

SCOPE OF WORK

**HUMPBACK WHALE TAGGING
IN SUPPORT OF MARINE MAMMAL MONITORING
ACROSS MULTIPLE NAVY TRAINING AREAS
IN
THE PACIFIC OCEAN
(Period of Performance: 18 Months from Award)**

January 2017

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A. INTRODUCTION

The Navy operates in several range complexes throughout the Pacific Ocean including the Gulf of Alaska Temporary Maritime Activities Area (GOA TMAA), Northwest Training Range Complex (NWTRC), Southern California Range Complex (SOCAL), Hawaii Range Complex (HRC), and the Mariana Islands Range Complex (MIRC). Navy activities within these ranges are documented in four Environment Impact Statement (EIS) documents: GOA Navy Training Activities, Northwest Training and Testing (NWTT), Hawaii-Southern California Training and Testing (HSTT), and Mariana Training and Testing (MITT). To authorize these actions, the National Marine Fisheries Service (NMFS) issued Letters of Authorization (LOAs) under the Marine Mammal Protection Act (MMPA) and Biological Opinions (BOs) under the Endangered Species Act (ESA) for GOA, NWTT, HSTT, and MITT and required Navy to implement marine species monitoring per the Integrated Comprehensive Monitoring Program (ICMP). Monitoring projects must address key Intermediate Scientific Objectives of which the Navy has committed to complete as part of regulatory requirements promulgated from NMFS. In particular, this project has been set up to answer the following Intermediate Scientific Objectives for ESA-listed baleen whales:

- Determine which species and populations of marine mammals are present in Navy range complexes
- Determine which species and populations of marine mammals are exposed to Navy training and testing activities
- Establish the baseline habitat uses and movement patterns of marine mammals where Navy training and testing activities occur
- Evaluate behavioral responses by marine mammals exposed to Navy training and testing activities

Humpback whales occur worldwide and in all Pacific range complexes. On September 8, 2016 (81 FR 62260), the National Marine Fisheries Service (NMFS) divided the species into fourteen Distinct Population Segments (DPS). Of the fourteen DPSs, NMFS designated four DPSs in the Pacific for the humpback whale: 1) the Western North Pacific (includes Okinawa/Philippines and the unidentified breeding area in the western North Pacific), 2) Hawaii, 3) Mexico (includes mainland Mexico and the Revillagigedo Islands), and 4) Central America. Two of these DPSs (Western North Pacific and Central America) were designated as endangered under the ESA, the Mexico DPS was designated as threatened, and the Hawaii DPS was not listed under the ESA.

Many, if not all of these Pacific DPSs of humpback whales congregate in Hawaii during the winter and then transit to (or through) the Navy's Gulf of Alaska, southeast Alaska, Pacific Northwest and southern California ranges enroute to forage areas. For example, three of the four DPSs are known to occur within the NWTT (Pacific Northwest) study area, but it is unknown what portion of each humpback DPS is present in specific geographic locations of the NWTT study areas (i.e southeast Alaska (Behm Canal), the inland and offshore waters of Washington, the offshore waters of Oregon, or the offshore waters of northern California). Previous tagging studies have shown that humpback whales from Hawaii migrate north into the Gulf of Alaska and some will turn west towards Russia (thus spending time in the Gulf of Alaska training range) and others transit east towards southeast Alaska or further down the west coast through NWTT and SOCAL ranges. Currently, multiple DPSs may be present in any given range complex, in varying numbers, at various times of the year. To accurately determine the number of humpback whales (by DPS) potentially exposed to Navy activities (& quantify and apportion the take by DPS), it is necessary to understand which DPSs are utilizing Navy ranges (in terms of proportion of time spent in the range and proportion of the population that occurs in the range).

Humpback tagging is best conducted in Hawaii during winter when whales congregate in greater numbers, with expected migration to Russia, Alaska, Washington, Oregon, California, Mexico, and Central America. In addition, OPTIONAL tagging efforts of humpbacks off of Oregon during summer or fall (along with genetic sampling) would help define the approximate northern border of humpbacks from the Central America and Mexico DPSs.

This project shall track long-term (multiple weeks to multiple months) humpback whale movement between or through Pacific range complexes and collect genetic samples (taken during tag placement) to further help delineate the sub-populations (DPSs). In addition, tag data will provide additional detail on dive durations, speed of transit between range complexes, home range by DPS, core areas, and behavioral characteristics when on or off a range. Data compilation, analysis, and reporting will include a comprehensive review of best available science and leverage

unpublished historical data from previous tagging efforts in California and Southeast Alaska. Additional data sources (published or unpublished) should be reviewed and included as appropriate to increase the sample size. Collectively, this will provide the most robust data set for analysis and conclusions.

The principal components of this cooperative agreement are: (1) deployment of deep-implant satellite tags on humpback whales in Hawaii during the winter and collect tissue samples simultaneously; and (2) prepare a preliminary summary.

B. PURPOSE

The purpose of this agreement is to support marine mammal studies in compliance with the issued LOAs and BOs for all Pacific range complex study areas. Specifically, this effort will provide greater detail on which sub-populations of humpback whales use the Navy range areas (in terms of proportion of time spent in the range and proportion of the population that occurs in the range). The actual field work (satellite tag deployments) will occur in Hawaii (winter/spring 2017) and off Oregon (summer/fall 2017, if OPTION 4 is awarded), but the tags will track migrations throughout the Pacific basin for weeks/months after deployment. Tagging focus will be on humpback whales in order to determine the proportion of each DPS that travel to Navy range complex study areas. Due to the focus on obtaining long-term tracks of migrating whales, deep-implant tags should be utilized to ensure the tag transmits for the longest period of time.

C. LOCATION

The field tagging effort for the BASE tasks are located within the main Hawaiian Islands during winter/spring (February, March and April) 2017.

The field tagging effort for the OPTION tasks are located off the west coast (Oregon) for summer/fall 2017.

D. DESIGNATED REPRESENTATIVES

1. The Cooperative Agreement Administrator (CAA) is Mr. Reagan Pablo, Contract Specialist, Naval Facilities Engineering Command, Southwest (NAVFAC SW), 1220 Pacific Highway, San Diego, CA 92132-5190, telephone (619) 532-4150, and email reagan.s.pablo@navy.mil.

2. The Cooperative Agreement Technical Representative (CATR) is Jessica Bredvik (Code EV22.JB), Marine Biologist for NAVFAC SW, Environmental Corp, 1220 Pacific Highway, San Diego, CA 92132. Phone (619) 532-4182; email jessica.bredvik@navy.mil.

The CATR is responsible for ensuring that all work is performed per the requirements and specifications outlined in this Cooperative Agreement, and that the work performed, including all written reports and professional services are of an acceptable technical quality. For this Cooperative Agreement, the CATR shall be the first and primary point of contact for the Recipient and Installation Representative (including their respective representatives or staffs) regarding any inquiries, questions, concerns, and issues related to the implementation of the requirements and specifications of this Cooperative Agreement. The CATR has no authority to make any changes to this Cooperative Agreement, only the CAA may affect any change to this Cooperative Agreement.

3. The U.S. Commander, Pacific Fleet Representatives are:

Andrea Balla-Holden, Marine Resources Program Manager (Code N465ABH)
U.S. Pacific Fleet, Environmental Readiness Division, NW Detachment
1101 Tautog Circle, Silverdale, WA 98315-1101
Phone (360) 396-0002; email: andrea.ballaholden@navy.mil.

Chip Johnson, Natural and Marine Resource Program Manager (Code N465CJ)
U.S. Pacific Fleet, Environmental Readiness Division, Naval Base Coronado, NASNI
PO Box 357033 San Diego, CA 92135
Phone (619) 767-1567; email: chip.johnson@navy.mil.

The Pacific Fleet Representatives are responsible for providing the CAA, via the CATR, the technical requirements for this Cooperative Agreement's scope of work specifications. The Pacific Fleet Representative has no authority to make any changes to the Cooperative Agreement, only the CAA may affect any change to this Cooperative Agreement. The Pacific Fleet Representative has no authority to direct or change any work identified in this Cooperative Agreement.

4. Any change in scope of work must be issued to the Recipient, in writing, by the Grants Officer to be binding on the government. No government employee has authority to change this Cooperative Agreement by oral or written directives, instructions, commitments and/or acceptances or any other manner.

5. The Cooperator will designate at time of proposal submission the individual within their organization who is authorized to negotiate with the Cooperative Agreement Administrator. The designation will stipulate the individual's authority to commit the Cooperator.

E. PERIOD OF PERFORMANCE

The BASE period of performance covered by this agreement is 18 months upon award and one 18 month option period and may be exercised concurrently with the BASE period of performance. The field work (tagging activities under the BASE tasks) in Hawaii would occur in winter/spring 2017 (~February/March/April), however, the tags are anticipated to transmit data for up to six months. Field work (tagging) off Oregon (OPTION 4) would occur during summer/fall 2017. This timeframe allows for the deployment of tags, termination of transmission of tags, as well as preliminary analysis and reporting of tag data for the preliminary summary. The end date is the anticipated date that the final report is accepted by the Government. However, the parties may extend the term of the Cooperative Agreement by written modification. Total duration of this agreement, including any option periods shall not exceed 42 months. The exercise of any option is subject to the availability of funds.

