DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P.O. BOX 17300
FORT WORTH, TX 76102-0300

10 July 2024

REQUEST FOR STATEMENT OF INTEREST
W9126G-24-2-SOI-3535

Applicants must be a member in one of the following Cooperative Ecosystem Studies Units Regions:
Californian/Colorado Plateau

Project Title: *Natural Resources Support – Vandenberg Space Force Base (VSFB)*

A cooperative agreement is being offerred ONLY to members of the Cooperative Ecosystem Studies Units (CESU) Program Region(s) identified above. Award will be made upon mutual agreement and acceptance of the terms and conditions contained in the request for proposal and the of the recipient's CESU Master Agreement. Note the established CESU Program indirect rate is 17.5%.

Responses to this Request for Statements of Interest will be used to identify potential organizations for this project. Approximately **$2,976,442.00** is expected to be available to support this project for the **base period**. Additional funding may be available to the successful recipient for optional tasks and/or follow on work in subsequent years.

NOTE: This project will be awarded under the authority of 10 USC 670c-1, **Sikes Act**: For projects for the implementation and enforcement of integrated natural resources management plans, priority shall be given to award to Federal and State agencies having responsibility for the conservation or management of fish or wildlife.

Period of Performance. The base period of agreement will extend 18 months from date of award. There may be up to six 18-month follow-on periods based on availability of funding.

Description of Anticipated Work: See attached Statement of Objectives

NOTE: At this time we are only requesting that you demonstrate available qualifications and capabaility for performing similar or same type of work by submitting a Statement of Interest. A full proposal and budget are NOT requested at this time.

Preparation of your Statement of Interest: Provide the following (Maximum length: 2 pages, single-spaced, 12 pt. font):

1. Name, Organization, Cage Code, Unique Entity ID, and Contact Information (Email)
2. Brief Statement of Qualifications (including):

   a. Biographical sketch of the Principal Investigator, to include specific experience and capabilities in areas related to this project's requirements

b. Relevant past projects and clients with brief descriptions of these projects

c. Staff, faculty or students available to work on this project and their areas of expertise

d. Brief description of other capabilities to successfully complete the project: (e.g. equipment, laboratory facilities, greenhouse facilities, field facilities, etc.)

Submission of Your Statement of Interest

1. Statements of Interest are due by Noon, Central Time, **9 August 2024**.

2. Submit your Statement of Interest via e-mail attachments or direct questions to:
   Sheri Vendemia
   Grants Specialist
   USACE, Fort Worth District
   Email: **cheryl.r.vendemia@usace.army.mil**

   David Leptien
   Project Manager
   USACE, Fort Worth District
   Email: **david.b.leptien@usace.army.mil**
   Office: 402-889-5570

Review of Statements Received: All statements of interest received from a member of the CESU Region(s) identified above will be evaluated by a board comprised of one or more people at the receiving installation or activity, who will determine which statement(s) best meet the program objectives: offer the most highly qualified Principal Investigator, have the most relevant experience and the highest capability to successfully meet the program objectives. Submitters whose statements are determined to best meet the program objectives will be invited to submit a full proposal.

Timeline for Review of Statements of Interest: RSOIs are required to be posted on www.Grants.gov for 30 days prior to the Government making a decision and requesting full proposals.

Thank you for your interest in our Cooperative Agreements Program.

Paige E. Poorman
Contracting Officer

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Attachment: Statement of Objectives

STATEMENT OF OBJECTIVES

NATURAL RESOURCES SUPPORT ACTIVITIES on VANDENBERG SPACE FORCE BASE, CALIFORNIA

1.0 PURPOSE

1.1 The Vandenberg Space Force Base (VSFB) environmental program ensures military mission activities are conducted in compliance with all applicable environmental laws, regulations and policies with cooperation and assistance from the Air Force Civil Engineer Center's (AFCEC) Installation Support Section (ISS). Article I B of the master agreement states the objectives of the CESU are to: provide research, technical assistance and education to federal land management, environmental and research agencies and their potential partners; develop a program of research, technical assistance and education that involves the biological, physical, social sciences needed to address resource issues and interdisciplinary problem-solving at multiple scales and in an ecosystem context at the local, regional, and national level; and place special emphasis on the working collaboration among federal agencies and universities and their related partner institutions.

1.2 The work will involve natural resource management activities, field surveys, reporting, coordination, and travel to and from VSFB.

2.0 AUTHORITY

Authority to enter into a Cooperative Agreements (CA) for the work: Section 670c-1, Title 16 United States Code, Sikes Act.

2.1. In agreement with the above stated goals, the NFE agrees to provide the necessary personnel, equipment, and materials required to implement, in part, the VSFB responsibilities pursuant to the Endangered Species Act (16 USC 1531 et seq.), the Sikes Act Improvement Act, the National Environmental Policy Act (42 U.S.C. 4321 et seq.), and applicable implementing regulations, such as Air Force Manual 32-7003, *Environmental Conservation*; Grant and Cooperative Agreements Act of 1977 (31 U.S.C. § 6301 et seq.). In general, cooperative agreements must carry out a public purpose of support or stimulation, however under the authority of the Sikes Act (16 USC 670c-1 (c) (2)), notwithstanding chapter 63 of Title 31 (31 U.S.C. § 6301 et seq), a cooperative agreement under this section may be used to acquire property or services for the direct benefit or use of the United States Government.

Examples of carrying out a public purpose may include, but are not limited to, the following:

- Project results are made available to a wide audience (including nonfederal entities, following necessary coordination with the VSFB project manager)
- Project results/outputs add to the scientific literature/knowledge base, with applicability and utility beyond the scope of the project footprint/study area

- Academic and other nonfederal partner institutions (and their personnel) gain professional experience, increase knowledge, and develop skills and abilities
- Students benefit from direct interaction with federal scientists, program and technical staff, and field unit managers

2.2. In accordance with section *6305 – Using cooperative agreements of the Federal Grant and Cooperative Agreements Act of 1977* (31 U.S.C. § 6301 et seq.), substantial involvement is expected between the Department of Defense and the recipient when carrying out the activity contemplated by the cooperative agreement.

The installation further (hence DoD) agrees to provide substantial involvement as directed under the appropriate master agreement to include, but not limited to, the following:

- VSFB and AFCEC ISS are involved in development of study methodology, data gathering, analysis, and/or report writing.
- VSFB and AFCEC ISS are active participates and collaborates in carrying out the project plan of work, reviews and approves activities, helps train or select project staff or trainees.
- VSFB and AFCEC ISS incurs in-kind or direct expenditures in carrying out the activities specified in the project agreement. Examples include, but are not limited to, the following:
    - Providing staff time to work on the project.

3.0 DESCRIPTION OF OBJECTIVES

Provide labor, materials, equipment and supplies to perform the tasks described below. Conduct tasks in accordance with this Statement of Objectives, as prioritized by AFCEC ISS Project Manager (PM) and Base Natural Resources Manager (NRM).

Travel: Provide transportation and fuel for all NFE staff to get to and from all field sites. Retain current proof of insurance, current registration, and REAL ID-compliant driver's licenses for all modes of transportation.

Coordination: Coordinate concurrently with the Base NRM, AFCEC ISS, and USACE PM. All work shall be approved by the AFCEC and be consistent with the Project Schedule & Work Plan (Deliverable 9.3) approved by the Base NRM. Schedule changes can be made; trade-off decisions will be jointly made by the USACE-PM, Base NRM and AFCEC ISS and align with the Sikes Act compliant INRMP and original budget programming. Any changes in scope or cost must be approved by the USACE Grants Officer. All coordination with state and federal regulators will be by the Base NRM or AFCEC ISS only.

Project Management: A Project Manager should be assigned to coordinate across tasks, manage all personnel hired to complete work, and ensure all scoped objectives are completed on time. Level of effort for Project Management is expected to be at least 6 hours per month with additional hours as needed, generally at the beginning and end of the agreement period of performance and before and after monthly meetings. Project manager shall provide monthly meeting agenda, track deliverables, provide meeting notes, etc.

Within 30 days of award, the NFE will schedule an initial project kick off meeting with all parties involved (VSFB, AFCEC/Edwards ISS, USACE, etc.) to develop a project work schedule to implement the SOO. All deliverables/tasks will be submitted within the required timeframes as identified.

Access: Access to VSFB is restricted. General base access requires sponsorship by a government civilian employee, and should be coordinated at least two weeks prior to the visit. Long-term base access will require additional security clearances and access processing. Access to some areas may be limited by ongoing military activities such that personnel access is limited to weekends or brief periods of a few hours. Access procedures are described in further detail in the most recent version of the VSFB Contractor Access Request Procedures Template.

Photography Use: Photography at VSFB is restricted, requiring an authorization letter that must be in the photographer's possession at all times. Cell phone photos are not allowed. Any photos/reports released to the public must be reviewed and authorized by Public Affairs. A non-disclosure agreement (NDA) is required for use of photographs for data analysis and report preparation prior to authorization by public affairs for release of photos/reports to the public.

Biological Security Measure: The NFE shall follow applicable Biological Security Best Management Practices identified in the most recent version of the installation Invasive Species Management Plan.

