

REQUEST FOR STATEMENTS OF INTEREST
N40192-24-R-8002
PROJECT TO BE INITIATED IN FISCAL YEAR 2024

**Project Title: MARINE BIODIVERSITY SURVEYS 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 marine biodiversity surveys at Joint Region Marianas (JRM) administered and leased submerged lands. Approximately \$749, 478.00 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

This project is driven by the Joint Region Marianas (JRM) Integrated Natural Resources Management Plan (INRMP) whose purpose is to maintain long-term ecosystem health and operational requirements of the Department of Defense's (DoD) mission while minimizing impacts to natural resources at JRM-administered and leased terrestrial and submerged lands. The study area will be within JRM-administered and leased submerged lands (hereafter JRM submerged lands) which extends three miles offshore from JRM terrestrial holdings that include Naval Base Guam (NBG), Marine Corps Base (MCB) Camp Blaz, Anderson Air Force Base (AFB), and the Tinian Military Lease Area (MLA). In compliance with all applicable environmental laws and regulations, DoD is committed to upholding good stewardship of natural resources within its area of responsibility (AOR) on Guam and in the Commonwealth of the Northern Mariana Islands (CNMI).

The goal for this project is to document the biodiversity within JRM submerged lands using genetic methods. This project will encompass two components: first to conduct baseline surveys to document marine invasive species (MIS) in JRM submerged lands, and second to investigate the presence and/or distribution of the scalloped hammerhead shark, *Sphyrna lewini*, within JRM-submerged lands at NBG. By understanding the marine biodiversity within JRM submerged lands, we can develop future management and conservation strategies necessary to protect JRM's marine natural resources.

To address the first component, the JRM INRMP aims to initiate and implement a marine biosecurity program. In 2023, the Navy developed the JRM Marine Invasive Species Management Plan (MISMP) to initiate its marine biosecurity program for JRM submerged lands. The JRM MISMP serves as a guide to avoid and minimize the spread of new invasive species

into Guam's and the CNMI's marine waters, and the transfer of invasive species from Guam and the CNMI to Hawaii, Micronesia, and other ports of call for DoD. The JRM MISMP provides standard operating procedures (SOPs) for surveys, monitoring, and response plans; protocols for control, eradication, and best management practices (BMPs); references to identify MIS and potential MIS; programmatic recommendations to assist with implementing the JRM MISMP; and education and outreach material to assist with dissemination of information about MIS. The first step to implementing the JRM MISMP shall be to conduct baseline surveys for JRM submerged lands in Guam and the CNMI. Therefore, the goal for this first component shall be to conduct baseline surveys to determine the presence and distribution of MIS and to develop an MIS database to inventory and track MIS occurrences within the JRM submerged lands.

To address the second component, the JRM INRMP aims to protect *S. lewini*, which is an Endangered Species Act (ESA) species, through informed management and conservation strategies such that mission-essential training and operations, as well as proposed projects, can be conducted and sited to avoid and minimize potential impacts to the species and its habitat. In 2020, a study by Budd et. al. provided preliminary data on the occurrence of *S. lewini* within Apra Harbor. Budd et. al. (2020) developed a workflow for the detection of *S. lewini* using environmental DNA (eDNA) methods and conducted a pilot study using species-specific assays to generate baseline data to determine its spatial and temporal distributions. Therefore, the goal for this second component shall be to utilize these methods to generate more data to indicate what time of the year and which locations would be best to target potential tagging efforts to monitor its population movements, habitat use, and behaviors.

The goals of this project align with the requirements specifically identified in the JRM INRMP and maintains compliance with the Sikes Act and other federal requirements (e.g. Endangered Species Act, National Environmental Policy Act).

Brief Description of Anticipated Work:

Through execution of this project, the Navy continues to meet its requirements for marine invasive species management and marine protected species management. The purpose of this project is to conduct baseline surveys to identify the presence and distribution of marine invasive species, generate a comprehensive database for marine invasive species, and to generate more data to detect the spatial and temporal distributions of *S. lewini* in JRM submerged lands.

The project scope contains seven (7) Work Elements:

1. Project Management and Performance
2. Marine Invasive Species Baseline Surveys
3. Marine Invasive Species Database
4. Scalloped Hammerhead Shark, *S. lewini*, Detection Surveys
5. Option Year 1 – Tinian MLA
6. Option Year 2 – Develop Workflow to Detect Marine Invasive Species
7. Option Year 3 – Implement Workflow to Detect Marine Invasive Species

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.