A fifteen (15) day period, starting on date of award, will be used for the cooperater to provide preliminary documents to the CAA and CATR. Documents include, but are not limited to, Insurance documents/certificates, Accident Prevention Plans/Site Health and Safety Plans (as applicable), etc. Cooperator may not begin performance until preliminary documents are submitted and accepted/approved as appropriate.

F. MATERIAL AVAILABLE FOR REVIEW

Recipient and/or his/her representative(s) will have access to the following materials through the CATR or Installation Representative. The Recipient shall pay for or replace any items borrowed that are damaged, stolen or lost.

- a. 2015 U.S. Navy Annual Marine Species Monitoring Report for the Pacific
- b. NWTT and GOA LOAs and BOs

G. GENERAL REQUIREMENTS

1. The Recipient shall provide all labor, management, supervision, tools, materials, equipment, transportation, meals, and lodging for him/herself and his/her personnel. All Cooperator equipment is subject to inspection and approval by the Pacific Fleet Representative and CATR.
2. The Recipient shall provide all equipment (unless otherwise stated) and analyses necessary to complete the work described within this Agreement. All data (raw and associated files), photographs, and equipment > \$5000 per unit in value and supplies > \$5,000 in aggregate value purchased with Agreement funds (including computer software) shall become the property of the Department of the Navy (DoN) at the end of the Agreement. Equipment is defined as "tangible nonexpendable personal property including exempt property charged directly to the award having a useful life of more than one year." Supplies are defined as "All personal property excluding equipment, intangible property, and debt instruments, and inventions of a contractor conceived or first actually reduced to practice in the performance of work under a funding agreement ("subject inventions"), as defined in 37 CFR part 401, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants,

Contracts, and Cooperative Agreements." (**DoD Grant and Agreement Regulations, DoD 3210.6-R#**)

3. The Recipient shall visit the study/project area as often as necessary and within the time limits stated below to accomplish the purposes of the Agreement as detailed further in this Scope of Work. It is the Recipient's responsibility to obtain security and entrance clearances and camera passes for himself/herself and his/her personnel onto the Range Complex. The Recipient must comply with all security rules, regulations, requirements, and day-to-day operational changes thereto. Unannounced changes to day-to-day operational procedures may, at times, prohibit the Recipient access to study/project sites. While on the Range Complex, the Recipient shall abide by all applicable rules and regulations issued by the Commanding Officer. The Recipient may be subject to inspections for contraband while on Government property.

4. The Recipient shall manage the total work effort and assure fully adequate and timely completion of services 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, quality control, and for meeting professional industry standards for deep-implant tagging of ESA-listed humpback whales.

5. All work conducted under this Agreement shall be in accordance with:

- a. The requirements of the Cooperator's permit from National Marine Fisheries Service;
- b. National Marine Fisheries Service Endangered Species Act Section 7 Biological Opinion on U.S. Navy Hawaii-Southern California Training and Testing activities;
- c. National Marine Fisheries Service Endangered Species Act Section 7 Biological Opinion and Conference Report on U.S. Navy Northwest Training and Testing Activities;
- d. NMFS' MMPA Incidental Take Authorization;
- e. National Marine Fisheries Service Endangered Species Act Section 7(a)(2) Biological Opinion for U.S. Navy Training Activities in the Gulf of Alaska Temporary Maritime Training Area.

6. Due to the complexity of work, the Recipient shall provide the following key personnel with the following minimum qualifications:

A. Principal Investigator: The Recipient shall designate one person as responsible for ensuring that provisions are in place project and personnel supervision, quality control and meeting of reporting requirements on a daily basis. This person shall have, at the minimum:

- i. A PhD in Biology or related science
- ii. Knowledge and prior experience satellite tagging (using deep-implant tags) ESA-listed baleen whales in the Pacific Ocean
- iii. Hold a valid and current permit for scientific research to utilize deep-implant tags on both ESA- and non-ESA-listed marine mammals
- iv. Specific knowledge of identification of migratory routes, habitats and behaviors of baleen whales as demonstrated by at least 15 years of previous experience in the field of marine mammalogy

B. Senior Research Assistant: The Recipient shall designate one or two people as responsible for field tagging efforts. This person shall have, at the minimum:

- i. A MS in Biology, Oceanography, or related science
- ii. At least 10 years of experience in the tagging field efforts of baleen whales

C. Senior Genetics Researcher: The Recipient shall designate one or two people as responsible for performing genetic analyses of tissue samples. This person shall have, at the minimum:

- i. A PhD in Biology, or related science

- ii. Specific knowledge of utilizing genetics to determine different stocks of marine mammals as demonstrated by at least 15 years of experience in genetic analyses of baleen whales
- 7. The Recipient shall provide the CAA (via the CATR) the names of persons and copies of their resumes being considered for work under this Agreement. The Recipient shall not replace or substitute any staff member without prior written approval by the CAA.
- 8. The Recipient shall work closely with the CATR and Pacific Fleet Representatives in planning and carrying out all field activities.
- 9. All work conducted in support of this Agreement shall comply with all federal and state laws.
- 10. If there is an incident which the Recipient believes may involve “take” of an endangered species and involves an activity permitted under the endangered species permit, the Recipient shall follow the procedures in the permit and notify the IR and CATR immediately.
- 11. If the Recipient “take” of an endangered species on DFSP that results from an activity not listed on the permit, the Pacific Fleet Representatives and CATR shall be contacted immediately.
- 12. Photography is may be restricted on the Range Complex. The Recipient and all representatives are required to obtain permission from the CATR prior to taking any photographs on the Range Complex. Only photographs of Agreement-related activities will be permitted.
- 13. The use of the Range Complex by the Recipient and at-sea operations are on a “not to interfere” basis.
- 14. At no additional cost to the Government, the Recipient shall be in possession of all necessary permits (as described above) from NMFS necessary to conduct the activities stipulated in this Agreement. All permits shall be submitted as part of the proposal.
- 15. All parties involved in this Agreement agree to comply with all applicable laws and regulations pertaining to the provision of safe and respectful workplace and to provide a work environment free of harassment and intimidation for such party’s own employees and third parties.
- 16. All work conducted in support of this Agreement shall comply with all federal laws applicable to the Ranges including, but not limited to, the Endangered Species Act, the Clean Water Act and the Migratory Bird Treaty Act.
- 17. Vehicle operators may not use cell phones unless the vehicle is safely stopped or the cell phone employs a “hands free” device. Drivers may not hold, dial, text or adjust the phone while the vehicle is in motion. Hands free systems such as ear buds, blue tooth, OnStar and other voice activated or speaker phone systems are authorized. Installation Security personnel can issue military motor vehicle citations to operators in violation of this policy. These citations result in a three-point penalty assessed to the violator's driving record and if a driver accumulates twelve points within a twelve month period or eighteen points within a twenty-four month period he/she is subject to suspension of Installation driving privileges for one year.
- 18. All field notes, field data forms, electronic storage of field data, photographs, etc. collected and produced as part of this Agreement are the property of the DoN. Legible copies of the field notes, data forms and other information shall be provided to the CATR and Pacific Fleet Representatives upon request.
- 19. The data obtained during this Agreement shall be scientifically defensible and suitable for publication. All methods of data collection and analyses shall be standardized with previous studies conducted by the Recipient under past Agreements for this type of work, or when appropriate, analyzed using acceptable new or improved methods as determined in current scientific literature(s). If changes in analyses make results unfit for comparison with previously collected data, the Recipient shall reanalyze all appropriate data sets for comparison. The CAA shall approve (via the CATR) in advance any changes to previously used experimental designs, methods of data collection and/or analyses, which shall be provided in the Recipient’s required Work Plan.

20. The Recipient shall inform the CATR and Pacific Fleet Representatives via e-mail of any unusual activity observed while conducting surveys in the field (e.g. trespassers or persons in unauthorized areas). Information should include (a) location, (b) date, (c) time, and (d) any detailed facts regarding the activity.

21. The Recipient shall inform the CATR and Pacific Fleet Representatives via e-mail of any unusual species observed while conducting surveys in the field (e.g. species which are federally listed or are State of Species of Special Concern). Information should include (a) location, (b) date, (c) time and (d) any detailed facts about the sighting.

22. Throughout the term of this Agreement the CATR and the Pacific Fleet Representatives shall be afforded the opportunity by the Recipient to periodically observe the Recipient's field activities, to review computer or paper files of raw data, prepared data (such as data analyses, summaries, maps, figures, tables, etc.), or any record deemed appropriate by the CAA in establishing the Recipient's performance in fulfilling the requirements of this Agreement.