Table 1. Task Summary

Funded by Project	Task	Title	Follow-On Periods*	Location
XUMUA53XX7118, Mgt Habitat T&E	3.1	Beach Restoration	Yes	VSFB
XUMUA53XX7119, Mgt Species T&E	3.2	T&E Plants	Yes	VSFB
XUMUA53XX7118, Mgt Habitat T&E	3.3	Point Conception	Yes	VSFB
XUMUA53XX7118, Mgt Habitat T&E	3.4	Post-Wildfire Restoration	Yes	VSFB
XUMUA53XX7119, Mgt Species T&E	3.5	Marine Mammals	Yes	VSFB
XUMUA53XX7119, Mgt Species T&E	3.6	Vernal Pool Fairy Shrimp	Yes	VSFB
XUMUA53XX7119, Mgt Species T&E	3.7	Pollinators	Yes	VSFB
XUMUA53XX7119, Mgt Species T&E	3.8	Reptiles and Amphibians	Yes	VSFB
XUMUA53XX7119, Mgt Species T&E	3.9	Biological Assessment Support	Yes	VSFB
XUMUA53XX7120, Mgt Invasive Species T&E	3.10	Invasive Species	Yes	VSFB
TFWYA53XX7120, Mgt Invasive Species T&E	3.11	Invasive Species	Yes	Pillar Point AFS
XUMUA53XX916, Monitor Wetlands	3.12	Monitor Wetlands	Yes	VSFB
XUMUA53XX6119, Mgt Habitat*	3.13	Rangeland	Yes	VSFB
XUMUA53XX6120, Mgt Species*	3.14	Bat Surveys	Yes	VSFB
XUMUA53XX6120, Mgt Species*	3.15	MBTA Support	Yes	VSFB

XX *in the project number represents the last two digits of the fiscal year the project is funded.*
** OPTIONAL tasks & follow-on periods are subject to funding availability.*

3.1 TASK 1: Beach Restoration

Purpose

The VSFB Beach Management Plan and Biological Opinion (1-8-05-F-5R) for Western snowy plover, a federally-threatened species, require dune habitat restoration. The restoration area occurs along the coastal dunes on VSFB.

Description of Objectives

The objective is to remove non-native ice plant and beach grass, which have significantly reduced available nesting habitat, and restore native vegetation to the treated areas, especially associated with special status plant species and sensitive cultural resource areas. The restoration areas under this task occur at Minuteman Beach (839 acres), from San Antonio Creek to the Santa Ynez River (Areas A, B, and C [372 acres]), Wall Beach (60 acres), and Purisima (60 acres) along the coastal dunes. In the follow-on periods of this agreement south Surf Beach is likely to be added.

Approximately 95-percent control of targeted non- native invasive species has been achieved within these restoration sites to date.

- From October to February conduct follow-up treatment of non-native iceplant and beachgrass within the restoration areas.
- All non-herbicide permits required for the work are complete and are managed by the VSFB Biologist.
- Improvement of snowy plover habitat and a reduction in invasive plants is needed in compliance with the *Plan for the Removal of Selected Invasive Plants from Western Snowy Plover Habitat at Vandenberg Air Force Base* (See References).

Qualifications

Qualified biologists familiar with Central California coast dune restoration and the flora and fauna of the area, as well as Western Snowy Plover habitat requirements and minimization measures (a minimum of three [3] years' experience) are required. Work cannot occur during the Western snowy plover or California least tern nesting seasons (March – September). Personnel require license/certification by the State of California to apply herbicides.

See Section 5, Herbicide Application Requirements.

Deliverables

- Meeting Notes and Monthly Status Reports.
- Draft and Final Annual Reports: should include GIS map and program recommendations.
- Draft and Final GIS Files: should follow VSFB GIO standards, include metadata, and properly document all project activities with relevant GIS information.

3.2 TASK 2: Threatened &Endangered (T&E) Plants

3.2a: T&E Plant Restoration

Purpose

Conduct recommended minimum follow up habitat restoration activities in north and south beach layia restoration areas and potentially reduced 35th Street Lompoc yerba santa site, and improve Vandenberg monkeyflower habitat near occupied sites and upwind sources. The purpose of restoration in each of these federally listed plant species habitat is to improve habitat quality for these endangered and threatened species to support and reach recovery goals. The efforts of restoration directly supports the USFWS's consideration to down list beach layia from federally endangered to threatened.

Description of Objectives

Implement Year 5 restoration of the north beach layia restoration area that comprises 651 acres based on recommendations from Year 3 restoration activities. Activities include control of iceplant and veldt grass as needed, outplanting, and monitoring as outlined in the Beach Layia

Workplan 2012. Restoration activities in the south beach layia site will focus on control of veldt grass.

Lompoc yerba santa restoration area at the 35th Street site will focus on control of veldt grass and iceplant. Both Lompoc yerba santa and Vandenberg monkeyflower restoration activities will be consistent with the Maritime Chaparral Management Plan (2018). Control of invasives such as veldt grass would be accomplished in the Priority 1 areas that includes 462.1 acres in Lake Canyon and 20.5 acres in Santa Lucia Canyon. Establish 10 photo monitoring locations with photos taken in each cardinal direction.

Continue the Clethodim phased project for Vandenberg monkeyflower, follow up with additional phases or treatments as recommended.

Continue monitoring piezometer water data and ecological analysis for Gambel's watercress as needed.

In the Base Year only, develop an AF Form 813 and complete a NEPA environmental analysis for proposed Phase 2 Clethodim activities as described in the Invasives Basewide Management Plan and most recent PBA/PBO. Prepare a preliminary draft for internal review, a public review draft with draft FONSI, and a final with FONSI. Work also includes preparing consultation documents for Government signature.

Those areas with restricted access due to UXO concerns will require coordination and possible escorting as needed.

Deliverables

Annual Restoration Reports (draft and final) shall be completed that summarize previous-year efforts, report on annual effort, and integrate previous-year results where relevant to report on cumulative progress and success of the site.

See Section 5, Herbicide Application Requirements.

***3.2b: Gambel's Watercress*:**

Purpose

Conduct a comprehensive aerial survey of Gambel's watercress (*Nasturtium gambelii*) along the extent of the unnamed tributary to San Antonio Creek east of Highway 1 to San Antonio Creek.

Description of Objectives

During the growing season locate, map, count (if possible), and document the extent of any known and previously undetected colonies of Gambel's watercress. Collect ecological data such as co-dominant and co-occurring species, natives versus non-native species present, percent canopy cover, and vegetation classification of the riparian plant community. Obtain topography,

hydrology, and soil data with limited foot access that characterize the stream and provide an understanding of these characteristics conducive to Gambel's watercress. Up to two off base occurrences may also be evaluated to understand the ecological requirements needed to support Gambel's watercress. A remote camera may be used to document any animal activity in the tributary. This information will be used as a baseline for future monitoring and other management activities.

Deliverables

Project deliverables would include a draft and final report no more than 30 pages. GIS data includes survey results, vegetation classification, and up to 3 additional ecological characteristics (e.g. topography, hydrology, soils.

3.2c: T&E Plant Species Surveys

Description of Objectives

The work shall involve annual protocol surveys including aerial method in suitable habitat for federally-listed species on base: Beach layia (*Layia carnosa*), Lompoc yerba santa (*Eriodictyon capitatum*), Vandenberg monkeyflower (*Diplacus vandenbergensis*), Gambel's watercress (*Nasturtium gambelii*), La Graciosa thistle, (*Cirsium loncholepis*) and Gaviota tarplant (*Deinandra increscens* ssp *villosa*). At least 1,000 acres each of Gaviota tarplant and La Graciosa habitat; 2,000 acres of Lompoc yerba santa and Vandenberg monkeyflower habitat; and 3,000 acres of beach layia habitat; species in similar habitat may be surveyed concurrently. Protocol surveys for each species shall be conducted systematically throughout VAFB during the optimal period (spring through fall) when characteristics have developed for definitive identification in suitable habitat. Travel will be required by four-wheel drive vehicle throughout the base. Aerial surveys may be used where efficiency is warranted. ArcMap GIS coverage of areas surveyed for and occupied by each species shall be completed. Approximate density may be recorded by stem count, transect sampling, or other appropriate methods based on site characteristics. Survey data supports development of recovery goals and helps to determine effectiveness of conservation and management activities. Where records on VSFB have not been documented prior to 2023, update California Natural Diversity Database (CNDDB) records with at least 300 meter accuracy or as applicable. New CNDDB entry occurrences are defined as ¼ mile from next nearest occurrence.

Deliverables

Project deliverables would include a draft and final report no more than 30 pages. GIS data includes survey results.

3.2d: T&E Plant Species Program Support

Description of Objectives

This work element supports proactive and responsible management of federally listed plant species plus candidate or other sensitive plants which appear to be on the trajectory toward listing.

Element A: Incorporate data for five federally listed plants on VSFB into the California National Diversity Database (CNDDB) per regulatory requirement and maintain any updates. Data prior to 2023 for occurrences not in CNDDB shall be entered with at least 300 meter accuracy or as applicable.

Element B: The work shall involve protocol surveys including aerial method in suitable habitat for at least 8 CNPS ranked 1A/1B.1 or other federal or state sensitive plants annually to establish occurrences and trends. Surveys will prevent or help downgrade federal listing. Protocol surveys for each species shall be conducted systematically in known and suitable habitat throughout VSFB during the optimal period (spring through fall) when characteristics have developed for definitive identification. ArcMap GIS coverage of areas surveyed for and occupied by each species shall be completed.

Element C: General federally listed and other sentitive plant species and habitat support. Provide public outreach for VSFB federally listed plant species and their habitats, develop informative pamphlets, other materials, and engage in activities for public events and displays. Update and refine vegetation map using the Manual of California Vegetation as needed with any change in conditions. From existing vegetation map with any updates, submit sensitive natural communities (S and G ranking) to CNDDB to meet regulatory requirements. Update the flora of Vandenberg and Point Conception using background lists from previous maps, lists, and data.

