings

Task 2: Coral Reef Surveys (Benthic, Coral, Mobile Invertebrates)

1. Naval Base Guam (NBG) Main Base
 - a. Conduct monitoring surveys at established sites in Year 1 and Year 3
 - b. Maintain database
2. Marine Corps Base (MCB) Camp Blaz
 - a. Conduct monitoring surveys at established sites in Year 1 and Year 3
 - b. Maintain database
3. Anderson Air Force Base (AFB)
 - a. Conduct monitoring surveys at established sites in Year 1 and Year 3
 - b. Maintain database
4. Tinian Military Lease Area (MLA)
 - a. Establish long-term monitoring sites
 - b. Conduct baseline survey in Year 2 or Year 3
 - c. Maintain database
5. Farallon de Medinilla (FDM)
 - a. Establish long-term monitoring sites
 - b. Conduct baseline survey in Year 2 or Year 3
 - c. Maintain database

Task 3: Fish Surveys

1. Naval Base Guam (NBG) Main Base
 - a. Conduct monitoring surveys at established sites in Year 1 and Year 3
 - b. Maintain database

2. Marine Corps Base (MCB) Camp Blaz
 - a. Conduct monitoring surveys at established sites in Year 1 and Year 3
 - b. Maintain database
3. Anderson Air Force Base (AFB)
 - a. Conduct monitoring surveys at established sites in Year 1 and Year 3
 - b. Maintain database
4. Tinian Military Lease Area (MLA)
 - a. Establish long-term monitoring sites
 - b. Conduct baseline survey in Year 2 or Year 3
 - c. Maintain database
5. Farallon de Medinilla (FDM)
 - a. Establish long-term monitoring sites
 - b. Conduct baseline survey in Year 2 or Year 3
 - c. Maintain database

Task 4: Acute Disturbance Assessments

1. Acute disturbances (examples listed below)
 - a. Coral bleaching
 - b. Crown of Thorns Seastar (COTS) outbreaks
 - c. Natural disasters
 - d. Anchor drags
2. Locations include all JRM-administered and leased submerged lands
3. Maintain database

Task 5: Control Efforts

1. Control Efforts (examples listed below)
 - a. COTS culling
2. Locations
 - a. NBG Main Base
 - b. MCB Camp Blaz
 - c. Anderson AFB
 - d. Tinian MLA
3. Maintain database

Task 6: Marine Debris Surveys

1. Occurs simultaneous to coral reef and fish surveys
2. Maintain database

Task 7: Water Quality Monitoring

1. Locations
 - a. NBG Main Base
 - b. MCB Camp Blaz
 - c. Anderson AFB
 - d. Tinian MLA
2. Sea water quality
 - a. Retrieval and redeployment of sensors
 - b. Maintenance of sensors
3. River water quality

- a. Rivers that flow into JRM-submerged lands at NBG
4. Maintain database

Task 8: Data Management

1. Cumulative, temporal databases
2. JRM GIS requirements and specifications

Task 9: Training/Workshop

1. Facilitated by Agreement personnel/experts
2. Topic related to project goals

General Deliverables

1. Monthly Progress Reports
2. Semi-Annual Updates
3. Status Reports
4. Photographs
5. GIS Data
6. Comprehensive Project Report

Note: Please see the Statement of Work, provided as a separate document, for a full description of the project.

Period of Performance

The Government anticipates the period of performance for the Agreement to be sixty (60) months starting from the date of award.

Required Qualifications of the Project Personnel shall include:

1. **Principal Investigator (1 individual)**
 - Ph.D. in Marine Biology
 - Publications related to marine biology, coral reef ecology, conservation biology, and/or fisheries
 - Proficiency in both practice and theoretical understanding of marine biology and marine ecology
 - At least five years of professional experience conducting coral AND fish surveys in the Marianas
 - Experience or expertise in identifying climate change indicators and monitoring climate-driven trends, including thermal stress, ocean acidification, and/or ecological impacts
 - Experience in pre-, during, and post-monitoring around coral bleaching events, coral disease, and acute disturbance assessments
 - Expertise in trend analyses and creating customized charts/figures that communicate the condition of a reef ecosystem over time
 - Certified to performing diving services in compliance with EM 385-1-1 (30 NOV 2014) US Army Corps of Engineers Safety and Health Requirements Manual
2. **Water Quality Lead (1 individual)**
 - M.S. in Chemistry/Biochemistry/Environmental Engineering/Geology
 - At least two years of professional work experience in statistical analyses, climate change