23. The DoN, via the CAA, may request updated data presented on maps, figures and/or tables whenever the DoN's need to obtain this information is before the next report required under Section I of this Agreement. The Recipient shall forward the requested data electronically within ten (10) days from the date of request. If the requested data cannot be provided within this time frame, the Recipient shall forward electronically the most updated raw data to the CAA, via the CATR (cc provided to Pacific Fleet Representatives). The DoN understands that facilitating the requested most updated data may reduce the amount of work that would normally be accomplished during the period of time required to complete the request. The Recipient shall document the amount of efforts and its translated cost estimate that would have been incurred by the Recipient to complete the request for updated data. This document shall be electronically forwarded to the CAA (via CATR and cc provided to Pacific Fleet Representatives) to review so that the DoN will have a firm understanding on the amount of work displaced that would have normally been accomplished during the period of time required to complete the request.

H. SPECIFIC REQUIREMENTS

The following specific work requirements for this Cooperative Agreement are in addition to the requirements set forth above under Section B. PURPOSE. All work shall be consistent with the requirements of the NWTT, GOA, and SOCAL LOAs and BOs and all pertinent federal, state and local laws and regulations. All work shall be coordinated with the CATR and Pacific Fleet Representatives.

Work Element	Work Description	Period of Performance	Objective
BASE Work	<p>1. Deployment of Deep-Implant Satellite Tags:</p> <p>The Recipient shall perform 21 days of field work tagging humpback whales off the main Hawaiian Islands using deep-implant satellite tags to document whale migration within the Hawaiian Islands and from Hawaii through the Pacific range study areas (anticipated migrations through the Gulf of Alaska, southeast Alaska, Washington, Oregon and California). A total of 20 satellite tags are to be acquired and deployed. Tags should have the ability to transmit for the appropriate amount of time to capture the migration of humpback whales from Hawaii to their foraging grounds. This will allow for collection of horizontal and vertical movements of whales. All vessel costs are provided by the Recipient.</p>	18 Months from Date of Award	<ul style="list-style-type: none">• Support the Navy's marine mammal monitoring requirements per the Navy's Pacific LOAs and BOs, specifically the NWTT and GOA LOAs and BOs;• Provide information on humpback whale movements around the Hawaiian Islands, migration departure times, routes from Hawaii through other Pacific Ocean Navy ranges, determine which DPSs are utilizing each Navy range (in terms of proportion of time spent in the range and proportion of the population that occurs in the range) including the Navy's SEAFAC operating area in southeast Alaska (Behm Canal); inland waters of Washington, offshore Washington, offshore Oregon, northern California (part of NWTT study area), southern
	<p>2. Collect Tissue Samples for Genetic Analyses:</p> <p>During tagging efforts, the Recipient should</p>	18 Months from Date of Award	

	<p>collect tissue samples from whales that are satellite tagged to delineate the populations by DPS. Tissue sample collection should be done in accordance with all terms and requirements of the Cooperator's permit from National Marine Fisheries Service for collection of biopsy samples.</p>		<p>California (part of SOCAL study area), and those using the Gulf of Alaska training area.</p> <ul style="list-style-type: none"> • Provide detail on dive patterns, dive durations, speed of transit between range complexes, home range by DPS, core areas, and behavioral characteristics when on or off a range; • Determine important foraging areas throughout the Pacific Ocean; • Provide detailed information regarding any behavioral responses (dive behavior, changes in travel direction, etc.) if known to be exposed to Navy training and testing activities.
	<p>3. Preliminary Summary:</p> <p>The Recipient shall prepare a preliminary summary of all efforts conducted including tracks of all whales tagged, dive durations, speed of transit between range complexes, home range by DPS, core areas, and behavioral characteristics when on or off a range.</p>	<p>18 Months from Date of Award</p>	<ul style="list-style-type: none"> • Provide detail on dive patterns, dive durations, speed of transit between range complexes, home range by DPS, core areas, and behavioral characteristics when on or off a range; • Determine important foraging areas throughout the Pacific Ocean; • Provide detailed information regarding any behavioral responses (dive behavior, changes in travel direction, etc.) if known to be exposed to Navy training and testing activities.
Work Element	Work Description	Period of Performance	Objective
OPTION BASE 1	<p>Tissue Sample Genetic Analyses:</p> <p>Perform tissue sample genetic analyses (winter samples) to determine DPS of tagged animals. The purpose of tissue sample analysis is for:</p> <ol style="list-style-type: none"> a. Sex determination b. Individual identification using mitochondrial haplotype sequencing and no less than 16 nuclear microsatellite loci, including matching with: <ol style="list-style-type: none"> i. individually-identifying photographs and ii. tissue samples from whales previously sampled c. DPS identification using mitochondrial haplotype sequencing and no less than 16 nuclear microsatellite loci, with population structure analysis including comparison to existing published databases for humpback whales in the Pacific Ocean, and examination for evidence of interspecific introgressive hybridization. 	<p>6 Months from date of award</p>	<ul style="list-style-type: none"> • Determine and define the approximate northern border (latitude) for: 1) the Central America humpback DPS and 2) the Mexico humpback DPS. • Determine the DPS and portion of the population of humpbacks using the NWTT, GOA, and SOCAL range complexes, including those at SEAFAC (Behm Canal, Alaska); inland waters of Washington, offshore Washington, offshore Oregon, northern California (part of NWTT study area), southern California (part of SOCAL study area), and those using the Gulf of Alaska training area. • Determine genetic population status of humpback whales as relates to designated DPSs.
OPTION BASE 2	<p>Technical Analysis of Tags and Reporting:</p> <p>Conduct detailed technical tag analyses (winter deployments) and prepare a comprehensive report using all data sources (published and unpublished) from similar tagging efforts and leveraged datasets from California and Alaska to address all objectives previously listed in this Agreement and identified above under "Objectives of the BASE tasks". To meet these objectives, the Recipient should conduct multiple requisite analyses, some of which are required by the permit (behavioral responses to</p>	<p>6 Months from date of award</p>	<ul style="list-style-type: none"> • Provide detailed information regarding any behavioral responses (dive behavior, changes in travel direction, etc.) if known to be exposed to Navy training and testing activities.

	tagging, wound healing, photo-id) and others that will tell Navy when, where and why whales are moving, and where they go seasonally. Analyses can include but are not limited to, satellite-determined sea surface temperatures analyzed for whale relationships to fronts, upwelling, and prey relationships; bathymetry (water depth); and satellite-determined altimetry data analyzed for whale relationships to currents. Variations between whales in migratory timing, home ranges and core areas will provide information on how much variability there is between individuals that will be important when interpreting the importance of data from a small sample size.		
Work Element	Work Description	Period of Performance	Objective
OPTION 3	<p>Procure additional satellite tags:</p> <p>The Recipient shall procure a total of 20 additional satellite tags. Tags should have the ability to transmit for the appropriate amount of time to capture migration and foraging behavior of humpback whales.</p>	18 Months from Date of Award or the completion date of Option 4, 5 or 6	<ul style="list-style-type: none"> • Determine and define the approximate northern border (latitude) for: 1) the Central America humpback DPS and 2) the Mexico humpback DPS. • Determine the DPS and portion of the population of humpbacks using the NWTT, GOA, and SOCAL range complexes, including those at SEAFAC (Behm Canal, Alaska); inland waters of Washington, offshore Washington, offshore Oregon, northern California (part of NWTT study area), southern California (part of SOCAL study area), and those using the Gulf of Alaska training area. • Determine genetic population status of humpback whales as relates to designated DPSs. • Provide detailed information regarding any behavioral responses (dive behavior, changes in travel direction, etc.) if known to be exposed to Navy training and testing activities.
OPTION 4	<p>Deploy deep-implant satellite tags on humpback whales off Oregon during the summer/fall and collect tissue samples:</p> <p>The Recipient shall perform 21 days of field work tagging humpback whales off the Oregon coast using deep-implant satellite tags to help define the approximate northern border of humpbacks from the Central America and Mexico DPSs. A total of 20 satellite tags are to be deployed. All vessel costs are provided by the Recipient. During tagging efforts, the Recipient should collect tissue samples from whales that are satellite tagged to delineate the populations by DPS. Tissue sample collection should be done in accordance with all terms and requirements of the Cooperator's permit from National Marine Fisheries Service for collection of biopsy samples.</p>	18 Months from Date of Award or the completion date of Option 3, 5 or 6	<ul style="list-style-type: none"> • Determine and define the approximate northern border (latitude) for: 1) the Central America humpback DPS and 2) the Mexico humpback DPS. • Determine the DPS and portion of the population of humpbacks using the NWTT, GOA, and SOCAL range complexes, including those at SEAFAC (Behm Canal, Alaska); inland waters of Washington, offshore Washington, offshore Oregon, northern California (part of NWTT study area), southern California (part of SOCAL study area), and those using the Gulf of Alaska training area. • Determine genetic population status of humpback whales as relates to designated DPSs. • Provide detailed information regarding any behavioral responses (dive behavior, changes in travel direction, etc.) if known to be exposed to Navy training and testing activities.
OPTION 5	<p>Perform tissue sample genetic analyses (summer/fall):</p> <p>Analyses shall be conducted to determine DPS of tagged animals. The purpose of tissue sample analysis is for:</p> <ol style="list-style-type: none"> a. Sex determination b. Individual identification using mitochondrial haplotype sequencing and no less than 16 nuclear microsatellite loci, including matching with: <ol style="list-style-type: none"> i. individually-identifying photographs and ii. tissue samples from whales previously sampled c. DPS identification using mitochondrial 	18 Months from Date of Award or the completion date of Option 3, 4 or 6	<ul style="list-style-type: none"> • Determine and define the approximate northern border (latitude) for: 1) the Central America humpback DPS and 2) the Mexico humpback DPS. • Determine the DPS and portion of the population of humpbacks using the NWTT, GOA, and SOCAL range complexes, including those at SEAFAC (Behm Canal, Alaska); inland waters of Washington, offshore Washington, offshore Oregon, northern California (part of NWTT study area), southern California (part of SOCAL study area), and those using the Gulf of Alaska training area. • Determine genetic population status of humpback whales as relates to designated DPSs. • Provide detailed information regarding any behavioral responses (dive behavior, changes in travel direction, etc.) if known to be exposed to Navy training and testing activities.