For tasks where applicable, travel will be required by four-wheel drive vehicle throughout the base. Aerial surveys may be used where efficiency is warranted. Information will be updated annually to maintain current data.

Deliverables

Project deliverables would include a draft and final report no more than 30 pages for surveyed species (Task B). GIS data includes survey results of occupied species and surveyed areas.

Provide a draft and final report for the update of the Flora of Vandenberg SFB.

Qualifications

Botanical expertise in California flora for at least 3 years including protocol surveys and mapping. Report writing skills to provide concise and accurate plant species accounts.

3.3 TASK 3: Point Conception Restoration

Purpose

This project will implement the Point Conception Property Restoration Plan that will improve habitat quality for federally endangered Gaviota tarplant and control or eradicate invasive plant species to levels that will allow for natural recovery. Control of extensive non-native invasives on the 30-acre property while introducing native plant diversity in a phased approach would improve habitat for wildlife and ecological diversity. The phased approach would also improve site aesthetics during implementation.

Description of Objectives

The Point Conception property will require phased treatment to implement the restoration plan to include extensive invasive plant species control and re-establishment of native species. The first priority is the treatment of iceplant and early treatment of several species that accumulate large quantities of biomass identified in the plan. Furthermore, the property is constrained by various factors such as cultural sites, the need for consideration of aesthetics during restoration, and implementation challenges such as the need for watering such a remote site. Based on the restoration plan, project activities would start Year 1 in Zone 5 to initially capture the 5.28-acre station entrance, an additional 4 acres of treatment to non-native invasive plants in other terrace zones, and the initial phase of the slope areas in Zone 7.

The tasks as described in the plan consists of:

- Seed collection
- Plant propagation
- Invasive species treatments of applicable target species
- Fog collector test
- Monitoring

Analyze and interpret the findings, and provide recommendations. With consent and coordination from adjacent property managers, The Nature Conservancy of the Dangermond Preserve, native seed may be collected on that property.

Qualifications

The Non-Federal Entity (NFE) shall provide personnel who are qualified to administer both the management and the logistics of this project, to include certified herbicide applicators.

See Section 5, Herbicide Application Requirements.

Deliverables

All digital images with metadata

- Monthly Status Reports
- Draft and Final project report

- Draft and Final GIS data

ESRI file geodatabase (see below for more details on GIS deliverable requirements).

3.4 TASK 4: Post-Wildfire Restoration

Purpose

After wildland fires, implement Burned Area Response strategies to aid in post-fire recovery.

Description of Objectives

Overall goals of this project are to implement and monitor effectiveness of erosion control measures, achieve 95 percent eradication of pampas grass, iceplant, and other invasive non-native plants in the priority areas in the fire area, and successfully establish self- sustaining native vegetation over 75 percent of the same area. Priority areas include sensitive habitats with threatened and endangered species habitat including but not limited to oak woodlands, maritime chaparral, and riparian woodlands, or steep terrain, places where runoff will be excessive, and fragile slopes above infrastructure and facilities. Invasives removal will be used to enhance the native habitat with low invasive cover in the fire area. Erosion control measures will be installed to control sediment and runoff. A report will be submitted summarizing the results of the analysis, weed removal, monitoring, and erosion control.

Project sites would be accessed during periods when roads are easily accessible and dry or when access will not cause erosion or road degradation. Equipment access would occur by driving on established roads. Access to steep slopes will be accomplished by foot.

- Pampas grass & invasives removal – year-round, as needed
- Monitoring of re-infestation and native species – Winter and summer
- Installation and monitoring of erosion control measures
- Survey and flagging special status plant species – Spring and summer
- Monitor special status wildlife habitat quality
- Reporting – as described below

Experience, observation, effective strategy and/or research for all TOs will be evaluated.

In the event of a wildfire any of the following objectives will be implemented:

Objective 1

Installation and monitoring of erosion control measures for one firebreak or drainage

Based on the burn severity, slopes, and soils of the wildfire area, erosion control measures will be put in place to reduce sediment yields where necessary. The firebreak or drainage area to be treated may be up to 50 feet wide and 100 feet in length with a greater than 30%

slope class. Prior to storms, the NFE will buy and install erosion control measures, such as wattles, weed-free straw mulch or bales, silt fence, erosion cloth, etc.

Purchase and placement of erosion control measures will be the responsibility of the NFE. In addition, post-storm monitoring to determine efficacy of erosion control measures will be conducted by the NFE.

Objective 2

Up to a 1,000-acre Wildfire - Survey and flagging special status plant species

Qualified biologists will conduct an initial survey for up to four (4) special-status plants. These may include but are not limited to, Marsh sandwort, Gambel's watercress, Vandenberg monkeyflower, and Lompoc yerba santa. Federally listed plants need to be mapped and basic metrics noted. In those areas selected for restoration/terrestrial wildlife habitat evaluation, flagging of special status plants will be needed in order to avoid trampling.

Pampas Grass & Invasives Removal, herbicide treatment

Patches of pampas grass and other non-native invasive plants noted after the fire will be manually removed or treated in up to 350 acres of priority areas such as oak woodlands, maritime chaparral, and/or riparian woodlands. Iceplant may be manually removed or treated if noted in areas observed with listed species or sensitive resources. Hand tools would be used for manual removal. Herbicide application would use a backpack sprayer in rugged terrain or ATV mounted spray equipment avoiding native plants. Avoidance of special status plants and wildlife (i.e. CA red-legged frog, vernal pools, nesting birds) will be necessary. Up to one acre of eucalyptus, pine, or cypress tree seedlings may need to be treated or removed manually as applicable. See Herbicide Use Requirements for additional details.

Monitoring of re-infestation and native species treatment

Monitoring will involve a maximum of 20 photo points in key locations. Each photo point will obtain four views in each of cardinal direction. Mapping areas of non-native plant cover and native cover prior to treatment would be accomplished to include estimates of coverage. Monitoring strategies and goals may be adapted to best accommodate conditions in order to attain goals. The annual goal is to eradicate 95% of the cover of non-native plants in up to 350 acres of priority areas such oak woodlands, maritime chaparral, and/or riparian woodlands. Successful establishment of self- sustaining native vegetation of over 75% may be accomplished by the end of the period.

Monitor special status wildlife habitat quality

Qualified biologists will evaluate federally listed wildlife habitat and quality of the habitat within the wildfire area. Since habitat types may support more than one federally listed

species, up to four habitat types may be monitored. Monitoring will be needed in order to assess whether installation of erosion control and additional drainage features are needed to prevent permanent loss of wildlife habitat or to determine the effectiveness of invasive plant removal. Federally listed wildlife habitat monitoring may include but are not limited to habitat for El Segundo blue butterfly, California red-legged frog, or vernal pool fairy shrimp. Other special status species habitat may also be considered such as pallid bat.

Report for 1,000-acre wildfire area

A draft and a final report will be completed summarizing the restoration activities and monitoring for a 1,000-acre fire area. A draft report will be submitted six weeks prior to POP end date. The final report and final GIS layers will be submitted as specified for the 1,000-acre wildfire including any updates. The report will be a maximum of 40 pages with 2 hard copies and one electronic copy. GIS data will be submitted with 2 CD copies.

Qualifications

The NFE shall provide professional personnel and supporting expenses (mileage, document preparation and publication) to include a project lead and technical support that includes the ability to; work closely with the Base and AFCEC POCs, identify indicated threatened and endangered species to map their occurrence, and be familiar with threatened and endangered species ecology sufficient to identify and document threats from invasive species.

The NFE shall ensure that only state certified, qualified, competent personnel carry out the tasks outlined in this SOW. Competent is defined as registered professional or, where registration is not applicable, trained and certified with a degree in a related field of study. Exceptions are administrative and support personnel who participate in document publication.

See Section 5, Herbicide Application Requirements.

Deliverables

Reports as described above.

GIS Formats: Draft and final GIS layers in compliance with Vandenberg GIS standards. GIS data will be formatted with metadata attribute fields specified by the CEIEA botanist and CES Planning to provide consistency with all submitted GIS plant species coverage and to provide data that is accurate, usable, and effective for endangered species management and recovery analysis. Hard copies and electronic copies of the draft and final report are required.

Deliverable Formats: All electronic documents are to be in Microsoft Office. All documents, including photographs and maps, are to be dated. Final electronic deliverables are to be in MS Word (*.docx) and Adobe Acrobat (*.pdf), unless otherwise specified.

3.5 TASK 5: Marine Mammals

3.5a: Marine Mammal Monitoring

For decades, VSFB has been monitoring pinnipeds (seals and sea lions), assessing for potential adverse impacts of rocket launches. In compliance with several Letters of Authorization (LOAs) from the National Marine Fisheries Service (NMFS), monitoring efforts have been conducted with two key methods: 1.) Annual population trends, accomplished by 10-12 surveys conducted approximately monthly, and 2.) Monitoring individual launches, usually funded by the specific launch proponent (SpaceX, United Launch Alliance, etc.).

Due to a significant increase in launch frequency (Table 2), and with expected changes in the LOA which we anticipate receiving in Spring 2024, a new strategy is needed that will change our focus to routine, but more frequent monitoring beginning in FY24 (Q3 or to be determined). Under the expected increasing launch tempo, it is possible that VSFB will be launching rockets as often as two or three times per week (primarily rockets in the "small" category -- less than 120 feet tall).