1. Marine Invasive Species Management
 - a. Develop and maintain a Marine Invasive Species Management Plan to include, but not limited to, the following:
 - i. Establish a watch list and effective monitoring program for high-risk non-native marine species that are known or thought to pose significant ecological, economic, social, or cultural impacts to Guam and the CNMI, focusing on species that are not established or widely distributed in the region. The watch list will be coordinated and consistent with the Guam Marine Biosecurity Action Plan (Miller 2014) Appendix C on potential marine invasive species.
 - ii. Develop early detection and response protocols for new incursions by a few focal non-native marine species for Guam and the CNMI.
 - iii. Develop standard language to be included in contract specifications that provides BMPs to lessen the risk of marine invasive species being transported to project sites by FY 2021.
 - b. Develop partnerships to improve coordination and collaboration with other federal and Guam agency staff, industry, and non-governmental organizations and seek opportunities to synergize funding, resources, and efforts to accomplish common goals.
 - i. Participate in the quarterly Guam Invasive Species Advisory Council meetings and coordinate regularly with the territorial marine invasive species coordinator.
2. Marine Protected Species Management
 - a. Conduct surveys to determine the temporal and spatial abundance, distribution, and habitat use of the threatened scalloped hammerhead shark within Apra Harbor.
 - i. Collect water samples from NBG Main Base nearshore waters and analyze for scalloped hammerhead shark eDNA. If presence is detected, monitor shark population movements, habitat use, and behavior through capture and acoustic or satellite tagging efforts, or other appropriate methods.

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

Work Element 2: Marine Invasive Species Baseline Surveys

1. Naval Base Guam (NBG) Main Base – Base Year 1
 - a. Sample/specimen collections
 - b. Genetic sequencing/barcoding and Species Identification
 - c. Maintain database
2. Marine Corps Base (MCB) Camp Blaz and Andersen Air Force Base (AAFB) – Base Year 2
 - a. Sample/specimen collections
 - b. Genetic sequencing/barcoding and Species Identification
 - c. Maintain database
3. Tinian Military Lease Area (MLA) – Option Year 1
 - a. Sample/specimen collections
 - b. Genetic sequencing/barcoding and Species Identification
 - c. Maintain database

Work Element 3: Marine Invasive Species Database

1. Species/Taxonomic Lists of Species
2. Photo Records
3. DNA Sequence Library

Work Element 4: Scalloped Hammerhead Shark, *Sphyrna lewini*, Detection Surveys

1. Conduct environmental DNA (eDNA) surveys at five (5) sites in NBG
2. Maintain database

Work Element 5: Option Year 1

1. Tinian MLA
2. Sample/specimen collections
3. Genetic sequencing/barcoding and Species Identification
4. Maintain database

Work Element 6: Option Year 2

1. Develop an optimal workflow to detect marine invasive species
 - a. NBG
 - b. MCBCB
 - c. AAFB
 - d. Tinian MLA
2. Maintain database

Work Element 7: Option Year 3

1. Implement the workflow to detect marine invasive species
 - a. NBG
 - b. MCBCB

- c. AAFB
- d. Tinian MLA
- 2. Maintain database

General Deliverables

- 1. Monthly Progress Reports (Work Element 4)
- 2. Quarterly Progress Reports
- 3. Semi-Annual Updates
- 4. Photographs
- 5. GIS Data
- 6. Comprehensive Project Report (Work Element 4)
- 7. Comprehensive Project Report (Work Element 2, 3, 5, 6, 7)

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

Period of Performance

The initial POP for the Agreement will be twenty-four (24) months starting from the date of award. After completion of the initial period of performance, the total performance period can include three (3) Option Years and will be twelve (12) months each dependent upon the availability of funds and the unilateral election of the Government to exercise an option. The total duration of this Agreement, including the Option Years and any cost modifications shall not exceed sixty (60) months.

Required Qualifications of the Project Team shall include:

- 1. Principal Investigator (1 individual)
 - i. Ph.D. in Biology, Zoology, Ecology, or Genetics.
 - ii. At least five (5) years of expertise and experience in biology, zoology, ecology, and/or genetics.
 - iii. Publications related to marine biology, coral reef ecology, marine biodiversity, and/or marine invasive species.
 - iv. Proficiency in both practice and theoretical understanding of marine biology, marine ecology, marine biodiversity, and/or marine invasive species.
 - v. Expertise and experience in conducting marine biodiversity surveys.
 - vi. Expertise and experience in identification of marine taxa.
 - vii. 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. Post-Doctoral Researcher (1 individual)
 - i. Ph.D. in Biology, Zoology, Ecology, or Genetics.
 - ii. At least five (5) years of expertise and experience in performing professional level activities which may include analytical work, project design, project implementation, laboratory and field work, data analysis and reporting, and/or supervisory responsibilities.

