

SCOPE OF WORK

Southern California Beaked Whale Occurrence August 2020

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A. INTRODUCTION

The Navy trains in several range complexes throughout the Pacific Ocean. To authorize these actions, the National Marine Fisheries Service issued Letters of Authorization under the Marine Mammal Protection Act and Biological Opinions under the Endangered Species Act and requires Navy via U.S. Pacific Fleet to implement marine species monitoring.

The Navy's Southern California Range Complex is located in the Southern California Bight off San Diego County and adjacent deep waters to the west. This region has a highly productive marine ecosystem owing to the southward flowing California Current, and associated coastal current system. This area has a unique combination of attributes that make it a strategically important training venue for the Navy including location, oceanographic conditions, and area of training space. A diverse array of marine mammals are found in this range complex, including baleen whales, beaked whales and other toothed whales and pinnipeds.

A U.S. Pacific Fleet funded acoustic monitoring effort was initiated within the Southern California Range Complex in 2009. The goal of these efforts was to characterize vocalizations of marine mammal species present in the area, to determine their seasonal presence patterns, and to evaluate the potential for impact from naval operations. Current monitoring efforts are required to support marine mammal studies in the offshore waters of the Southern California Range Complex, in compliance with of a Letter of Authorization from the Department of Commerce's National Marine Fisheries Service of 24 December 2018.

The principal components of this Cooperative Agreement are to support the Navy's Southern California Range Complex FY20-21 project entitled "Southern California Beaked Whale Occurrence" which include the following tasks: (1) collect and analyze passive acoustic monitoring data for beaked whales in the Southern California Range Complex; (2) prepare a preliminary summary of passive acoustic analyses; (3) prepare a technical report of passive acoustic analyses; (4) support continued data integration from previous California Cooperative Fisheries Investigation cruises into future spatial habitat mapping; and (5) prepare a report on data integration.

B. PURPOSE

This Cooperative Agreement includes two (2) BASE tasks and five (5) OPTIONS: The first base task is to deploy four High-frequency Acoustic Recording Packages or similar acoustic recording technology for one year to collect passive acoustic data or similar acoustic recording technology in the Southern California Range Complex. This task also includes the analysis of High-frequency Acoustic Recording Packages data to identify species of beaked whales in the study area, the occurrence of Mid-Frequency Active sonar, and anthropogenic sounds. This task also includes preparation of a preliminary summary and technical report, respectively, for passive acoustic data. The second task is to continue coordination with Navy designated technical subject matter experts to ensure integration of all California Cooperative Fisheries Investigation cruise data into spatial habitat maps developed by National Marine Fisheries Service's Southwest Fisheries Science Center and to prepare a report on the data integration.

All efforts in this Cooperative Agreement support the requirement in the Letter of Authorization issued to U.S. Pacific Fleet.

The objectives of this project are to help address the following questions:

- What is the seasonal occurrence and abundance of cetaceans within the Navy's Southern California Range Complex?
- What, if any, are the short-term behavioral and/or vocal responses of marine mammals when exposed to sonar or explosions at different levels or conditions?

C. LOCATION

The BASE tasks for this project are located within the Southern California Range Complex, which is situated between Dana Point and San Diego, CA and extends more than 600 nautical miles (nm) southwest into the Pacific Ocean, encompassing 120,000 nm² of sea space, 113,000 nm² of special use airspace, and over 56 square miles of land area.

D. DESIGNATED REPRESENTATIVES

1. The Cooperative Agreement Administrator (CAA) is Ms. Kellie Wilson, Contract Specialist, Naval Facilities Engineering Command, Southwest, 1220 Pacific Highway, San Diego, CA 92132-5190, telephone (619) 532-2090, and email kellie.wilson@navy.mil.

2. The CATR is Christiana Salles (Code EV22.CB), Marine Biologist for Naval Facilities Engineering Command Environmental Core, Southwest Division, 1220 Pacific Highway, San Diego, CA 92132. Phone (619) 532-4182; email christiana.salles@navy.mil.