Year	Launch History (or forecast)
2014	5
2015	2
2016	3
2017	9
2018	9
2019	4
2020	1
2021	6
2022	17
2023	44
2024	(55)
2025	(75)
2026	(95)
2027	(110)

Table 2: Launch History and Launch Forecast, Vandenberg Space Force Base

This task will perform the monitoring to cover all requirements of the 2024-2029 LOA. It will also perform surveys for Southern sea otters (*Enhydra lutris nereis*) which were previously performed by the State of California or U.S. Geological Survey biologists.

Expected Tasks:

1.) Twice per month, conduct pedestrian surveys of key pinniped haul-outs on both North and South VSFB. Four sites in the north (Lion Rock, LF-06, Lion Head, South Spur Road) and 6 sites in the south (Harbor, Small Haul-Out 2, Harbor Seal Beach, Amphitheater, South Rocky Point, North Rocky Point) shall be surveyed biweekly. Point Conception shall be surveyed at least once per month.

a. These should, when possible, be scheduled in conjunction with afternoon low tides.
b. If necessary, permits are obtained, aerial photography from UAVs would be allowed and encouraged, especially for Rocky Point.
c. High powered binoculars and spotting scopes shall be used.
d. North base surveys can be conducted by an individual; South base surveys should be completed by two individuals, for safety purposes. In the attached IGE, this is calculated as 84 six-hour days (12 solo days, north base; 12 two-person days for sea otters, 24 two-person days for south base pinnipeds), plus 36 hours annually for reporting).

2.) Once per month (ideally twice), survey Purisima Point (and south to Spur Road or Wall Beach), Harbor and Sudden Flats for Southern sea otters.
3.) Informally report findings monthly, with more formal reports quarterly and a detailed annual report (no later than 30 January for the year concluding 31 December).
4.) Acoustic recording of as many as 15% of launches through the year (note: individual launch proponents will be required to monitor at least the first three launches of any new rocket type or from any new launch facility).
5.) As technology improves, NFE shall investigate and field test survey techniques during night and other low-light conditions.

Reporting requirements: No later than 30 January of each year, submit a draft and final written report that summarizes results of all surveys, including statistical trends. The report shall be in standard scientific reporting format, to include Executive Summary, Introduction, Methods and Materials, Results, Discussion and Literature Cited. The report should also include Management Recommendations and any changes recommended to methodology.

5.5b: Renewal of NMFS Letter of Authorization (Follow-On Periods 1 and 2 Only)

Description of Objectives

Assist Vandenberg SFB in developing its application to the National Marine Fisheries Service for renewal of its Letter of Authorization for incidental take under the Marine Mammal Protection Act. The application to renew is due in approximately October 2027 . Work includes assembling all records and reports of relevant information, analyzing potential effects in consideration of proposed mission activities, and preparing the draft application package. The level of effort is estimated as being similar to the annual updates to the Vandenberg INRMP.

Deliverables

Submit preliminary draft, draft, and final documents for VSFB review and for VSFB submittal to NMFS. Any geospatial data developed for this effort will conform to the Vandenberg data standards. Submit the preliminary draft in late 2026; incorporate comments and submit the draft in early April 2027, and the final in October 2027. Allow 30 days for Government review of draft documents.

3.6 TASK 6: Vernal Pool Fairy Shrimp

3.6a: Monitoring

Purpose

This work requires onsite field work located at VSFB, Santa Barbara County, California. The work shall involve determining the extent of upland habitat which affects vernal pools, protocol-level survey for shrimp in impacted pools, and annual impact assessment. Travel will be required by vehicle and by foot throughout approximately a quarter of the 100,000 acre base.

Description of Objectives

Determine the extent of upland habitat that contributes to the hydrology of vernal pools in order to refine protection areas for each vernal pool. Innovative technologies to determine hydrology of pools are reviewed in the References section.

Federally-listed vernal pool fairy shrimp were documented on VSFB in 2004. Wet and dry sample surveys for fairy shrimp were conducted between November 2004 and April 2006 in 222 wetland and wetland complexes on VSFB. Approximately 612 acres of potential habitat have been surveyed. There are 82 acres of occupied habitat. If weather conditions aren't appropriate, dry season sampling may be conducted.

Conduct follow-up protocol-level shrimp monitoring at impacted pools and determine restoration responsibilities. Conduct restoration activities, to include mapping of pools and application of herbicide treatments to non-native species impacting vernal pools. Restore additional pools if funding is available.

Conduct jurisdictional wetland delineation of vernal pools. Some 612 acres of vernal pools exist. Approximately half of this area would require delineation and jurisdictional determination.

Ensure proper procedures and minimum standards are followed to ensure a jurisdictional determination can be determined by the Army Corps of Engineers (http://www.spk.usace.army.mil/Missions/Regulatory/Jurisdiction/Wetland Delineations.aspx).

Qualifications

Primary field technician and project manager will be experts in the fields of vernal pool hydrology, wetland flora, and vernal pool fairy shrimp and have at least three years' experience. Primary field technician for shrimp surveys will likely require 10(a)(1)(A) permit for vernal pool fairy shrimp. Wetland delineation will need to avoid the wet season to ensure no adverse effects to listed species. Herbicide applicators must be licensed.

Deliverables

- Meeting Notes and Monthly Status Reports
- Draft and Final Annual Reports: should include GIS map and program recommendations.

- Draft and Final GIS Files: should follow VSFB GIO standards, include metadata, and properly document all project activities with relevant GIS information.
- US Army Corps of Engineers Preliminary Wetland Delineation Report/Form: prepare needed documentation for a jurisdictional determination from the Corps, who must review and verify results of wetland delineation.

3.6b: Vernal Pool Restoration

Purpose

Per the Programmatic BO, this project will restore impacted habitats at a 1:1 or 5:1 ratio depending on extent of disturbance. Work includes survey, evaluation, reevaluation, and/or monitoring of impacted and/or mitigation pools, totaling approximately 110 pools.

Description of Objectives

Perform habitat management activities necessary to 1) achieve the goals and objectives of an approved INRMP; and 2) achieve Endangered Species Act requirements within the VSFB Programmatic Biological Opinion and VSFB Endangered Species Management Plan for the threatened Vernal Pool Fairy Shrimp (VPFS). Work includes inventory, survey, and monitor or otherwise manage habitats that support endangered, threatened, rare, sensitive or keystone flora or fauna species.

The project will also examine required hydrological components to define extent of areas to be protected (using ground penetrating radar and RTK GPS technologies). This species is a high-risk management concern at Vandenberg because VPFS are found in cryptic habitat and almost exclusively within the developed cantonment area. Further, six occupied and "unoccupied but suitable" vernal pools were detrimentally impacted between FY12-FY15 by mission-related activities.

Qualifications

Primary field technician and project manager will be experts in the fields of vernal pool hydrology, wetland flora, and vernal pool fairy shrimp and have at least three years' experience. Primary field technician for shrimp surveys will likely require a 10(a)(1)(A) permit for vernal pool fairy shrimp.

Deliverables

- Meeting Notes and Monthly Status Reports
- Draft and Final Annual Reports: should include GIS map and program recommendations.
- Draft and Final GIS Files: should follow VSFB GIO standards, include metadata, and properly document all project activities with relevant GIS information.

3.7 TASK 7: Pollinators

3.7a: ESA Butterfly Habitat

Purpose

Conduct habitat restoration within occupied or suitable habitat for the *Euphilotes* butterfly (previously known as the El Segundo Blue Butterfly at Vandenberg). Restoration offsets routine impacts of mission activities conducted by the 30th Space Wing and certain other organizations.

Description of Objectives

Enhance and restore eight (8) acres of potentially suitable habitat for special status invertebrates on VSFB, targeting the *Euphilotes* butterfly , which relies on seacliff buckwheat as its host plant. Activities shall include seed collection, propagating seedlings, planting, and monitoring activities that evaluate success of management activities.

- VSFB has been conducting restoration for several years, investigating the most economically efficient means of restoring butterfly habitat. Actions may be conducted by California Conservation Corps or similar group, though all individuals must be US citizens.
- At least 7.5 acres shall be chemically treated to kill invasive species in an area that has at least 80% cover of invasive plant species. Work is expected at several locations, to be agreed upon by VSFB POC and the NFE.
- Plant seedlings, representing a mosaic of dune community plants, at the appropriate time of year to maximize likelihood of successful establishment.
- Utilize methodologies for successful dune restoration.
- Collect native seeds at the appropriate time of year to propagate seedlings, in accordance with professional and scientific methodologies. Use of seedling starts sourced from other local sources shall require pre-approval from VSFB. Establish agreement with local nursery or other facility to propagate seedlings prior to revegetation. Seacliff buckwheat and other native species will be planted, at densities to be agreed upon by the project manager and VSFB POC. Buckwheat seedlings must be at least 2 inches tall prior to planting, and VSFB recommends use of 6-inch "supercells." Seedlings must be watered once; in certain drought conditions, one additional watering may be required.
- Follow-up actions, including both chemical and mechanical treatments of previous restoration sites will be included, in accordance with discussions between the government and the NFE, post award.

Ensure negative impacts to *Euphilotes* butterfly are minimized. The goal is to provide 90% removal success of invasive plants and achieve resistance to future invasion by invasive species through plantings.

- Any findings of the *Euphilotes* butterfly shall be reported to a Vandenberg POC. Surveyor reports must receive an AF review before sharing results of work with anyone outside of the VSFB *Euphilotes* butterfly Task Team.

Qualifications

Seacliff buckwheat seed collection must be accomplished by a USFWS-approved biologist.

Project manager should have at least three years of experience with dune restoration and *Euphilotes* butterfly habitat restoration.

See Section 5, Herbicide Application Requirements.