	haplotype sequencing and no less than 16 nuclear microsatellite loci, with population structure analysis including comparison to existing published databases for humpback whales in the Pacific Ocean, and examination for evidence of interspecific introgressive hybridization.		
OPTION 6	<p>Conduct detailed technical tag analyses (summer/fall deployments):</p> <p>The Recipient shall perform the same analyses for the summer/fall tag deployments as described above in OPTION 2- Technical Analysis of Tags and Reporting. These analyses and results will be added to the report prepared under OPTION 2 (if awarded) above.</p>	18 Months from Date of Award or the completion date of Option 3, 4 or 5	

In accordance with the California Cooperative Ecosystem Studies Unit Cooperative (CESU) and Joint Venture Agreement, Article II. Statement of Work, the CATR agrees to provide substantial involvement to include, but are not limited, the following:

- NAVFAC SW CATR is involved in the development of study methodology, data gathering, analysis, and/or report writing.
- NAVFAC SW CATR actively participates and collaborates in carrying out the project plan of work and review.
- NAVFAC SW CATR incurs in-kind or direct expenditures in carrying out the activities specified in the statement of work.

I. MEETINGS/COORDINATION

1. The Recipient or his/her designee will attend (via telephone) a kick-off meeting with the CATR, Pacific Fleet Representatives, and/or other necessary parties to ensure coordination of activities. The CATR shall arrange the meeting.
2. The Recipient shall attend quarterly coordination meetings/phone conferences with the CATR, Pacific Fleet Representatives and other environmental staff, as needed.
3. The Recipient shall be available on an intermittent basis throughout the Agreement period for consultation with the CATR and Pacific Fleet Representatives on matters involving humpback whale movements in the Pacific Ocean, or other matters related to this Cooperative Agreement.

J. SUBMITTALS and SCHEDULES

1. Electronic copies of all submittals/schedules/deliverables (examples include, but are not limited to, draft/interim/final reports, progress reports/monthly reports) will be provided to the Cooperative Agreement Administrator for retention in the official agreement file.

Recipient shall adhere to following schedule, unless otherwise approved by CAA and CATR.

Event/Deliverable	Due Date	Format
Meetings and Coordination		
i) Copy of all permits required	Day of kick-off meeting	Electronic (email) (MS Word)

ii) Kick-off meeting	Within one month following award	-
iii) Quarterly coordination meeting	15th of the month following the end of every quarter	-
iv) Quarterly progress report	15th of the month following the end of every quarter	Electronic (email) (MS Word)

Base Task 1 – Deployment of Deep-Implant Satellite Tags, Tissue Collect, Preliminary Summary

i) Initiate tagging field work	After kick-off meeting	-
ii) Draft Preliminary Summary (all tags deployed to date)	31 December 2017 (30 day Government review period)	Electronic (email) (MS Word)
iii) Final Preliminary Summary	15 February 2018	Electronic (email) (MS Word)

OPTION BASE 2 – Technical Analysis of Tags and Reporting

i) Draft Report to Navy	6 months from date of award of OPTION	Electronic (email) (MS Word)
ii) Navy Comments on Draft Final Report	No later than 30 days after receipt of Draft Final Report	Electronic (email) (MS Word)
iii) Final Report to Navy	No later than 30 days after receipt of Navy comments	Electronic (email) (MS Word and Adobe Acrobat via email)

*Due dates and format instructions for option work will be provided in the event that options are exercised.

2. Submittals

- a. Permits. A copy of all permits required for the work described in this Agreement shall be provided at the kick-off meeting (if not already submitted).
- b. Quarterly Progress Reports. The quarterly progress reports shall include a summary of all findings to date (not presented in previous progress reports) and a listing of all significant information or events pertaining to the efforts covered under this Agreement. The progress report shall include, at a minimum: names of investigators and participants during the quarter; number of man hours; maps with tracks of tagged animals; summary data of dive behavior, distance travelled, etc.; document any significant problems or species information encountered while conducting field work or evaluating tracks of animals; a two to three paragraph summary outlining pertinent observations/information noted and activities accomplished during the reporting period; and any other significant event occurring on site or any concerns of which the CATR and/or Pacific Fleet Representatives need to be aware. Progress Reports shall be submitted to the CATR via e-mail. Each Progress Report shall be submitted no later than the fifteenth (15th) of the month following the end of one quarter of a year, or the next workday if the fifteenth falls on a weekend. Any suggested revisions will be accomplished within 15 days. Progress reports may be suspended with prior approval of the CATR.
- c. Draft and Final Preliminary Summary Report. The Recipient shall provide a preliminary summary report that includes field efforts from tagging and genetics analyses (if awarded) through the end of October 2017. The Preliminary Summary is not a full report, but a summary/progress report that can be referenced by the Navy in the Navy's Pacific Annual Monitoring Report to the National Marine Fisheries Service due 1 April 2018. The data to be included in this summary document will at a minimum include: field survey methodologies, tags types and numbers deployed per species, genetics results, and any graphics or info that is available to briefly summarize the data. The draft Preliminary Summary Report shall be submitted to the CATR via email by 31 December 2017. The final Preliminary Summary Report shall be submitted to the CATR via email by 15 February 2018.

d. Draft and Final Report of Technical Analysis of Tags and Reporting (OPTION BASE 2). The draft and final report shall include species-specific tagging and genetic results (if OPTION BASE 1 is awarded) and conclusions. The report content below lists the minimum report elements and expectations:

- The report organization shall follow standard scientific format to the greatest extent practicable (introduction, methods, results, discussion). I.e., the report shall contain a detailed methods section describing the tagging approach and other information typically described in peer-reviewed publication method sections. Data collected may or may not lend themselves to detailed conclusions, but if a conclusion section is presented, then these conclusions shall be based on data results from this effort and avoid speculation not supported by the report analysis.
- Tag plots must identify the tagging location (start of tracking) and end of track (when transmissions stop) on the map.
- The report must identify where the whale travelled, and the time scale (shading or differentiating line width to indicate time spent along tag track), as well as any relation to depth and/or bathymetric features (shelf, slope, canyons, etc.).
- Figures shall show the boundaries of Navy training ranges that tagged whales traveled through. Potential Range areas in the migratory routes include:
 - Key areas to show for Hawaii are W188(A) that includes Pacific Missile Range Facility, Barking Sands Tactical Underwater Range, Barking Sands Underwater Range Expansion, W188(B), and W186.
 - Key area to show for the Gulf of Alaska is the Navy's Gulf of Alaska Temporary Maritime Activities Area.
 - Key areas to show for the Pacific Northwest include the outline of the Northwest Training and Testing Study Area and the W-237 subarea.
 - Key area to show for Southern California is the outline for the Navy's Southern California Range Complex, the Southern California Anti-submarine warfare Offshore Range subarea, and the Point Mugu Sea Range.
 - Key areas to show along the US West Coast are National Marine Fisheries Service's newly designated Biologically Important Areas and the boundary of the Olympic Coast National Marine Sanctuary.
- For tag tracks through Navy ranges, an analysis and table showing the % of time tracked in the Navy ranges compared to the total time tracked shall be provided. Variations that further define species-specific residence (e.g. defining area restricted searches) may be submitted to the CATR for approval.
- Seasonality of tag plots shall also be generated by species and tags.
- Distance from shore (min, max) by species and tags.
- Incorporate historical deep implant humpback tag data from leveraged unpublished datasets from California and Alaska to increase the sample size and better inform analysis.
- Recipient will incorporate as available tagging results funded under this project with previously collected Navy and non-Navy funded humpback whale data as part of a historical analysis.

3. Deliverable Specifics

- a. All Final Reports shall be submitted within 30 days of receipt of Government comment. The government will have a 60 day review period from receipt of the Draft Reports to comment. The Final Reports shall be submitted within 30 days of receipt of Government comments. If necessary the government will have a 30 day review period from receipt of final reports (with comments incorporated) for government review of documents to ensure comments were adequately addressed. If review and acceptance by government is not completed within the 30 day review period, constructive acceptance will be deemed to have occurred and final deliverables can be submitted.
- b. The Recipient shall provide all required draft reports as electronic files, either as email attachments, sent to the CATR on CD, or downloadable via FTP site. The Recipient shall provide six (6) CD-ROMs containing the report, maps, photographs and any pertinent supplemental information.