The Cooperative Agreement Technical Representative (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. Pacific Fleet Representative is Chip Johnson, Natural and Marine Resource Program Manager, Environmental Readiness Division, Southwest Detachment (Code N465CJ), Naval Base Coronado, Building 678, Room 217, McCain Boulevard, Coronado CA 92118. Phone: (619) 767-1567 and email: chip.johnson@navy.mil.

The Pacific Fleet Representative (PFR) is responsible for providing the CAA, via the CATR, the technical requirements for this Cooperative Agreement's scope of work specifications. The PFR has no authority to make any changes to the Cooperative Agreement, only the CAA may affect any change to this Cooperative Agreement. The PFR 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 Recipient will designate at time of proposal submission the individual within their organization who is authorized to negotiate with the CAA. The designation will stipulate the individual's authority to commit the Recipient.

6. For the purposes of this Cooperative Agreement, the term Recipient shall mean TBD.

E. PERIOD OF PERFORMANCE

The proposed period of performance consists of an 18-month base year. The parties may extend the term of this Cooperative Agreement by written modification. The option items have a period of performance of 18-months from award. The option items may be awarded at any time during the base period of performance, which is no later than 18 months from the date of award of the base period of performance. The total duration of this Cooperative Agreement, shall not exceed 36 months. The period of performance end date is the anticipated date the Final Report is accepted by the Government. The exercise of the option is subject to the availability of funds and may be awarded unilaterally.

A fifteen (15) day period, starting on date of award, will be used for the Recipient 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. Recipient 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 Pacific Fleet Representative. The Recipient shall pay for or replace any items borrowed that are damaged, stolen or lost.

- a. 2019 U.S. Navy Annual Marine Species Monitoring Report for the Pacific
- b. Hawaii-Southern California Training and Testing Letter of Authorization

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 Recipient equipment is subject to inspection and approval by the CATR and PFR.

2. The Recipient shall provide all equipment (unless otherwise stated) and analyses necessary to

complete the work described within this Cooperative Agreement. Subject to the obligations and conditions set forth by 2 CFR §200.313, title to equipment acquired under a Federal award will vest upon acquisition in the non-Federal entity. The Recipient shall follow 2 CFR §200.313(e) for the disposition of equipment. 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 Cooperative 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 Cooperative Agreements." (DoD Grant and Cooperative 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 Cooperative 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 Installation. 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 installation, 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 Cooperative 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 conducting habitat management and surveys, plant nursery management and invasive pest plant species control.

5. 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 are met on a daily basis. This person shall have, at the minimum:

i. A PhD in Physics or related science.

ii. Experience and knowledge of underwater acoustics in relation to marine mammal impacts, and populations, as demonstrated by at least 10 years of previous work or research experience.

iii. Specific knowledge of underwater sounds produced by marine mammals along the U.S. West Coast, as demonstrated by at least 10 years of previous work or research experience.

B. Research Associate(s): The person(s) shall have, or have immediate access to personnel that have, at the minimum:

i. A PhD in Physics, Oceanography, Physiology, or related science.

ii. At least 3 years of experience with passive acoustic monitoring of marine mammals in the U.S. West Coast. Must have the ability to identify U.S. West Coast marine mammals with acoustics, determine densities of marine mammals with acoustics, evaluate impacts of noise to marine mammals.

C. Marine Technician: The recipient shall have, or have immediate access to personnel that have, at the minimum:

i. A Bachelor's Degree (or in progress of obtaining degree) in Environmental Science or related science.

ii. At least 1 year of experience with collecting scientific data in the field.

6. The Recipient shall provide the CAA(via the CATR) the names of persons and copies of their resumes being considered for work under this Cooperative Agreement. The Recipient shall not replace or substitute any key personnel without prior written approval by the CAA.

7. The Recipient shall work closely with the CATR and PFR in planning and carrying out all field activities.

8. All work conducted in support of this Cooperative Agreement shall comply with all applicable federal and state laws.

9. 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 PFR and CATR immediately.

10. If there is an incident which the Recipient believes may involve "take" of an endangered species that results from an activity not listed on the permit, the PFR and CATR shall be contacted immediately.