Deliverables

- Monthly Status Reports
- Draft and Final Annual Reports: should include GIS map and program recommendations.
- Draft and Final GIS Files: should follow VSFB GIO standards, include metadata, and properly document all project activities with relevant GIS information.

3.7b: ESA Butterfly Surveys

Purpose

Survey for new populations and monitor existing populations of *Euphilotes* butterfly, including searching for new and monitoring known populations on lands managed by other entities. Surveys off installation should enhance knowledge of populations and species distribution, lessening the Space Force burden.

Description of Objectives

Conduct invertebrate surveys of sensitive natural resource areas on VSFB and nearby lands, to include visual surveys, focusing on the *Euphilotes* butterfly. Approximately 300 hours of survey effort per year are expected.

Euphilotes butterfly surveys shall include future and past project sites at VSFB, regardless of habitat quality, that are required by various VSFB regulatory documents and identified by the project manager. Regulatory documents include, but are not limited to, the Programmatic Biological Opinion, the Section 404 Permit for San Antonio Creek Construction Project, and the Section 404 Permit for the 13th Street Bridge Replacement. NOTE: The Regulatory documents are subject to change with new projects and associated Biological Opinions. The NFE shall visually survey in sensitive areas and with nets in designated areas.

It is known that *Euphilotes* butterfly currently occupies approximately 1,797 acres of the 99,400 acre installation.

Qualifications

An individual(s) who is permitted to collect voucher specimens from all habitats in Santa Barbara, San Luis Obispo, Ventura, and Los Angeles counties is required. The NFE may also

need to provide an escort who maintains a 10(a)(1)(A) Recovery Permit for appropriate species during *Euphilotes* butterfly survey efforts such as permits for federally-listed species Western snowy plover and the California least tern. Any findings of the special status invertebrates shall be reported to the Natural Resource Manager to ensure proper notification. Surveyor reports and findings must receive an AF review before sharing results of work with non-AF personnel.

Deliverables

- Monthly Status Reports
- Draft and Final Annual Reports: should include GIS map and program recommendations.
- Draft and Final GIS Files: should follow VSFB GIO standards, include metadata, and properly document all project activities with relevant GIS information.

3.7c: Monarch Butterfly

Description of Objectives

Conduct a minimum of three comprehensive basewide surveys annually (Oct, Nov, Jan) of all known overwintering sites (currently at 33 sites). Accomplish overwintering habitat assessments as needed (as many as 15-20 per year). Locate and map milkweed opportunistically, integrating data obtained from other sources. Cooperate with external researchers to facilitate data collection and analysis. Submit the draft annual report and GIS files in March of each year; incorporate comments and submit the final at end of May each year.

3.8 TASK 8: Reptiles and Amphibians

3.8a: California Tiger Salamander

Purpose

This work requires, approximately every 3 years (but must also include consideration of numerous weather factors), the completion of protocol surveys at a number of sites selected and agreed upon by the government in cooperation with the NFE, to assess for presence of the California tiger salamander (*Ambystoma californiense*). The government strongly encourages considering the implementation of this survey including at least some inclusion of Environmental DNA (eDNA).

Description of Objectives

If the eDNA approach is not used, the NFE shall conduct protocol surveys in suitable habitat within priority areas to replicate our recent efforts to search for this species approximately every three years. The potential use of eDNA techniques may alleviate the need for weather conditions that have allowed for (or prevented) these surveys in prior years. The government recognizes that eDNA remains an "emerging technology," and it is uncertain if results from that technique will be completely sufficient to answer all required questions.

Discussions and recommendations on potential actions related to the known presence of barred/western tiger salamanders on nearby lands can also be included, at the discretion of the government following discussions which may include the government, the NFE and the US Fish and Wildlife Service or California Department of Fish and Wildlife.

Qualifications

- Primary field technician shall have at least three (3) years' experience surveying for listed species found on VSFB or have extensive education and/or academic experience surveying for rare plants in California.
- USFWS permits will be required, to include the potential to adversely affect California red-legged frogs while engaging in tiger salamander surveys.

Deliverables

- Monthly Status Reports
- Draft and Final Reports: should include GIS map and program recommendations.

Draft and Final GIS Files: should follow VSFB GIO standards, include metadata, and properly document all project activities with relevant GIS information.

3.8b: Reptile and Amphibian Surveys

Description of Objectives

Perform protocol-level field surveys (as applicable) at Vandenberg SFB for the Southwestern Pond Turtle (*Actinemys pallida*), Arguello Slender Salamander (*Batrachoseps wakei*), and Western Spadefoot Toad (*Spea hammondii*). The large majority of this work will occur during daylight hours, primarily in and near riparian areas for two of the three species (*B. wakei* is the exception, it has very limited coastal distribution on south VSFB). Spadefoot surveys may include recording and playback methods (until/unless the species is federally listed). SWPT surveys may include limited capture (until/unless the species is federally listed). Level of effort to be determined in consultation with 30 CES/CEI but not to be less than 120 person-hours for each species per year; plus additional time for data analysis and reporting.

3.8c: California Red Legged Frog (CRLF)

Purpose

Update the distribution and relative abundance of CRLF (*Rana draytonii*) on VSFB property. Conduct focused multi-generational CRLF surveys, to determine the presence and relative abundance of the species. The primary focus area and work effort can be determined at project kick-off each year; if all of the smaller drainages cannot be surveyed OR if additional areas can

be added with the available funding, a scope modification must be completed and approved by the GO).

Description of Objectives

Use established, peer-reviewed methods and protocol-level surveys to meet study objectives. Identify threats to the population and investigate the reasons for unoccupied suitable habitat. Assess potential temporal and geographic variation in chytridiomycosis (chytrid fungus, *Batrachochytrium dendrobatidis, Bd*) infection on VSFB. Test CRLFs and bullfrogs encountered during surveys for Bd. Bd testing shall include standard swabbing techniques to collect skin tissues for standard quantitative Polymerase Chain Reaction (PCR) analysis (Boyle et al. 2004). Lethally remove non-native bullfrogs (*Lithobates catesbeianus*) found within the project areas.

Provide analysis of CRLF populations found on Vandenberg Space Force Base, including dispersal distances, phenology and seasonal use patterns. Compile and analyze previously collected data, which must be digitized into ArcGIS for spatial analysis. Results from the analysis will be provided in a white paper.

Qualifications

The federally-listed unarmored three-spine stickleback, tidewater goby, southern steelhead, and Southwestern willow flycatcher, among others, may occur within CRLF habitat on VSFB.

Surveys shall follow avoidance measures to avoid adverse effects to other species and in some cases (netting tadpoles as an index to frog productivity) surveyors will require a 10(a)(1)(A) permit to cover capture of non-target listed species. Performance of the required Bd testing for CRLF will also require a 10(a)(1)(A) permit.

Project manager should have at least three years of academic or professional experience managing federally listed species in California. Primary field technician should have at least five (5) years' experience conducting surveys for CRLF.

The NFE shall demonstrate the ability to meet all preferred qualifications in their proposal justification.

Deliverables

NFE shall prepare a single monthly project status report for all projects that describes accomplishments, next steps, and any problems encountered or imminent. Submit the report monthly on a date that approximately coincides with invoicing such that the report supports the invoice. Deliverables for all projects shall include draft and final annual activity reports that include cumulative information from past efforts to provide background and analyze success to date. All reports and project shall include GIS deliverables where appropriate, formatted using Vandenberg GIO standards.

3.9 TASK 9: Biological Assessment Support

Purpose

This deliverables-based project supports Vandenberg AFB in its compliance with the Endangered Species Act by performing site visits and proposed project reviews to assess potential effects, and preparation of biological assessments and PBO pre-notifications. This work requires onsite support located at VSFB, Santa Barbara County, California.

A four-wheel drive vehicle will be needed for travel to sites throughout the 100,000 acre base.

Description of Objectives

Complete ESA Section 7 Biological Assessments (BA) and pre-notification packages under Vandenberg's existing Programmatic Biological Opinion (PBO, 8-8-09-F-10, see Section 11).

- BAs should be written in accordance with an approved format (examples available post award), and typically require at least two drafts before submission by the government to USFWS. BA's will frequently exceed 25 pages in length, but should normally not exceed 40 pages. Several meetings between the NFE and VSFB POC are usually required to ensure that the draft BA includes an accurate project description, reasonable "proposed minimization measures" and "status of the species," among other sections.
- PBO Pre-Notifications are typically less than 5 pages in length, including maps and photos, and follow an agreed-upon format (template available post award).

Complete biological surveys for all federally-protected species and their habitats in the affected action areas for each Section 7 BA or pre-notification package, which will likely occur at multiple project sites.

Qualifications

Primary author must have at least three years' experience writing Section 7 documents with the complexity typical of Vandenberg's consultations. Surveys, depending on effort and need, may require biologists with 10(a)(1)(A) permits. Consultations and surveys may be required on any species known to occur on or adjacent to Vandenberg property, though often are limited to California red-legged frog, western snowy plover, California least tern, southern steelhead, unarmored threespine stickleback, tidewater goby, beach layia, vernal pool fairy shrimp, and Vandenberg monkeyflower.

All communications with regulatory agency are restricted to VSFB government POC; the NFE will not communicate directly with regulators as Section 7 is a government-to- government process. The Space Force will maintain control and review any documents prepared by the NFE; and will be responsible for signing and submitting documents to any government agency.

Deliverables

Draft and final survey reports, biological assessments, and pre-notifications.

3.10 TASK 10: Invasive Species

Purpose

Protect natural plant communities by identifying and eradicating invasive non-native plant species.

Description of Objectives

The NFE shall evaluate and implement eradication methods that will avoid native vegetation and sensitive biological resources. This project would implement the invasives Basewide Management Plan during the 5-year phase.