- c. The Recipient shall upload all processed and raw tag and field data shall be uploaded to appropriate databases consistent with the standards described in Attachment B which may include data upload to a public database that houses satellite tracking data such as, Movebank, or the Animal Telemetry Network Data Assembly Center (ATN DAC), as specified by the CATR. Data format and standards should follow guidelines established in Attachment B.
- d. Any resulting publically available information (peer-reviewed publication, conference/workshop presentation, etc.) shall be provided to the Navy as a .pdf of the final document at no additional cost.
- e. Submittal/Deliverable Standards: All submittals/deliverables are expected to be of the highest professional quality and will be rejected if any of the following exists:
 - there are typographical errors, spelling, or grammar mistakes; or
 - results and discussion are not tied directly and continually to natural resource management concerns of the installation; or
 - the document is not organized in a manner that flows well; or
 - the document does not provide appropriate context, background, literature review, and comparison to other relevant studies, locations, and similar species; or
 - the appropriate style guide is not adhered to (in most cases this is the JWM or CSE); or
 - the document is not fully formatted (e.g. functional table of content links, consistent fonts/styles throughout document, accurate page numbers, accurate and complete stand-alone appendices [if applicable], accurate and functional figure titles, table titles, section headers, and table of contents need to be complete and accurate); or
 - abbreviations and acronyms are not consistent throughout each submitted document; references/literature not cited fully cross-checked between what is in the document vs. what is presented in the references section; data in tables shall be checked for consistency if information is repeated throughout the document or referenced in other documents, figure titles shall be checked against what is presented in the figures; appendices/figures shall be for the current project and not a copy/paste from another project, prior to submittal for client review.
- f. The draft report shall be a complete document that has been proofread for spelling and grammatical errors and contains all text, figures, graphics, photographs and tables provided for review.
- g. The government will have 30 calendar days from receipt of draft final report(s) (incorporating comments) to review the final report to ensure comments were addressed. If review and acceptance by government is not completed within the 30 calendar day review period the document will be deemed to be constructively accepted and submission of final deliverables will begin. Only the CAA has the authority to make changes to the 30 calendar day review period.
- h. Data. All raw data, data sheets and electronic databases (including GIS data) shall be submitted as appendices or supplemental information with the draft Annual Report. If too large to be included with the other draft submittals, the Electronic databases shall be submitted on a labeled CD-ROM. The final versions of these databases will be included on the CD-ROM's attached to the final reports.
- i. Maps
 - 1). All maps created for this Agreement shall be incorporated in the draft and final reports. All maps shall be printed on 8.5 by 11-inch paper or 11 by 17-inch paper folded to match the size of the report(s).
 - 2). All maps shall be printed at an acceptable scale using a State Plane projection, Zone 0405, North American Datum 1983 or USGS. Electronic copies of all maps shall also be provided.
 - 3). All maps created for this Agreement shall contain the following information: (a) title, (b) scale bar, (c) legend, (d) date, (e) north arrow and (f) notation identifying who prepared the map.

j. Photographs

The Recipient will document and record pertinent aspects of the work using color digital imagery. The Recipient will provide camera and all necessary equipment. Photographs of activities documented shall be included as an appendix on CD ROM. All photographs shall become DoN property and shall be submitted with the final report. All original photographs shall be appropriately labeled with information to include:

date
location (specific place and Installation)
subject/activity
activity documented,
identification of any people in the picture
photographer.

K. DATA AND PUBLICATION

1. This Cooperative Agreement is subject to, and Recipient shall comply with, 2 CFR 200.315 concerning "Intangible Property," which includes use of research data. Any information or data protected by federal law will be identified by the Government prior to being provided to Recipient and the Government will notify the Recipient in advance of applicable limitations on such information. Except as to information so identified and limited, there are no restrictions on reporting or publishing reports based upon the fundamental research that is the subject of this Cooperative Agreement.

The Federal Government has the right to obtain, reproduce, publish or otherwise use the data first produced under this Agreement and authorize others to receive, reproduce, publish, or otherwise use such data for Federal purposes. The DoN acknowledges and agrees that the Recipient's fundamental consideration in performing the research under this Agreement shall be Recipient's right to publish the results of such research for academic and scientific purposes. The Recipient shall submit, for review and comment, any proposed professional, scientific or non-scientific report, paper or note published or unpublished or be part of any technical or non-technical presentation or be provided to anyone not a party to this Agreement to the DoN thirty (30) days prior to the submission of the work mentioned above.

2. The acknowledgements for any paper or presentation resulting from this work shall include the following statement: "This research was funded by the U.S., Commander Pacific Fleet."
3. Any publications resulting from this work shall be provided at no cost to the Department of the Navy in quantities jointly determined by the Department of the Navy representative and the Recipient at the time of publication.
4. The Recipient shall be responsible for ensuring all personnel participating in activities under this Agreement have read and acknowledged the DATA AND PUBLICATION provisions of this Agreement.

L. RELEASE OF INFORMATION

The Recipient shall not respond to any inquiries about this Cooperative Agreement from the news media or non-governmental organizations or other persons during the term of this Cooperative Agreement unless it has first consulted with the Government and a determination appropriately made by the cognizant Government representative concerning release of information pursuant to the authority (Federal or State) cited by the requester. All inquiries shall be directed to the Public Affairs Officer at the Installation and Public Affairs Officer at NAVFAC SW through the Pacific Fleet Representatives, CATR, and CAA

M. SAFETY

The Recipient will be required to develop an Accident Prevention Plan (APP) following the format in Appendix A of the EM 385-1-1 05 July 2011 or latest edition. A Site Safety and Health Plan (SSHP) is also required if the work is potentially hazardous. Potentially hazardous activities include, but are not limited to:

- soil boring or digging test pits (excludes manual collection of de minimis surface soil samples)
- all field work on hazardous waste or munitions response sites
- work on, in, or near bodies of water where there is a danger from drowning
- use of heavy equipment, e.g. backhoes, excavators, bulldozers, etc.
- excavation, backfilling, and compaction
- use of man lifts, ladders, and other climbing apparatus
- use of weight handing equipment, e.g. crane, forklifts, and hoists
- well drilling and/or well pump repair or replacement
- construction, demolition, or repair of site improvements
- remediation of hazardous material or waste, i.e. asbestos, paint with lead, and PCB
- work within 10 feet of high voltage lines, or high pressure gas, steam, or water lines

The minimum requirement for the SSHP is in Section 28 of the EM 385-1-1. Include an Activity Hazard Analysis (AHA) for all tasks reasonably anticipated to be performed as part of this scope of work. Format and instructions for the AHA is in section 1 of the EM 385-1-1. As a minimum, references used to develop the APP, SSHP and AHA are: EM 385-1-1 US Army Corps of Engineers Safety & Health Requirements Manual, and Local Activity safety plans and standard operating procedures. When developing the APP, SSHP and AHA, address all sections that are deemed appropriate for performing the work in this Cooperative Agreement, while ensuring a safe work environment for all personnel involved. The draft APP, SSHP and AHA have to be reviewed by the GDA (SW EV Safety Office, PM, ROICC/FEAD) prior to start of field work activities.

NOTE: AHA is an attachment required by the APP. SSHP is also an attachment required by the APP if a project includes potentially hazardous activities. Government PM should verify with the SW EV Safety Office prior to directing the recipient to prepare a SSHP.

The APP, SSHP and AHA will provide a safe and healthful environment for all personnel involved as well as personnel working near the sites for the DoN. The Recipient shall certify to CATR that the final APP, SSHP and AHA has been reviewed with each Recipient employee working on this Cooperative Agreement prior to mobilization and start of fieldwork activities.

A Draft and Final APP, SSHP and AHA will be submitted concurrently with the Work Plan but shall be printed under a separate cover from the Work Plan. The final APP, SSHP and AHA shall be immediately accessible to the Site Safety and Health Officer (SSHO) and Project Manager at all times during the project, and a copy shall be available in every vehicle utilized for work under this Cooperative Agreement. The SSHO is required to have completed the 10-hour OSHA Safety Training.

Man-hour reporting is also required by the EM 385-1-1 and the Unified Facilities Guide Specifications (UFGS) -01 35 26, (February 2012) change 2, 08/13. The recipient will provide a Monthly Exposure Report (MER) and attach to the monthly billing request. The CATR will submit a copy of the MER to the SW EV Safety Office.