11. At no additional cost to the Government, the Recipient shall be in possession of all necessary permits necessary to conduct the activities stipulated in this Cooperative Agreement. All permits will be submitted as part of the proposal.

12. All parties involved in this Cooperative 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.

13. All work conducted in support of this Cooperative Agreement shall comply with all federal laws including, but not limited to, the Marine Mammal Protection Act, Endangered Species Act, the Clean Water Act and the Migratory Bird Treaty Act. Legible copies of the field notes, data forms and other information shall be provided to the CATR and PFR upon request.

14. The data obtained during this Cooperative 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 Cooperative 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. The CATR or Pacific Fleet Representative, at their discretion, may subject draft work plans, draft reports or draft manuscripts to external peer review.

15. The Recipient shall inform the CATR and PFR 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.

16. The Recipient shall inform the CATR and PFR via e-mail of any unusual animal 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.

17. Throughout the term of this Cooperative Agreement the CATR and the PFR 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 Cooperative Agreement Administrator in establishing the Recipient's performance in fulfilling the requirements of this Cooperative Agreement.

18. The Department of the Navy, via the CAA, may request updated data presented on maps, figures and/or tables whenever the Department of the Navy's need to obtain this information is before the next report required under Section I of this Cooperative 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 PRF). The Department of the Navy 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 Cooperative CAA (via CATR and cc provided to Installation Representative) to review so that the Department of the navy 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 shall be consistent with the requirements of the Navy's Letters of Authorization and all pertinent federal, state, and local laws and regulations. All work shall be coordinated with the CATR and Pacific Fleet Representative.

1: Bottom Deployed Passive Acoustic Monitoring for Beaked Whales in Southern California

The Recipient shall conduct one year of passive acoustic monitoring for beaked whales at four sites in and near the SOCAL Range Complex: sites E, H, N and U (Figure 1).

At each of these sites, High-frequency Acoustic Recording Packages sampling at 200 kHz will be deployed. Analysis of these data will be limited to presence of beaked whales, and presence of ambient and anthropogenic sounds (ex., Mid-Frequency Active sonar, explosives, vessel transit, etc.). At site N, additional instruments will be deployed that allow source localization achieved through the deployment of two 4-channel and two 1-channel devices for 3-D tracking of vocalizing whales. Data analysis and results will be incorporated into a winter 2021 preliminary summary and a winter 2022 technical report.

2: California Cooperative Fisheries Investigation Marine Mammal Data Integration for Density Derivation

The Recipient shall work with Navy designated representatives and contractors to conduct data integration of California Cooperative Fisheries Investigation marine mammal sightings through 2020 into National Marine Fisheries Services' spatial habitat models and other Navy density work products. Data that were integrated will be summarized in an early winter 2021 report.

Option 1: Marine Mammal Presence from Shipboard Visual and Acoustic Surveys

The recipient shall provide personnel and maintain acoustic and visual surveys for marine mammals during four upcoming CalCOFI cruises (fall 2020, winter 2021, spring 2021 and summer 2021). The California COoperative Fisheries Investigation (CalCOFI) cruises provides the most detailed long-term data for marine mammals in the Southern California Bight, coincident with the region of the SOCAL Range Complex. They are superior to all other surveys for the SOCAL naval training area (including those of the NMFS) as they have better spatial

coverage, they provide temporal coverage in all seasons, and overall greater numbers of detections to provide improved abundance estimates.

Option 2: Explosives Classifier for naval and Fisheries Sources

The recipient shall construct and validate a classifier that can be applied to passive acoustic monitoring data to differentiate fisheries and naval explosions. Further development is need to create and verify a classifier to differentiate Navy and fisheries explosions in the SOCAL range. Large numbers of explosions are detected in the SOCAL region, primarily related to commercial fisheries use of “seal bombs,” and secondarily related to naval activities. Although these explosive sources have been shown to produce different signatures at near-source locations, acoustic propagation to more distant receivers need to be studied to yield an accurate classifier for passive acoustic monitoring data, which primarily records explosion at unknown range from the receiver.