Remove invasive plant species in high priority areas with pampas grass (*Cortaderia* ssp) and perennial veldt grass (*Ehrharta calycina*) that directly impact state- and federally- listed T&E species, sensitive habitats, and upwind locations. High priority areas directly impact and reduce listed species (i.e., Lompoc yerba santa, vernal pool fairy shrimp, *Euphilotes* butterfly and their habitats. This may cover at least 50 acres of removal effort.

Perform treatment of invasive weeds in at least additional 50 acres of ponded or riparian areas.

Herbicide use in ponded or flowing water shall follow VSFB's National Pollutant Discharge Elimination System (NPDES) permit and current Aquatic Pesticide Application Plan (APAP) for targeted plants, herbicides and methods, monitoring and reporting including sampling and analysis, and QA/QC requirements. The plan supports the NPDES permit. Deliverables shall include all reports specified in the APAP and NPDES permit.

- Approximately 75 to 80% of the removal effort shall focus on high priority areas and invasive species.
- Approximately 20 to 25% of the removal effort shall focus on outlying low-density areas to prevent the invasive spread especially from upwind sources.
- Eradicate pampas grass and veldt grass annually from important habitats consistent with the 5-year phase priority.

Provide early detection to reduce and control new invasives or invasives other than pampas grass and veldt grass that threaten sensitive habitats. Prevent small populations of invasive species from becoming base-wide concerns.

- Eradicate species consistent with the 5-year phase priority on at least 50 acres. Invasive exotic plants such as yellow star thistle (*Centaurea solstitialis*), giant reed (*Arundo donax*), and Sahara mustard (*Brassica tournefortii*) are present on VSFB with populations in riparian woodlands, native grasslands, and other sensitive habitats.
- Early detection and response in sensitive plant communities reduce impacts to state- and federally-listed species and their habitats. Invasive plant species shall be removed from sensitive habitats and T&E species habitats where new or

expanding populations of invasives are found, using methods appropriate to the site.

- Methods shall include mechanical, chemical, manual, or biological methods or a combination of these techniques based on United States Department of Agriculture (USDA), academic, or published literature recommendations by species and site condition.
- Transport of crew may be via small helicopter to remote locations to reduce impacts to vegetation and sensitive resources.

Objective is to successfully kill 90% or more of invasive species within a treatment area.

Monitoring: Eradicate weeds, map areas treated/removed, complete photo points, and conduct recurring monitoring of those areas treated in the current year and in previous years in order to determine future treatment and report on success

Qualifications

Primary field technician shall have at least three (3) years' experience working in central California coastal ecosystems controlling invasive plant species and avoiding impacts to at-risk species. Personnel will require license/certification by the State of California to apply herbicides.

See Section 5, Herbicide Application Requirements.

Deliverables

Provide GIS data showing infestations and treatment areas, a technical report describing work performed, and monthly pesticide reports.

3.11 TASK 11: Invasive Species (Pillar Point AFS)

Purpose

This project will focus on highly invasive pampas grass (*Cortaderia* ssp) removal and continue follow-up treatment and removal of priority non-native weeds on 30 acres at Pillar Point Air Force Station (AFS). The project will implement the 2017 Habitat Restoration and Maintenance Plan and will involve coordination with the VSFB POC. The goal is to provide a greater than 99% removal success of invasive plants in areas initially treated in previous years by chemical and manual methods installation wide. The project supports INRMP goals to maintain and enhance the ecological integrity of sensitive habitats, restore ecosystem function and biodiversity, and increase control of target invasive species. Deliverables include monthly, quarterly, and one final report with figures and final GIS coverage. Only DOD-approved herbicides will be used on non-native plants only.

On occasion there might be a requirement to complete a survey for sensitive flora or fauna at Pillar Point AFS. Should this occur without additional funds being secured, a portion of the effort for Invasive Species would be diverted to perform the survey. This redirected effort would

be coordinated during the annual kickoff meeting at the start of the period of performance for the base or a follow-on period.

Description of Objectives

The objectives are to reduce the impacts of invasive species to sensitive habitats and species as well as decrease the potential for reinvasion of treated areas.

This task consists of:

- Invasive plant species control will involve removal of priority invasive exotic plants in accordance with 2017 Habitat Restoration and Maintenance Plan such as *Cortaderia jubata* (jubata grass), *Delairea odeorata* (cape ivy), *Foeniculum vulgare*, etc. Evaluation and implementation of eradication methods will be directed to avoid native vegetation and sensitive biological resources. Update existing GIS maps and development of new GIS maps as needed. Monitor using existing photo points.
- Provide quarterly updates and develop a Draft and Final project report.

Qualifications

Primary field technician shall have at least three (3) years' experience working in central California coastal ecosystems controlling invasive plant species and avoiding impacts to at-risk species. Personnel will require license/certification by the State of California to apply herbicides. See Section 5, Herbicide Application Requirements.

Deliverables

All digital images with metadata

- Monthly Status Reports
- Draft and Final project report
- Draft and Final GIS data

ESRI file geodatabase (see below for more details on GIS deliverable requirements).

3.12 TASK 12: Monitor Wetlands

3.12a: Wetlands Clean Water Act (CWA) Permit Support

Purpose

Implement required elements of active CWA 401 and 404 Permits and associated Compensatory Mitigation and Monitoring Plans (CMMP) at VSFB such as federally- listed species surveys, habitat restoration, invasive weed eradication, habitat mapping, and erosion control activities.

Description of Objectives

The 13th Street Bridge replacement project will complete its final year of extended 404/401 permit requirements. Final permit activities and final report shall be completed. The San Antonio Bridge Maintenance will complete its final year (Year 5) of its permit requirement; final permit activities and a final report shall be completed. Install and maintain willows, oaks, and associated plants in Lake Canyon as needed.

Conduct required surveys to collect information necessary to support one full (1) application for new CWA 401 and 404 Permits, which includes development of Wetlands Report, Biological Assessment, and a 5-year Compensatory Mitigation and Monitoring Plan (CMMP).

Work may include federally-listed species surveys, wetlands delineation, description of vegetation and habitat types, soil descriptions, determination of temporary and permanent impacts to Waters of the U.S and Jurisdictional wetlands and non-jurisdictional riparian areas, quantify jurisdictional and non-jurisdictional habitat enhanced, created, restored, and/or preserved, plus habitat and jurisdictional waters mapping, and develop monitoring and maintenance activities with monitoring and reporting requirements.

See Section 5, Herbicide Application Requirements.

Deliverables

Prepare CMMP reports will be provided for the following:

- 13th Street Bridge Replacement Final Annual Report (due May 2025) consistent with 404 and 401 permits;
- San Antonio Bridge Maintenance Year 5 Annual Report consistent with the 401 permit (due May 2025);

3.12b: Site Evaluations

Support ten on-call brief evaluations of proposed projects presented in 332's that may affect potential jurisdictional waters. A very brief evaluation with summary feedback to CEIEA will determine whether or not future analysis is needed. Proposed projects requiring site visits may include culvert repairs, water pipe repairs, cable repairs, or other basewide projects that may cross riparian areas, drainages, or pools. If further analysis is needed on any project, at least-two wetland analyses may be conducted with delineations and a report with a 5-year Compensatory Mitigation and Monitoring Plan for up to 0.25 ac of impacted waters of the state per site.

3.12c: Eelgrass Survey

Provide Status and Trends Eelgrass survey and report as specified in the Vandenberg Harbor Maintenance Dredge Eelgrass Monitoring Plan to support 404/401 Harbor Dredge permit. Eelgrass survey activities during non-dredge years include kayak-based acoustic survey using a hull-mounted 455/800 kHz side scan sonar (or similar). Surveys will be performed parallel to the shore along two designated parallel 400-ft survey transects. Prepare and submit a draft and final technical report.

3.12d: Five-Year Sediment Sampling (Follow-On Period 2 only)

Conduct sediment sampling at the boat harbor in August 2027 to support 404/401 Harbor Dredge 10-year permit to 2032. Sampling every 5 years will be based upon the approved 2022 Sampling and Analysis Plan (SAP) and a report of the results will be provided in the SAP report (SAPR). Personnel will collect sediment from six (6) sampling stations within the 3.5-acre dredge maintenance area. A single composite of the six station samples will be prepared and sent to a certified analytical laboratory for metals analysis and grain size. Field scientists will record collection information specific to sediment samples and include sample descriptions, photos, coordinates, and water depth. Samples shall be processed and prepared for lab transfer and equipment decontaminated. Laboratory analysis will include analysis for grain size, ammonia, total organic carbon, total solids, Mercury, and other metals (USEPA 6020). Data quality assurance and quality control will be conducted. The SAR will be submitted based upon the 2021 SAP/R Guidelines as outlined in the SAP. The report is not expected to exceed 20 pages with a draft submitted in late September and final report due 15 October 2027. Technical support may be needed for November 2027 presentation to Southern California Dredged Material Management Team.

3.13 TASK 13: Rangeland (OPTIONAL-Cost Ceiling (base year) $493,333.00)

Note: This is a medium priority project that may be unfunded in the base year or any other follow-on period. The cost proposal for the base and each follow-on period should identify the cost for this task so it can be awarded independently of any other tasks.

Purpose

Monitor agricultural production and its effects on the natural resources of VSFB. Conduct a visual assessment of conditions on Vandenberg rangelands, and analyze rangeland trends.

Description of Objectives

Binders will be provided by VSFB for 7 seven management units and cropland monitoring sites. Aligning monitoring with historic methods would provide a comparable record of vegetation history so that rangeland trends can be properly tracked over time.