N. HOLD HARMLESS

1. The Government shall not be responsible for the loss of or damage to property of the Recipient and/or his/her representatives, or for personal injuries to the Recipient and/or his/her representatives arising from or incident to the use of government facilities or equipment. Recipient shall indemnify, hold harmless, defend and save Government harmless and shall pay all costs, expenses, and reasonable attorney's fees for all trial and appellate levels and post-judgment proceedings in connection with any fines, suits, actions, damages, liability and causes of action of every nature whatsoever arising or growing out of, or in any manner connected with, the occupation or use of Government

Premises by Recipient, its employees, servants, agents, guests, invitees, and contractors. This includes, but is not limited to, any fines, claims, demands and causes of action of every nature whatsoever that may be made upon, sustained or incurred by the Government by reason of any breach, violation, omission or non-performance of any term, covenant or condition hereof on the part of the Recipient, its employees, servants, agents, guests, invitees, or contractors. This indemnification also applies to claims arising out of the furnishings of any utilities or services by the Government or any interruption therein or failure thereof, occasioned by the negligence or lack of diligence of Recipient or its respective officers, agents, servants or employees. However, this indemnity shall not extend to damages due to the sole fault of the Government or its employees, agents, servants, guests, invitees or contractors. This covenant shall survive the termination of this Cooperative Agreement.

2. In the event of damage, including damage by contamination, to any Government property by the Recipient, its officers, agents, servants, employees, or invitees, the Recipient, at the election of the Government, shall promptly repair, replace, or make monetary compensation for the repair or replacement of such property to the satisfaction of the Government.

O. INSURANCE

1. At the commencement of this Cooperative Agreement, the Recipient shall obtain, from a reputable insurance company or companies satisfactory to the Government, comprehensive general liability insurance. The insurance shall provide an amount not less than a minimum combined single limit of \$1,000,000.00 for any number of persons or claims arising from any one incident with respect to bodily injuries or death resulting therefrom, property damage or both, suffered or alleged to have been suffered by any person or persons resulting from or related to the presence or operations of the Recipient, its employees, agents or contractors under this Cooperative Agreement. The Recipient shall require the insurance company or companies to furnish the Government with a certified copy of the policy or policies, or certificates of insurance evidencing the purchase of such insurance. Each policy of insurance required under this Paragraph shall contain an endorsement reading as follows:

“The insurer waives any right of subrogation against the United States of America which might arise by reason of any payment made under this policy.”

2. All insurance required of the Recipient hereunder shall be in such form, for such periods of time and with such insurers as the Government may require or approve. All policies or certificates issued by the respective insurers for public liability and property insurance shall name the United States of America as an additional insured, and shall provide that no cancellation, reduction in amount or any material change in coverage thereof shall be effective until at least 30 calendar days after receipt by the Government of written notice thereof, regardless of any prior act or failure to act or negligence of the Recipient or the Government or any other person concerning such amount or change in coverage.

3. The Recipient at its sole cost and expense, may insure its activities in connection with this Cooperative Agreement by maintaining a program of self-insurance that complies with the requirements of this Section O, including coverages specified in Attachment A hereof. Recipient shall also provide a copy of the exempting statute cited in support of its claim of self-insurance pursuant to Section 2 of Attachment A to this Cooperative Agreement. (The self-insurance clause is applicable only to appropriate state and local governments and qualifying institutions of higher education who provide evidence of a self-insurance program in accordance with this Section and Attachment A, Section 2.)

4. During the entire period the Cooperative Agreement shall be in effect, the Recipient shall require its contractors or agents or any contractor performing work at the Recipient's or agent's request on the affected Government Premises to carry and maintain the insurance required below:

“Comprehensive general liability insurance in the amount of 1,000,000.00.”

5. The Recipient and any of its contractors or agents shall deliver or cause to be delivered promptly to the Cooperative Agreement Administrator, a certificate of insurance or a certified copy of each renewal policy evidencing the insurance required by this Cooperative Agreement and shall also deliver no later than thirty (30)

calendar days prior to expiration of any such policy, a certificate of insurance evidencing each renewal policy covering the same risks.

6. In the event that any item or part of the premises or facilities shall require repair, rebuilding, or replacement resulting from loss or damage, the risk of which is assumed under this Section O, the Recipient shall promptly give notice thereof to the Government and, to the extent of its liability as provided in this Section O, shall, upon demand, either compensate the Government for such loss or damage, or rebuild, replace or repair the item or items of the premises or facilities so lost or damaged, as the Government may elect. If the cost of such repair, rebuilding, or replacement exceeds the liability of the Recipient for such loss or damage under this Section O, the Recipient shall effect such repair, rebuilding, or replacement if required so to do by the Government, and such excess of cost shall be reimbursed to the Recipient by the Government. In the event the Recipient shall have effected any repair, rebuilding, or replacement which the Recipient is required to effect pursuant to this Section O, the Government shall direct payment to the Recipient of so much of the proceeds of any insurance carried by the Recipient and made available to the Government on account of loss of or damage to any item or part of the premises or facilities as may be necessary to enable the Recipient to effect such repair, rebuilding or replacement. In event the Recipient shall not have been required to effect such repair, rebuilding, or replacement, and the insurance proceeds allocable to the loss or damage which has created the need for such repair, rebuilding or replacement have been paid to the Recipient, the Recipient shall promptly refund to the Government the amount of such proceeds.

P. PAYMENTS

1. Partial payments equal to the amount of work accomplished may be made monthly during the field work portion; after submittal of the draft reports; and after receipt of the final reports.
2. The final payment of 15 percent of the Cooperative Agreement overall value shall be paid when the final report and all other submittals listed in Section J have been received and accepted by the CATR.
4. Any requirement for the payment or obligation of funds, under the terms of this Agreement, shall be subject to the availability of appropriated funds, and no provision herein shall be interpreted to require obligation or payment of funds in violation of the Anti-Deficiency Act, 31 USC §1341 *et seq.* Nothing in this Agreement shall be construed as implying that Congress will, at a later time, appropriate funds sufficient to meet deficiencies.
4. Payments will be made in accordance with Defense Federal Acquisition Regulation (DFAR) 252.232-7006 Wide Area Work Flow Payment Instruction. See Attachment C WAWF Instructions for instructions on payment procedures.

Q. EXECUTIVE COMPENSATION AND FIRST-TIER SUBCONTRACT REPORTING

Section 2(d) of the Federal Funding Accountability and Transparency Act of 2006 (Pub. L. No. 109-282), as amended by section 6202 of the Government Funding Transparency Act of 2008 (Pub. L. 110-252), requires the Contractor to report information on subcontract awards. The law requires all reported information be made public, therefore, the Contractor is responsible for notifying its subcontractors that the required information will be made public.

Unless otherwise directed by the Contracting Officer, by the end of the month following the month of award of a first-tier subcontract with a value of \$25,000 or more, (and any modifications to these subcontracts that change previously reported data), the Contractor shall report the following information at <http://www.fsrs.gov> for each first-tier subcontract:

- (a) Unique identifier (DUNS Number) for the subcontractor receiving the award and for the subcontractor's parent company, if the subcontractor has one.
- (b) Name of the subcontractor.

- (c) Amount of the subcontract award.
- (d) Date of the subcontract award.
- (e) A description of the products or services (including construction) being provided under the subcontract, including the overall purpose and expected outcomes or results of the subcontract.
- (f) Subcontract number (the subcontract number assigned by the Contractor).
- (g) Subcontractor's physical address including street address, city, state, and country. Also include the nine-digit zip code and congressional district.
- (h) Subcontractor's primary performance location including street address, city, state, and country. Also include the nine-digit zip code and congressional district.
- (i) The prime contract number, and order number if applicable.
- (j) Awarding agency name and code.
- (k) Funding agency name and code.
- (l) Government contracting office code.
- (m) Treasury account symbol (TAS) as reported in FPDS.
- (n) The applicable North American Industry Classification System (NAICS) code.

By the end of the month following the month of a contract award, and annually thereafter, the Contractor shall report the names and total compensation of each of the five most highly compensated executives for the Contractor's preceding completed fiscal year at <http://www.ccr.gov>, if –

- (a) In the Contractor's preceding fiscal year, the Contractor received –
 - (i) 80 percent or more of its annual gross revenues from Federal contracts (and subcontracts), loans, grants (and subgrants) and cooperative agreements; and
 - (ii) \$25,000,000 or more in annual gross revenues from Federal contracts (and subcontracts), loans, grants (and subgrants) and cooperative agreements; and
- (b) The public does not have access to information about the compensation of the executives through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a), 78o(d)) or section 6104 of the Internal Revenue Code of 1986. (To determine if the public has access to the compensation information, see the U.S. Security and Exchange Commission total compensation filings at <http://www.sec.gov/answers/execomp.htm>).

Unless otherwise directed by the Contracting Officer, by the end of the month following the month of a first-tier subcontract with a value of \$25,000 or more, and annually thereafter, the Contractor shall report the names and total compensation of each of the five most highly compensated executives for each first-tier subcontractor for the subcontractor's preceding completed fiscal year at <http://www.fsrs.gov>, if

- (a) In the Subcontractor's preceding fiscal year, the Subcontractor received –
 - (i) 80 percent or more of its annual gross revenues from Federal contracts (and subcontracts), loans, grants (and subgrants) and cooperative agreements; and

(ii) \$25,000,000 or more in annual gross revenues from Federal contracts (and subcontracts), loans, grants (and subgrants) and cooperative agreements; and

- (b) The public does not have access to information about the compensation of the executives through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a), 78o(d)) or section 6104 of the Internal Revenue Code of 1986. (To determine if the public has access to the compensation information, see the U.S. Security and Exchange Commission total compensation filings at <http://www.sec.gov/answers/execomp.htm>).