Option 3: Cuvier’s Beaked Whale Sonar Impact Publication

The recipient shall complete thier analysis of potential MFA sonar impact on beaked whales. They currently have analysis for beaked whales at one site established and will expand the number of sites and continue work on blue whales. They will include an error estimate for sonar received levels based on detection ranges and they will further develop statistical methods to compare these data to presence of these species’ calls to investigate the potential impacts of sonar and other anthropogenic activities on calling animals.

Option 4: Addition of Active Acoustic for Prey Mapping

The recipient shall provide the support needed to add active acoustics to passive acoustic monitoring sites that are designed for animal tracking in the SOCAL region and to analyze these data for diel, lunar and seasonal patterns and how that relates to Cuvier’s beaked whale foraging. Active acoustics is a powerful tool to study marine mammal prey availability. Collecting active acoustic data in conjunction with passive acoustic monitoring provides insight into marine mammal behavior and foraging ecology. In particular, recent observations suggest that Cuvier’s beaked whales may forage on a deep layer of individual scatterers (presumably squid) that is located at ~1050 to 1150 m water depth, roughly 200 m above the seafloor, and distinct from layers that are located higher in the water column.

Option 5: Habitat Modeling Enhancement

The recipient shall investigate the addition of new data products to aid in habitat modeling for marine mammals in the California Current Ecosystem. One example is the FSLE (Finite Size Lyapunov Exponents), derived from satellite data, which reveal the rate of separation of ocean particle trajectories, a metric for horizontal advection. This optional task will test for the explanatory potential of these variables for all the species modeled.

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 ensure coordination of all activities with the CATR and PFR via email.
2. The Recipient shall be available on an intermittent basis throughout the Cooperative Agreement period for consultation with the CATR and PFR on matters involving data collection, analysis, reporting, 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 Cooperative Agreement file.

2. Submittals and Deliverable Schedule

Event/Deliverable	Due Date	Delivery Type/Format
Meetings and Coordination		
Pre- and post- field season coordination meetings	Within 14 calendar days following award; and as needed	Via conference call or in person meeting
Task 1. Bottom Deployed Passive Acoustic Monitoring For Beaked Whales in Southern California		
Passive acoustic device construction and calibration	Begin upon award	N/A
Field deployment of High-frequency Acoustic Recording Packages (and service as needed)	Fall 2020-Fall 2021; email confirmation no later than 7 days after deployment	Email with deployment dates and lat/long positions of each device
Device retrieval	< Fall 2021	N/A
Preliminary summary	1 December 2021	Electronic (email) (.doc)
Draft report	1 December 2022	Electronic (email) (.doc)
Final report	30 days upon receipt of Navy comments	Electronic (email) (.doc)
Task 2: California Cooperative Fisheries Investigation Marine Mammal Data Integration For Density Derivation		
Draft report	10 January 2021	Electronic (email) (.doc)
Final report	30 days upon receipt of Navy comments	Electronic (email) (.doc)

- a. The government will have a 30 calendar day review period from receipt of the draft reports to comment. The final reports shall be submitted within 30 calendar days of receipt of Government comments. If necessary, the government will have a within 15 calendar 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. Only the CAA has the authority to make changes to the 30-day review period.
- b. The Recipient shall provide all required draft reports as electronic files, either as email attachments, sent to the CATR on Compact Disk, or downloadable via File Transfer Protocol site.
- c. 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.
 - The appropriate style guide is not adhered to (in most cases this is the Journal of Wildlife Management guidelines or Council of Science Editors citation style).
- d. Preliminary Summaries are NOT the draft and final reports, but a 1-2 page MS Word file listing efforts completed to date and a brief listing of any results. Navy requires this info for inclusion in an annual monitoring report due prior to final reporting.
- e. 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.
- f. Reports shall be in scientific format and include the following: 1) Title page showing title, date, cooperative Agreement number, CATR contact information; 2) Sub-title page showing title, prepared by and for listings, date and recommended citation; 3) SF-298 form page; 4) Table of contents; 5) Abstract; 6) Detailed methodology describing techniques, methods, plot of deployment locations, and equipment used; 7) Summary of passive acoustic detections or analysis; 8) Species specific time-series plots of acoustic detections for species of interest (if applicable). A time-series composite will be presented to show detections over the entire deployment cycle to identify potential seasonality (mainly Task 1 and OPTION 4, as needed); 9) Quantitative and qualitative description of vocalizations by species, including representative spectrograms (Task 1); 10) Changes in vocalizations over time; 11) Classification and characterization of anthropogenic noises detected to include both sonar, explosive events, and shipping noise; 12) Sound budget of the recording sites (Task 1 only);