At 121 different sites, complete photo point monitoring checklist and take one photo at each point of the compass (recreating photos in binder), rangeland habitat health monitoring checklist, estimate of vegetation coverage by species, estimate of residual dry matter, and Rangeland Similarity Index.

At 17 different sites, complete a cropland photo monitoring checklist and take 1-6 photos per point (recreating photos in binder). Methods of monitoring may require adaptation to best align goals with collected data.

Photos and data tables will be hyper-linked to the corresponding GIS spatial layer.

Analysis of rangeland trends in comparison/response to precipitation and grazing

Additional tasks (not more than one per year) as requested, which may include

Compile 40 years of animal stocking densities, utilizing an Air Force supported program, from hard copy and Microsoft Excel. This product will need to be searchable to allow for analysis of stocking densities and durations for the different Management Units, pastures. This product will need to be required to be updated monthly by the Air Force after delivery.

- digitization and organization of historical data, identification
- re-creation of historical photos to show landscape changes, design,
- collecting and analyzing plant species for forage suitability, nutrient content,
- literature reviews of plant species as it pertains to forage suitability, nutrient content, palatability, growth and production

Qualifications

Primary field technician and project manager shall have previous experience conducting rangeland monitoring (at least three [3] years' experience). Extensive academic or professional expertise in the field of California rangeland management is preferred as California rangeland systems are ecologically complex and unique within the United States.

Deliverables

- Meeting Notes and Monthly Status Reports.
- Draft and Final Annual Reports: include GIS maps and program recommendations.
- Draft and Final GIS Files: follow VSFB GIO standards, include metadata, and properly document all project activities with relevant GIS information.

3.14 TASK 14: Bat Surveys (OPTIONAL-Cost Ceiling (base year) $75,000.00)

Note: This is a medium priority project that may be unfunded in the base year or any other follow-on period. The cost proposal for the base and each follow-on period should identify the cost for this task so it can be awarded independently of any other tasks.

Description of Objectives

Perform bat acoustic surveys using up to 12 Government-provided devices at approximately 36 locations to provide data to the North American Bat Monitoring Program (NABat). The stations use the SM4 bat recorders from Wildlife Acoustics. Work includes setting up the stations and verifying operating condition, cannibalizing parts if needed from an excess station. The stations may require replacement SD cards (128-512GB) and D-sized batteries.

Follow the NABat Monitoring Protocol at 9 grid cells, using 2-4 monitors per grid cell for 4 nights per year at locations per the NABat protocol manual. Eight grid cells are shown in the figure below; Point Conception is in the ninth cell.

General NABat info: https://www.nabatmonitoring.org/

Submit the recordings to NABat / Bat Conservation International for analysis at no cost to the government or the NFE (with the exception of minimal postage costs; primary data can be submitted electronically).

At some future point the survey locations and methods may shift from NABat protocols to other locations at Vandenberg, but with a comparable level of effort.

Deliverables

Upload the data files to NABat for analysis within 21 days following fieldwork, then use the resulting information to prepare a summary report that describes the field methods, locations, findings, analysis and recommendations. Submit preliminary draft, draft, and final documents for VSFB review. Submit geospatial data in conformance with the Vandenberg data standards.

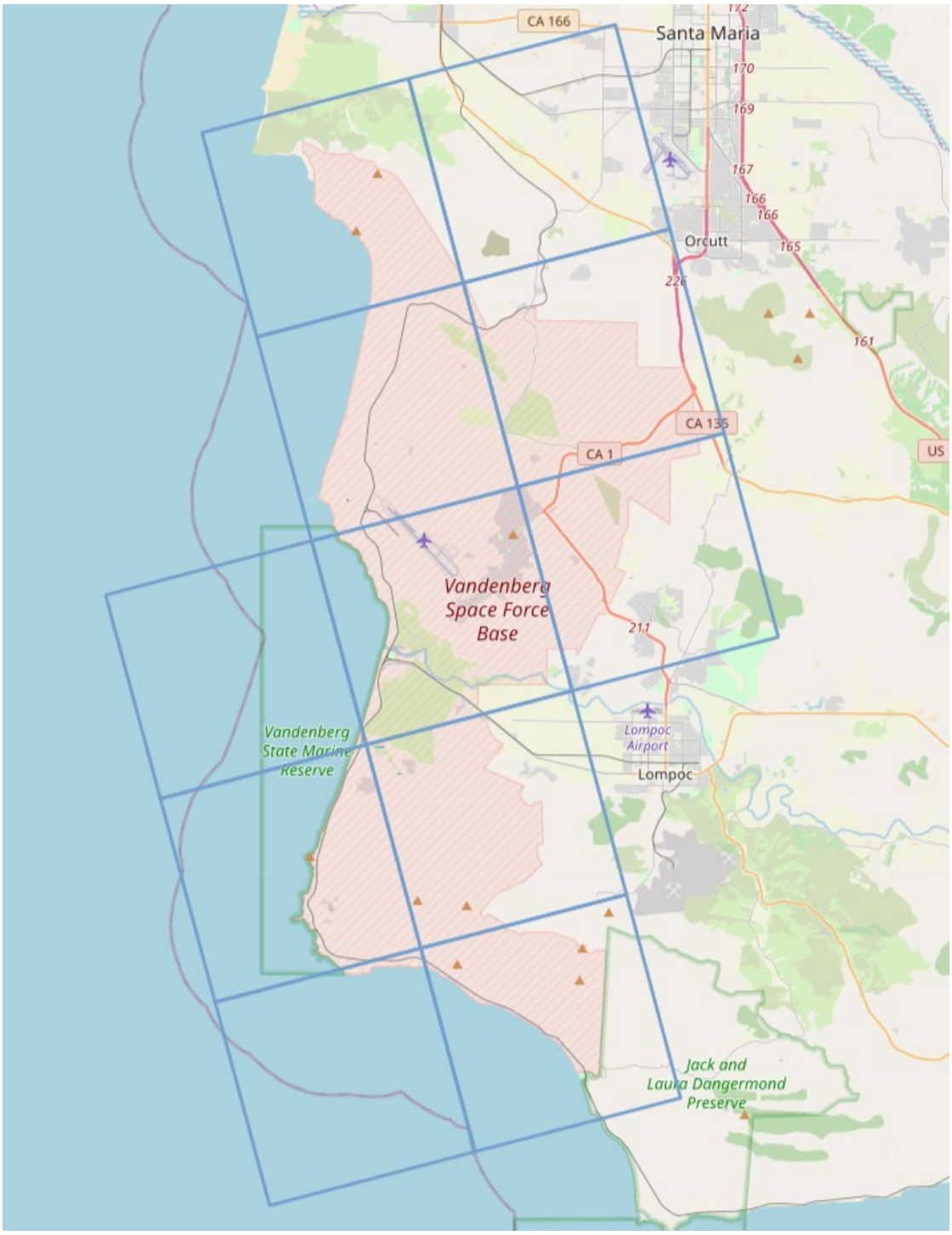

Figure 1 NABat Grid Cells (does not include Point Conception)

3.15 TASK 15: Migratory Bird Treaty Act (MBTA) Support (OPTIONAL-Cost Ceiling (base year) $8,000.00)

Note: This is a medium priority project that may be unfunded in the base year or any other follow-on period. The cost proposal for the base and each follow-on period should identify the cost for this task so it can be awarded independently of any other tasks.

Purpose:

Perform surveying and reporting of nesting birds at Vandenberg SFB to meet INRMP goals and objectives and to comply with the Migratory Bird Treaty Act. A qualified biologist is required to examine trees scheduled for trimming or removal; ideally observe the tree from a distance with binoculars and then slowly approach and examine the tree closely to detect active nests (with eggs and/or hatchlings present). Inactive nests can be removed. If active nests are detected, a further analysis to determine the species of bird is required; if the species is protected by the MBTA, that tree cannot be removed until the young have fledged. A large majority of bird species nesting on VSFB are protected by MBTA.

Description of Objectives:

The NFE will provide support to perform surveys for nesting birds at or near locations of interest where other work is proposed to occur, such as along firebreaks prior to annual maintenance. The work locations are not known at this time; they are usually identified as infrastructure or facilities maintenance work requests are submitted and processed. The expected level of effort is three surveys per month over seven months, each requiring four to eight hours of survey.

Qualifications:
The Primary field biologist shall have at least five years' experience conducting point count surveys and be able to accurately identify upland and riparian birds by sight and audibly, and estimate distance and direction using common field instruments.

Deliverables:

Submit the results in a summary email report to include table and text, a map depicting the area surveyed with labeled points, and a few photos that depict the area. GIS deliverables are not required, and points and polygons can be recorded using a cell phone application or recreational grade GPS unit. Include management recommendations to avoid or minimize effects to nesting birds.

4.0 QUALIFICATIONS

The NFE shall possess the ability to perform tasks described in the statement of objectives. The Principal Investigator shall have experience directing the efforts of the project team. NFE personnel shall have the technical experience, the field implementation experience, any required state and federal certifications, and any required state or federal handling or application permits likely to be used in this project.

The NFE shall ensure that project activities, project reports, and project data are professionally executed with minimal errors.

5.0 HERBICIDE APPLICATION REQUIREMENTS

The following stipulations apply to the use of herbicides under any of the subtasks in this statement of objectives.