If the Contractor in the previous tax year had gross income, from all sources, under \$300,000, the Contractor is exempt from the requirement to report subcontractor awards. Likewise, if a subcontractor in the previous tax year had gross income from all sources under \$300,000, the Contractor does not need to report awards to that subcontractor.

END

ATTACHMENT A

SELF-INSURANCE REQUIREMENTS FORM

INSURANCE MUST CONFORM TO ALL THE REQUIREMENTS LISTED BELOW PRIOR TO RECIPIENT BEING PERMITTED TO USE OR OCCUPY GOVERNMENT PREMISES OR PROPERTY PURSUANT TO THE COOPERATIVE AGREEMENT

1. PUBLIC LIABILITY AND PROPERTY DAMAGE

a. Required minimum amounts of insurance listed below:

\$	N/A	Fire and Extended Coverage
\$	1,000,000	Third Party Property Damage
\$	1,000,000	Third Party Personal Injury Per Person
\$	1,000,000	Third Party Personal Injury Per Accident

2. SELF-INSURANCE REQUIREMENTS: If your organization is self-insured, please provide evidence of self-insurance which meets or exceeds the insurance liability amounts in Item # 1.

The following information, written on your organization's letterhead, is also required:

- A brief description of your organization's self-insurance program, with reference to statutory or regulatory authority establishing the self insurance program.
- The name and telephone number of your organization's self-insurance program administrator.
- Reference the appropriate military facility and cooperative agreement number.

3. IF YOUR SELF-INSURANCE PROGRAM DOES NOT MEET THE ABOVE MINIMUM REQUIREMENTS:

- Provide evidence of Excess Liability Insurance in the amount necessary to meet or exceed the minimum requirements in Item #1 above.
- The following endorsements are required for Excess Liability insurance policies:

a. "The insurer waives any right of subrogation against the United States of America which might arise by reason of any payment made under this policy."

b. "The Commanding Officer, Naval Facilities Engineering Command San Diego, CA shall be given thirty (30) days written notice prior to making any material change in or the cancellation of the self insurance program."

c. "The United States of America (Department of the Navy) is added as an additional insured in operations of the policyholder at or from the premises licensed/leased from the United States".

d. "This insurance certificate is for use of facilities at NAVFAC SW under this Cooperative Agreement, No. N62473-17-2-0001."

4. NOTICE: "RIGHT TO USE" DOCUMENTS WILL NOT BE FULLY EXECUTED UNTIL CERTIFICATE IS RECEIVED WITH PROPER ENDORSEMENTS.

ATTACHMENT A (Continued)
NON SELF-INSURED REQUIREMENTS FORM

INSURANCE MUST CONFORM TO ALL THE REQUIREMENTS LISTED BELOW PRIOR TO RECIPIENT BEING PERMITTED TO USE OR OCCUPY GOVERNMENT PREMISES OR PROPERTY PURSUANT TO THE COOPERATIVE AGREEMENT

1. PUBLIC LIABILITY AND PROPERTY DAMAGE

a. Required minimum amounts of insurance listed below:

\$	N/A	Fire and Extended Coverage
\$	1,000,000	Third Party Property Damage
\$	1,000,000	Third Party Personal Injury Per Person
\$	1,000,000	Third Party Personal Injury Per Accident

2. THE CERTIFICATE OF INSURANCE MUST CONTAIN THE FOLLOWING ENDORSEMENTS:

- a. "The insurer waives any right of subrogation against the United States of America which might arise by reason of any payment made under this policy."
- b. "The Commanding Officer, Naval Facilities Engineering Command, Facilities Engineering Command, shall be given thirty (30) days written notice prior to making any material change in or the cancellation of the policy."
- c. "The United States of America (Dept. of the Navy) is added as an additional insured in operations of the policyholder at or from the premises **licensed/leased** from the United States."
- d. "This insurance certificate is for use of facilities at NAVFAC SW under this Cooperative Agreement, No. N62473-17-2-0001."
- e. Loss, if any, under this policy shall be adjusted with Recipient and the proceeds, at the direction of the Government, shall be payable to Recipient, and proceeds not paid to Recipient shall be payable to the Treasurer of the United States of America."

3. NOTICE: "RIGHT TO USE" DOCUMENTS WILL NOT BE FULLY EXECUTED UNTIL CERTIFICATE IS RECEIVED WITH PROPER ENDORSEMENTS.

ATTACHMENT B
ELECTRONIC DATA DELIVERABLE SPECIFICATIONS

A-1 REFERENCES

a) Environmental Information Management System (EIMS) Homepage.

<https://eims3.sscno.nmci.navy.mil/>

b) Environmental Information Management System (EIMS) User Manual.

<https://eims3.sscno.nmci.navy.mil/eimshelp>

Spatial Data Standards for Facilities, Infrastructure and Environment (SDSFIE) v3.1, Defense Installations Spatial Data Infrastructure (DISDI) Group.

<http://www.sdsfieonline.org/PublicPages/Branches/Navy.aspx>

c) US Navy Marine Species Monitoring Program Data Management Plan

d) US Navy Marine Species Monitoring Program Data Use Agreement

e) North American Profile (NAP) of ISO 19115: 2003, Geographic Information – Metadata.

<http://www.fgdc.gov/nap/metadata>

f) Geospatial Positioning Accuracy Standards, Part 4: Architecture, Engineering, Construction, and Facilities Management (FGDC-STD-007.4-2002), Federal Geographic Data Committee (FGDC), 2002.

<http://www.fgdc.gov/standards/projects/FGDC-standards-projects/accuracy/part4>

g) Geospatial Positioning Accuracy Standards, Part 1: Reporting Methodology (FGDC-STD-007.1-1998), FGDC, 1998.

http://www.fgdc.gov/standards/projects/FGDC-standards-projects/accuracy/part1/index_html

h) Geospatial Positioning Accuracy Standards, Part 3: National Standard for Spatial Data Accuracy (FGDC-STD-007.3-1998), FGDC, 1998.

i) Contributing Data to OBIS-SEAMAP. http://seamap.env.duke.edu/about/provider_faq

A-2 GENERAL SPECIFICATIONS

All deliverables shall be fully compatible with EIMS system requirements and the data standards and format prescribed below unless otherwise approved by the COR. Reference (a) provides information on EIMS system requirements.

a) EIMS Access: Request an EIMS account for access to necessary capabilities, geospatial data, reports, or other pertinent information. The contractor's technical consultant shall coordinate with the project's Contracting Officer's Representative (COR) prior to and during the establishment of EIMS accounts to ensure appropriate contract personnel receive system access. Reference (a) provides information on requesting access to EIMS.

b) Project Setup: Establish appropriate project folders on EIMS to facilitate document and map production among project members as well as transfer of final data deliverables and associated map documents. Reference (b) provides information on setting up projects in EIMS.

c) Document Commenting: The EIMS Document Commenting tool may be used to collect, manage, and sort comments for draft and final deliverables. Reference (b) provides information on Document Commenting in EIMS.

d) Geospatial Data Production and Management: Upload all map documents (.mx and .jpeg) and geospatial data for the project to the established 'GIS Project' folder. A schedule for uploading draft and final geospatial products to EIMS will be determined during the project kick-off meeting. Refer to Sections A-3 and A-4 for specific geospatial data requirements.

e) Government Review: Retain all draft, pre-final, and final versions of the raw and finished format digital data and documents in the Document Project and GIS Project folders for Government review and approval. Contractors shall have technical consultants available to assist the Government with any digital data discrepancies. The data will be analyzed for subject content and system compatibility. Edits due to comments on data shall be incorporated by the contractor prior to approval of the final deliverable.

f) Final Deliverables: Data and documents destined for publication in EIMS must be uploaded to the established EIMS folders. Visual survey data should also be provided to OBIS-SEAMAP.

i. Upload all final map documents (.mxd and .jpeg) and GIS data with metadata to the established GIS Project folder on EIMS. Refer to Sections A-3 and A-4 for specific geospatial data requirements.

ii. Submit all source survey data the Ocean Biogeographic Information System Spatial Ecological Analysis of Megavertebrate Populations (OBIS-SEAMAP). Data sets should be designated for the Navy's partner contribution page (<http://seamap.env.duke.edu/partner/NAVY>) and attributed to the original collector with acknowledgement of appropriate the U.S. Navy Command(s) as the funding source. Reference (j) provides information on submitting data to OBIS-SEAMAP.

g) Project Close-Out: At project completion, clean up non-essential data, working drafts (non-deliverables), reference documents, etc. from project folders within EIMS or delete as directed by the COR.

h) Deliverables and Use: All digital files prepared for this contract, including source data acquired, source code generated and/or used, and related materials shall be delivered to the COR in digital form upon completion of the contract period. The Navy shall have unlimited rights to use all data and deliverables collected or produced under this contract for the purposes of regulatory compliance, environmental planning, public outreach, and/or other needs to support navy's mission. Distribution and publication of any data generated as a result of this contract shall be in accordance with reference (e) (US Navy Marine Species Monitoring Program Data Use Agreement).