13) Plots of visual sightings by species (OPTION 2); 14) any other table or figure deemed needed for a given report; and 15) References.

g. Data. All raw data, data sheets and electronic databases (including GIS data) shall be available at the request of the CATR or PFR 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.

h. Maps

1). All maps created for this Cooperative 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 Cooperative 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.

i. 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 Cooperative 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 Cooperative 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 Cooperative 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. Navy, U.S. Pacific Fleet."

3. Any resulting publically available information (peer-reviewed publication, conference/workshop presentation, etc.) from this work shall be provided at no cost to the Department of the Navy as a .pdf of the final document.

4. The Recipient shall be responsible for ensuring all personnel participating in activities under this Cooperative Agreement have read and acknowledged the DATA AND PUBLICATION provisions of this Cooperative 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, with the exception of inquiries that are intended to benefit the academic research of this Cooperative Agreement, 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 through the Fleet Representative, CATR and CAA.

M. SAFETY

The Recipient will be required to develop an Accident Prevention Plan following the format in Appendix A of the EM 385-1-1, US Army Corps of Engineers Safety & Health Requirements Manual, 30 November 2014 or latest edition. The government Contract Specialist will contact the Southwest Environmental Safety Office to check if the project may qualify for the Accident Prevention Plan, prior to directing the recipient to prepare an Accident Prevention Plan. Additional specific plan or plans is/are required if the project involves work that is potentially hazardous. List of specific plans is located at section (i) of Appendix A of the EM 385-1-1. Potentially hazardous activities include, but are not limited to:

- soil boring or digging test pits (excludes manual collection of de minimis surface soil samples)
- work on, in, or near bodies of water where there 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
- work within 10 ten feet of high voltage lines, or high pressure gas, steam, or water lines

A Site Safety and Health Plan (SSHP) is also required if the work involves potential exposure to hazardous, toxic or radioactive waste (HTRW). The minimum requirement for the SSHP is in Section 33 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 (or latest addition), 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 Government Designated Authorities (Southwest Environmental Safety Office, Cooperative Agreement Technical Representative) 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 potential exposure to HTRW. Government CATR should verify with the Southwest Environmental 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 have 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 will attach this report to the quarterly (or other specified interval) billing request. The CATR will submit a copy of the MER to the SW EV Safety Office.

Site Assist Visit (SAV). While the recipient is performing the job on-site, a Southwest Environmental Safety representative may perform an SAV. The recipient is required to comply with the contents of the final APP (with the AHA and/or SSHP, as applicable). Any modifications to the APP shall be approved first by the GDA prior to continuing work. Also the recipient has to comply with the requirements of the Section 1, Program Management, of the EM-385 -1-1, while at the job site.

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 B 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 5 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.
3. Any requirement for the payment or obligation of funds, under the terms of this Cooperative 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 Cooperative 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.fsrc.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/excomp.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 the Southern California Range Complex under this Cooperative Agreement, No. N62473-20-2-0012."

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 the Southern California Range Complex under this Cooperative Agreement, No. N62473-20-2-0012."