- iii. At least two (2) years of expertise and experience in genetics to include, but not limited to, DNA preservation, DNA extraction, DNA amplification, DNA sequencing, eDNA metabarcoding, DNA data analyses, troubleshooting genetics work, and/or developing genetic workflows for biodiversity monitoring.
 - iv. At least two (2) years of expertise and experience conducting biodiversity and/or marine invasive species studies.
 - v. 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
3. Bioinformatics Expert – Senior Researcher (1 individual)
- i. Ph.D. in Genetics, Evolutionary Biology, Bioinformatics, or Zoology
 - ii. At least five (5) years of expertise and experience in genetics, evolutionary biology, bioinformatics, and/or zoology.
 - iii. At least five (5) years of expertise and experience in DNA extraction, amplification, sequencing, and data analyses.
 - iv. At least five (5) years of expertise and experience in conducting research to study large molecular datasets of DNA, developing software and/or custom scripts that automate data mining and manipulation.
 - v. Proficient in scripting with computer languages such as Perl, R, PHP, MySQL, etc.
 - vi. 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. Collections Manager – Marine Resources Expert – Senior Researcher (1 individual)
- i. M.S. in Biology or Zoology
 - ii. At least five (5) years of marine biology experience in the Marianas.
 - iii. Knowledge, training, and experience in the identification of marine habitats, corals, fish, and mobile and sessile invertebrates that occur or are known to occur in the Marianas
 - iv. Training and professional experience in conducting benthic, coral, mobile and sessile invertebrate, and fish surveys in the Marianas utilizing the methods required under this Agreement
 - v. Ability to recognize and identify coral disease and marine invasive species found in the JRM Marine Invasive Species Management Plan
 - vi. Training and professional experience in sample collection from coral reef habitats in the Marianas
 - vii. Expertise and experience in storing, preserving, and curating marine specimens.
 - viii. 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 Associate II (1 individual)

- i. M.S. in Biology, Zoology, Chemistry, Evolutionary Biology, or Genetics
 - ii. Master's degree in relevant field and three years of work experience relevant to the position OR bachelor's degree and five years of work experience OR a combination of bachelor's degree, work experience, and graduate level coursework. The principal investigator may require specific knowledge, skills, or abilities to meet project/grant objectives. Employees in this category perform professional level duties that may include analytical work, project design, and supervisory responsibilities.
 - iii. At least two (2) years of field experience conducting benthic, coral, fish, mobile invertebrate (particularly, mollusks, echinoderms, and arthropods) surveys in the Marianas
 - iv. Knowledge and training in the methodologies required under this Agreement
 - v. Ability to identify coral species, fish species, mobile invertebrate species, and benthic categories in the Marianas
 - vi. At least two (2) years of lab experience with DNA preservation, extraction, amplification, sequencing, and data analyses.
 - vii. 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. Research Associate I (1 individual)
- i. B.S. in Biology
 - ii. Bachelor's degree. One year of work experience. The principal investigator may require specific knowledge, skills, or abilities to meet project/grant objectives. Employees in this category carry out professional level field work activities including reporting writing, gathering, recording, and analyzing data.
 - iii. At least one (1) year of field experience conducting benthic, coral, fish, mobile invertebrate (particularly, mollusks, echinoderms, and arthropods) surveys in the Marianas.
 - iv. Knowledge and training in the methodologies required under this Agreement.
 - v. 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
7. Field/Lab Technicians (at least 1 individual)
- i. 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
 - ii. Ability to operate a boat/vessel and ensure the safety of the survey team.
8. Biologist – Work Element 4 (1 individual)
- i. Possess at least a M.S. degree in population or molecular genetics, marine/fisheries biology, ecology, or a related field

- ii. At least two (2) years of PI or Project Manager (PM) professional work experience in the field of population genetics, molecular biology, fisheries, ecology, or a related field
 - iii. At least two (2) years of experience in management of genetics-related projects, preferably with applied eDNA research and threatened species management experience
 - iv. At least two (2) years of experience working in the Pacific region and a familiarity with elasmobranch research and conservation
9. Field Technicians/Lab Technicians – Work Element 4 (1-2 individuals)
- i. Bachelor of Science (BS) degree in genetics, biology, ecology, or a related field
 - ii. These individuals shall have at least one (1) year of experience working on marine or fisheries biology or genetics projects, preferably with elasmobranch conservation in the Pacific region and possess the appropriate field/laboratory experience to ensure sterile field/lab techniques, quality control and assurance.

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, Post-Doctoral Researcher, Bioinformatics Expert, Collections Manager, Research Associate II, Research Associate I, Field/Lab Technician, Biologist (Work Element 4), and Field/Lab Technicians (Work Element 4) 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 Tel: (671) 349-4119, E-mail: thelman.m.fontenot.civ@us.navy.mil

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 21 June 2024.