A-3 GEOSPATIAL DATA REQUIREMENTS

A-3.1 Data Standards

Data standards facilitate the development, sharing, and use of geospatial data. The contractor shall ensure that all geospatial data delivered is consistent with references (c) and (d), unless otherwise directed by the Government. Geospatial data shall be delivered in a single file geodatabase format and accompanied by a data inventory spreadsheet unless otherwise directed by the Government. The data will be compatible with ArcGIS 10.0 and must be importable to an Oracle multi-user geodatabase using ArcSDE. Digital map files (.mxd files) shall be delivered in ArcGIS 10.0 format and the associated data layers shall be sourced by a relative file pathway to the file geodatabase. The contractor shall provide an inventory spreadsheet that contains a field for File geodatabase name, Feature dataset, Feature class, feature label name, feature legend designation, data source, and a comment field. In addition, all geospatial data delivered by the contractor shall adhere to the following criteria:

- a) precise geographic coordinates in decimal degree format with four decimal precision;
- b) units of nautical miles (nm) for expansive marine areas and statute miles (mi) for expansive land areas;
- c) reference the GRS 1980 spheroid and the North American Datum 1983 (WGS-84); and
- d) contain a projection file, if appropriate, based on format.

A-3.2 Metadata Standards

The term "metadata" is defined as data about data. The term is often used to refer to information that allows either: (1) discovery of data, (2) understanding the provenance and quality of the data, or/and (3) analysis of the data via a set of machine readable instructions that describe the data and its relationships. The contractor shall provide metadata in accordance with Content Standard for Digital Geospatial Metadata (CSDGM), reference (f), the current U.S. federal metadata standard.

The contractor shall ensure that metadata is provided for all geospatial data delivered, including data furnished by the Government, a third party, or generated as a result of this project, and is compliant with reference (f). All metadata shall be in XML format. The contractor shall reference the North American Profile of ISO 19115 2003 metadata style sheet in ArcCatalog when populating Service-level and Feature Class-level metadata. The contractor is required to supply metadata for all fields within this style sheet.

A-3.3 Mapping Guidelines

The contractor shall comply with FGDC Geospatial Positioning Accuracy Standards, Part 4: Architecture, Engineering, Construction, and Facilities Management, reference (g), which provides accuracy standards for engineering drawings, maps, and surveys. Map or drawing scales will be determined by the NTR, given specific project requirements.

A-3.4 GPS Surveys

The contractor shall comply with the FGDC Geospatial Positioning Accuracy Standards, Part 1: Reporting Methodology, reference (h), when conducting GPS surveys and collecting geospatial data. Specifically, the contractor shall ensure that the horizontal accuracy for planning grade GPS data collection shall be sub-meter, unless otherwise specified. Every effort shall be made to capture feature locations without using offsets, unless obstructions are present. If offsets are used, the contractor shall ensure that they are agreed to by the Government and documented, per direction of the COR, given specific project requirements.

Data sets derived from GPS data collection efforts (mapping or survey grade) shall include metadata to record descriptions of the receiver and other equipment used during collection and processing, base stations used for differential corrections, software used for performing differential corrections, estimated horizontal and vertical accuracies obtained, and conversion routines used to translate the data into final geospatial data delivery format (see Section A-4.1). All metadata shall comply with the metadata format requirements as described in this document (see Section A-4.2). Metadata must include an accuracy statement at the 90% or 95% confidence interval. Accuracy statements shall include the method of determination, as specified in the FGDC Geospatial Positioning Accuracy Standards, Part 3: National Standard for Spatial Data Accuracy, reference (i).

A-3.5 Data Integrity

The contractor shall employ appropriate QA/QC standards to ensure that data is topologically correct, accurate and complete, including:

- a) no erroneous overshoots, undershoots, dangles or intersections in the line work;
- b) point and line features shall be snapped together where appropriate to support networks, e.g. do not break linear features for labeling or other aesthetic purposes;
- c) lines should be continuous and point features should be digitized as points;
- d) no sliver polygons;
- e) digital representation of the common boundaries for all graphic features must be coincident, regardless of feature layer; and
- f) attribute information and labeling must be consistent throughout a GIS project

A-4 USE OF AUTHORITATIVE GEOSPATIAL DATA and EIMS

A-4.1 Navy Maintained Geospatial Data

Navy has identified geospatial data layers that will be maintained by the Navy as the authoritative source. If required for the project, they will be provided by the Navy, in adherence with Reference (c) where available. The following data layers are examples of what will be maintained by the Navy but are not an all-inclusive list:

- a) Boundaries of air, land, and sea training and testing areas
- b) Special use airspace (SUAS)
- c) Study area boundaries
- d) Installation boundaries and features

Reference (a) provides information on accessing EIMS. The contractor can inquire what data are considered Navy authoritative and are required for the project.

A-4.2 Electronic Data Use and Project Management on EIMS

Any data required to support the project will be identified during the project kick off meeting. Any requests for existing geospatial data should be directed to the project COR or their designated representative.

The contractor is required to utilize any Government furnished ArcMap templates and the Common Operating Picture data provided by the Government to produce all maps and figures for the project.

New data generated by the contractor as a part of this contract will be uploaded to the GIS Project folder in EIMS adhering to the data format and metadata standards outlined in previous sections of this appendix.

ATTACHMENT C WAWF INSTRUCTIONS

252.232-7006 WIDE AREA WORKFLOW PAYMENT INSTRUCTIONS (JUN 2012)

(a) Definitions. As used in this clause--

Department of Defense Activity Address Code (DoDAAC) is a six position code that uniquely identifies a unit, activity, or organization.

Document type means the type of payment request or receiving report available for creation in Wide Area WorkFlow (WAWF).

Local processing office (LPO) is the office responsible for payment certification when payment certification is done external to the entitlement system.

(b) Electronic invoicing. The WAWF system is the method to electronically process vendor payment requests and receiving reports, as authorized by DFARS 252.232-7003, Electronic Submission of Payment Requests and Receiving Reports.

(c) WAWF access. To access WAWF, the Contractor shall--

(1) Have a designated electronic business point of contact in the Central Contractor Registration at <https://www.acquisition.gov>; and

(2) Be registered to use WAWF at <https://wawf.eb.mil/> following the step-by-step procedures for self-registration available at this Web site.

(d) WAWF training. The Contractor should follow the training instructions of the WAWF Web-Based Training Course and use the Practice Training Site before submitting payment requests through WAWF. Both can be accessed by selecting the “Web Based Training” link on the WAWF home page at <https://wawf.eb.mil/>.

(e) WAWF methods of document submission. Document submissions may be via Web entry, Electronic Data Interchange, or File Transfer Protocol.

(f) WAWF payment instructions. The Contractor must use the following information when submitting payment requests and receiving reports in WAWF for this contract/order: **N62473-17-2-0001**

(1) Document type. The Contractor shall use the following document type(s).

NAVY CONSTRUCTION/FACILITIES MANAGEMENT INVOICE

(2) Inspection/acceptance location. The Contractor shall select the following inspection/acceptance location(s) in WAWF, as specified by the contracting officer.

(3) Document routing. The Contractor shall use the information in the Routing Data Table below only to fill in applicable fields in WAWF when creating payment requests and receiving reports in the system.

Routing Data Table*

Field Name in WAWF	Data to be entered in WAWF
Pay Official DoDAAC	N68732
Issue By DoDAAC	N62473
Admin DoDAAC	N62473
Inspect By DoDAAC	N62473/RAQE0
Ship To Code	N/A
Ship From Code	N/A
Mark For Code	N/A
Service Approver (DoDAAC)	N/A
Service Acceptor (DoDAAC)	N62473/RAQE0
Accept at Other DoDAAC	N/A
LPO DoDAAC	N62473/RAQE0
DCAA Auditor DoDAAC	N/A
Other DoDAAC(s)	N/A

(4) Payment request and supporting documentation. The Contractor shall ensure a payment request includes appropriate contract line item and subline item descriptions of the work performed or supplies delivered, unit price/cost per unit, fee (if applicable), and all relevant back-up documentation, as defined in DFARS Appendix F, (e.g. timesheets) in support of each payment request.

(5) WAWF email notifications. The Contractor shall enter the email address identified below in the “Send Additional Email Notifications” field of WAWF once a document is submitted in the system.

NAVFAC_SW_RAQE0_inspector@navy.mil

jessica.bredvik@navy.mil

(g) WAWF point of contact. (1) The Contractor may obtain clarification regarding invoicing in WAWF from the following contracting activity's WAWF point of contact.

NOT APPLICABLE

(2) For technical WAWF help, contact the WAWF helpdesk at 866-618-5988.

(End of clause)

252.204-0006 Line Item Specific: Proration. (SEP 2009)

The payment office shall make payment from each ACRN in the same proportion as the amount of funding currently unliquidated for each ACRN.