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 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: N62473-20-2-0012

(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/ECOMP
Admin DoDAAC	N62473/ECOMP
Inspect By DoDAAC	N62473/ECOMP
Ship To Code	N/A
Ship From Code	N/A
Mark For Code	N/A
Service Approver (DoDAAC)	N/A
Service Acceptor (DoDAAC)	N62473/ECOMP
Accept at Other DoDAAC	N/A
LPO DoDAAC	N62473/ECOMP
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
christiana.salles@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)

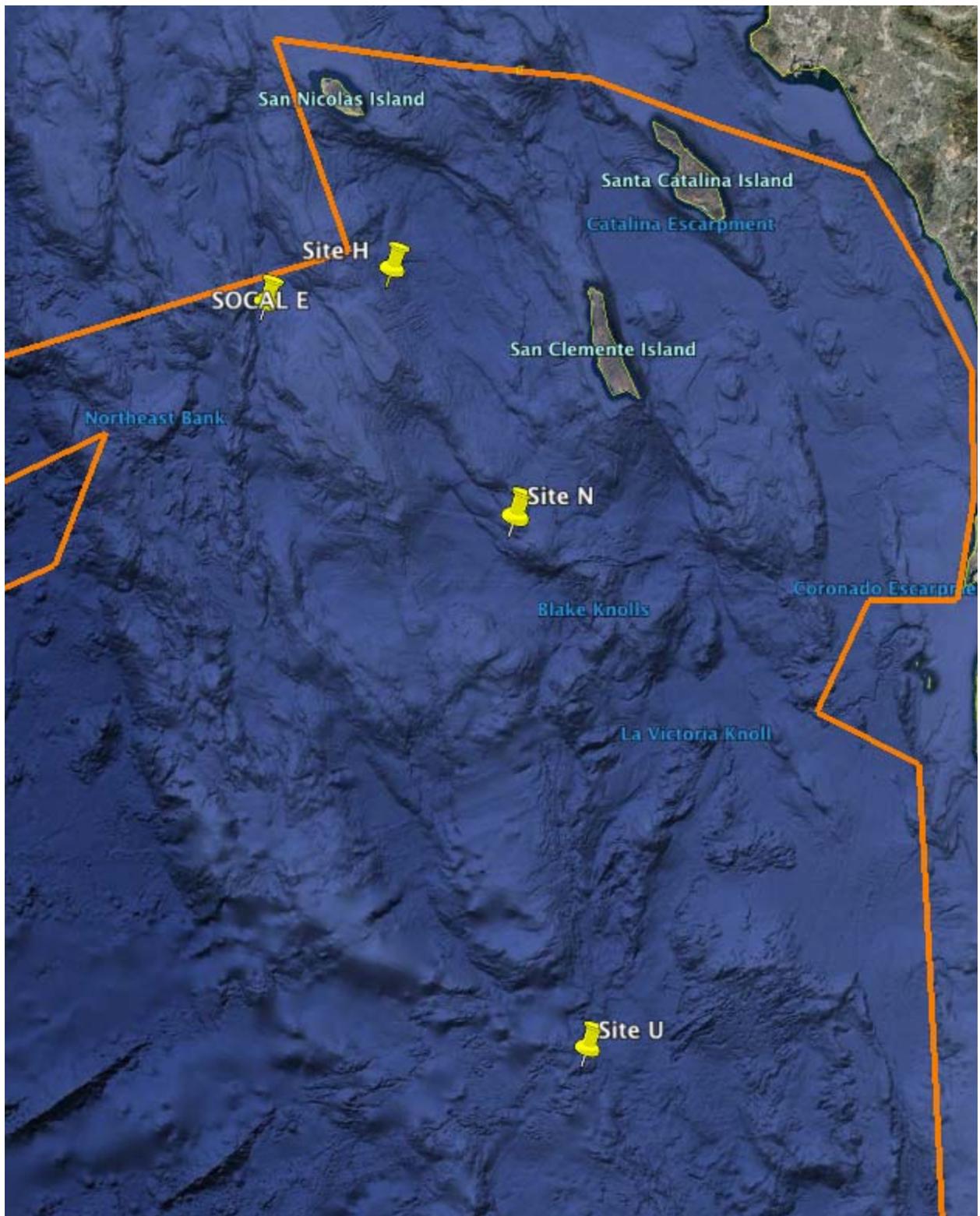


Figure 1. Location of High-frequency Acoustic Recording Packages In The Southern California Range Complex

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