- modeling, and/or water quality modeling
 - At least two years of experience in the management of water quality monitoring and sensor maintenance
 - Ability to create sediment contribution maps and models to understand the movement, contribution, and accumulation of sediment from rivers
3. **Marine Biologist – Marine Resources Expert** (1 individual)
- M.S. in Marine Biology
 - Knowledge, training, AND experience in the identification of marine habitats, corals, fish, and mobile invertebrates (particularly, mollusks, echinoderms, and arthropods) that occur or are known to occur in the Marianas
 - Training and professional experience in conducting benthic, coral, mobile invertebrate, AND fish surveys in the Marianas utilizing the methods required under this Agreement
 - Ability to recognize and identify coral disease and invasive species in the JRM Marine Invasive Species Management Plan
 - Training AND professional experience in conducting reef assessments following acute disturbances (e.g. coral bleaching, typhoon)
 - Certified to performing diving services in compliance with EM 385-1-1 (30 NOV 2014) US Army Corps of Engineers Safety and Health Requirements Manual
4. **Marine Biologist – COTS Expert** (1 individual)
- Ph.D. or M.S. in Marine Biology
 - Training AND professional experience in surveillance and active intervention of COTS (i.e. removal of COTS) in the Marianas
 - Certified to performing diving services in compliance with EM 385-1-1 (30 NOV 2014) US Army Corps of Engineers Safety and Health Requirements Manual
5. **Research Assistants** (at least 1 individual)
- Two years of field experience conducting benthic, coral, fish, mobile invertebrate (particularly, mollusks, echinoderms, and arthropods) surveys in the Marianas
 - Knowledge and training in the methodologies required under this Agreement
 - Ability to identify coral species, fish species, mobile invertebrate species, and benthic categories in the Marianas
 - Certified to performing diving services in compliance with EM 385-1-1 (30 NOV 2014) US Army Corps of Engineers Safety and Health Requirements Manual
6. **Field/Lab Technicians** (at least 1 individual)
- Certified to performing diving services in compliance with EM 385-1-1 (30 NOV 2014) US Army Corps of Engineers Safety and Health Requirements Manual
 - Ability to install, retrieve, deploy, and maintain underwater CDP and pH sensors
 - Ability to download water quality sensor data, transfer data, and manage water quality database
7. **Geographical Information Systems (GIS) Specialist/Analyst** (1 individual)
- B.S. in Geographical Information Systems OR at least five consecutive years of experience performing GIS-related tasks that support scientific studies/projects
 - Ability to utilize the Esri ArcGIS Enterprise platform
 - Ability to maintain and create geographic data
 - Ability to create maps and visualizations, upon request, to answer scientific questions related to this Agreement
 - Ability to create distribution maps, e.g. species distribution maps

- Ability to utilize software to create illustrations, visualizations, AND animations to show relationships between marine resources data at various locations and at different time intervals

Department of Navy Responsibilities:

In reference to this Agreement, substantial involvement is required between the Department of Navy and Recipient during the period of performance based on the requirements prescribed in the scope of work. The anticipated involvement between the Cooperative Agreement Technical Representative and Principal Investigator is deemed appropriate to carry out a public purpose of support to include a direct benefit to the Government. The Government’s involvement includes:

1. Advising Recipient, as needed, in preparing scientific articles destined for peer- reviewed journals;
2. Providing relevant maps and information pertaining to study sites, to include data and literature generated from previous similar natural resource management projects;
3. Assisting with field activities and coordination with installation security to ensure safety procedures are met;
4. Facilitating access to DoD lands and facilitate any required passes;
5. Assisting with the Work Plan and Plan of Action and Milestones (POAM) development;
6. Accompanying Recipient during field operations as often as necessary, to ensure quality control and efficacy of actions; and
7. Conducting meetings with Recipient to determine if milestones are met and review/approve key personnel.

Materials Requested for Statement of Interest/Qualifications: Please provide the following via e-mail attachment to: thelman.m.fontenot.civ@us.navy.mil (Approximate length: 3-6 pages, single-spaced 12 pt. font).

1. Name, Organization and Contact Information
2. Statement of Qualifications (including):
 - Curriculum vitae of Principal Investigator
 - Curriculum vitae of Water Quality Lead
 - Curriculum vitae of Marine Biologists
 - Curriculum vitae of Research Assistants
 - Curriculum vitae of Lab Technicians
 - Curriculum vitae of GIS Specialist
 - Relevant past projects and clients with brief descriptions of these projects
 - Staff and faculty available to work on this project and their areas of expertise
3. Project proposal to include timelines, roles and responsibilities of personnel, specific tasks to be conducted, and deliverables.
4. Any brief description of capabilities to successfully complete the project you may wish to add (e.g. equipment, facilities, field facilities, etc.).
5. A proposed detailed budget of the costs to implement the proposed project.

Review of Statements Received: Statements will be evaluated based on the specific experience and capabilities in areas related to the project requirements for the Principal Investigator, Water Quality Lead, Marine Biologists, Research Associates, Lab Technicians, and GIS Specialist/Analyst (hereafter

referred to as “Project Personnel.”)

Factor 1 – Credentials of Project Personnel – The Recipient shall identify the Principal Investigator, Water Quality Lead, Marine Biologists, Research Associates, Lab Technicians, and GIS Specialist/Analyst proposed for this project, stating their qualifications, experience with this type of project, professional registration and certificates, possession of research permits, and publications.

Factor 2 – Scientific Approach – The Cooperator shall develop a Statement of Interest to manage the total work effort and assure fully adequate and timely completion of technical requirements and tasks required under this Agreement. Included in this function shall be a full range of management duties including, but not limited to, planning, scheduling, inventory, analysis, and quality control for meeting professional industry standards for conducting and successfully executing those requirements outlined in the SOW.

Factor 3 – Reasonableness of Cost – After technical evaluation of the Statements of Interest, the offers shall be analyzed to determine whether they are materially/ mathematically balanced with respect to prices or separately priced items, and for fair and reasonable pricing. Evaluation will include an analysis to determine the Recipient’s comprehension of the requirements of the Request for Statements of Interest as well as to assess the validity of the Recipient’s approach.

RELATIVE IMPORTANCE OF EVALUATION FACTORS – The combination of Factor 1, “Credentials of Project Personnel”, and Factor 2, “Scientific Approach”, is significantly more important than Factor 3, “Reasonableness of Cost”.

Please send responses or direct questions to: Thelman Fontenot, Contract Specialist NAVFAC Marianas
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Timeline for Review of Statements of Interest: DoN intends to use fiscal year 2024 funds for this project. In order to be considered, Statements of Interest shall be submitted by no later than 0900 Chamorro Standard Time (local Guam time) on 1 JUL 2024.