- Herbicide Application Requirements: Provide all labor, tools, equipment, test equipment, PPE and clothing, material and parts, transportation and other incidentals necessary to travel to the installation, to spray areas within the installation and immediately adjacent land areas with herbicides to kill herbaceous and woody weeds, and all other services in accordance with the agreement. Storing and mixing of pesticides shall not occur on Vandenberg SFB; these must be done off-base. Work shall be prioritized by the VSFB POC and may include, but is not limited to, services to eradicate vegetation and/or weeds in turf grass and natural areas.

- All herbicides and herbicide application shall comply with DoDI 4150.07, DoD Pest Management Program; AFMAN 32-1053, Integrated Pest Management Program; the VSFB Integrated Pest Management Plan; Armed Forces Pest Management Board (AFPMB) list of Approved herbicides; and the State of California Pesticide Regulations, and be registered for use in the State of California. A list of those herbicides requested to be used must be submitted to the VSFB POC NLT 30 calendar days after award and must be coordinated through the HazMart.

- Provide the Installation Pest Management Coordinator (IPMC) a list of all herbicides (with SDS and labels) at least 15 calendar days prior to application. If use of a non-standard herbicide is preferred, the NFE shall submit an AF Approval Request Form for Non-Standard Pesticides to the IPMC 30 calendar days prior to application. Any non-standard herbicides must have command approval prior to use and will require a longer approval period.

- Herbicides shall not be applied at, near, or over waters of the U.S or within 15 feet of ponded wetlands (or surface waters). Glyphosate herbicide formulations approved for aquatic use (such as Rodeo) shall be used when controlling pampas grass near vernal pools according to the EPA pesticide label. Additionally, glyphosate application near vernal pools shall only occur during the dry season when soil is dry.

- Only personnel licensed/certified by the State of California shall apply herbicides. Copies of all herbicide application certifications shall be provided to the VSFB POC within 30 calendar days after award. Licensed/certified personnel performing herbicide application shall submit their herbicide certification information and coordinate with the IPMC. All licenses/certifications must be in the proper category of the type of work being performed. Qualified Applicator Certificate, Qualified Applicator License, and Pest Control business license copies are to be provided to the IPMC at the beginning of the agreement and with every follow-on period.

All pesticide applications shall be reported monthly to the IPMC electronically. IPMC will provide the appropriate form for the NFE to complete by the 5th day of the month for the prior month's applications. Monthly herbicide reporting facilitates the compliance with Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) for the collection and reporting of all pest management activities.

6.0 GOVERNMENT FURNISHED MATERIALS OR PROPERTY

The government will provide maps, master plans and previous reports relevant to this agreement.

Government-furnished materials or property is governed by 2 C.F.R. Part 200.312 which states that a) Title to federally-owned property remains vested in the Federal government. The non-Federal entity must submit annually an inventory listing of federally-owned property in its custody to the Federal awarding agency. Upon completion of the Federal award or when the property is no longer needed, the non-Federal entity must return the property to the Federal awarding agency for further Federal agency utilization.

7.0 PERIOD OF PERFORMANCE (PoP)

Base Period: 18 months from date of award, 12 months technical support and 6 months administrative for onboarding/preparation plus analysis and reporting.

8.0 FOLLOW-ON PERIODS

Six 18-month Follow-On (FO) periods subject to funding availability. Any overlap between base and follow-on periods is to accommodate on-boarding of personnel, subcontracting activities, and reporting activities as field work is required during all 12 months of the technical period of performance.

9.0 COORDINATION

USACE POC
David Leptien, PM, 402-889-5570
david.b.leptien@usace.army.mil

AFCEC POC
Daniel Garcia, Natural Resources, AFCEC/CZOW, 805-606-9834
daniel.garcia.23@us.af.mil

10.0 DELIVERABLES

10.1 Progress Reports – Submit quarterly progress reports describing progress on the project throughout the period of performance. The report shall be due as of the last day of the third month (quarterly) and shall be transmitted via electronic mail no later than the 10th calendar day following the end of the reporting period. Invoices for partial payment shall be submitted

to coincide with receipt of the quarterly progress reports. No partial payment will be approved unless the government has received all progress reports which are due.

10.2 Reports - Reports shall generally be free of typos, grammatical errors, formatting inconsistencies and incorrectly labeled tables and figures. The reports shall provide proper citations for all documents referenced. It is requested that draft reports contain line numbering for ease of Government comment. Government and NFE comments shall be provided in a comment matrix provided by the Government. Project GIS Data shall be submitted along with draft and final reports. Final work plans, final technical reports, and final GIS data deliverables shall be submitted only after the NFE has addressed all Government comments satisfactorily.

10.3 Work Plan – The NFE shall submit a draft work plan, NFE reconciled comment matrix of government comments of draft work plan, and final work plan. The plan shall follow the VSFB Work Plan Template. Methodology section shall be described in sufficient detail to allow study or work to be replicated by persons unfamiliar with the project. Methodologies shall also include planned data analyses. Raw data collection methodology shall provide sufficient data for planned analyses. The NFE shall provide a proposed comprehensive timeline for completion of the required work element activities and submittals. Updated project schedules will be provided by the NFE when the schedule changes, regardless of whom is responsible for causing the change in schedule. Updated schedules shall be submitted within seven (7) calendar days of any documented change in project schedule.

10.4 Technical Report: The NFE shall submit a draft technical report, NFE reconciled comment matrix of government comments of draft technical report and GIS data, and final technical report. The report shall describe in narrative format the accomplishments of the project tasks including pertinent maps, figures, tables, photographs, and GIS data. The report format shall follow that of a scientific publication and include the following section heading: Introduction, Methods, Results, Discussion and Literature Cited, as well as original data sheets and/or copies thereof, laboratory reports, and other appendices as appropriate. A separate report will be required for follow-on periods, if funded.

10.5 GIS Data: The NFE shall comply with all requirements in the most recent version of *Vandenberg SFB GeoBase Spatial Data Submittal Standards*, as amended (current version is dated 1 April 2021). This document provides all details required for a successful GIS delivery. A consultation with the Vandenberg GeoBase manager is strongly encouraged. When GIS Data is required for reports it shall be delivered with the draft and final reports for reconciliation with the reports.

10.6 GIS Deliverables: All tasks shall have at least one and likely several GIS deliverables that include all data layers used to create any and all maps within submitted deliverables. GIS deliverables shall include all new data collected throughout the course of the project. Draft GIS deliverables shall be submitted with draft reports that include their data, with final reports and GIS info submitted together. GIS deliverables must follow VSFB geospatial data standards, an adaptation of the SDSFIE 3.lx data model, as described in the data layer specifications (DLS)). Deliverables must comply with the latest version which are updated annually. All metadata associated with data layers must meet the Federal Geographic Data Committee (FGDC) Content Standard for Digital Geospatial Metadata (CSDGM) revised in June 1998. Metadata must also include all content stated in the metadata section of each layer's DLS, which includes layer specific verbiage for attribute fields and definitions.

10.7 Pesticide Usage Reports: Submit a monthly report electronically to the IPMC detailing the use of pesticides during the previous month. Use the form or format specified by the IPMC, and submit not later than 5 days after the close of the month.

10.8 Annual Inventory Federally Owned – Federally Owned Property - an annual inventory listing Federal property (to include description of the property, a serial number or other identification number) that is in the custody of the NFE and available at the request of the government.

10.9 Annual Inventory Acquired – Acquired Property purchased with funding from award - property records must be maintained that includes description of the property, serial number or other identification number, source of funding, who holds title, acquisition date, cost of property, percentage of Federal participation in project costs, location, use and condition of property, and ultimate disposition including date of disposal and sale price. A physical inventory must be taken and results reconciled. Copies of the inventory to be sent annually following each year of support to USACE – SWF and AFCEC ISS.

11.0 ADMINISTRATION

11.1 This cooperative agreement may be administered through a CESU only upon mutual agreement and official authorization by both parties of the acceptance of the application of the CESU Network IDC rate (17.5%).

11.2 Any resulting cooperative agreement will be subject to and recipient/NFE shall comply with 2 CFR 200.313 "Equipment", 200.314 "Supplies", and 200.315 "Intangible Property" which includes use of research data. NOTE: In addition to the General Terms and Conditions, the Recipient shall request disposition instructions from the Federal Awarding agency (USACE) PM, as applicable

12.0 POST AWARD & INVOICE PROCESSES

12.1 Payment Requests and Progress Reports (Invoice Package) - Submit Payment Request and additional required documents to: swf-cesu-invoice@usace.army.mil. Carbon Copy the assigned USACE Project Manager as well as your organization's point of contacts (POCs) for the additional required documents and for delinquent accounts.

12.1.1. Frequency: Quarterly plus 30-day grace period (except for the final invoice package noted below). If the coverage dates are not quarterly or preapproved by the PM (or the first/last submittal), the invoice package will be **rejected**.

Quarters	**Invoice pkgs due No Later Than (NLT):**
Q1: Oct-Dec	Q1: 31 Jan
Q2: Jan-Mar	Q2: 30 Apr
Q3: Apr-Jun	Q3: 30 Jul
Q4: Jul-Sep	Q4: 31 Oct

12.1.2. Payment Requests **must** be submitted on form SF270 Request for Advance or Reimbursement **with the accompanying Standard Form-Performance Progress Report (SF-PPR), otherwise the SF270 will be rejected.**

12.1.3. SF270 Request for Advance or Reimbursement

12.1.3.1 Block 9, Recipient Organization**. For successful set up of Electronic Transfer of Funds (EFT), the Recipient's name and address shall reflect the exact name and physical address that appears in the System for Award Management (SAM),** https://sam.gov/.

12.1.3.2. Blocks 11, (a), (b), & (c) are for the description of funds. Preferred description is: CLIN/POP Type, POP start and end dates, amount awarded (see example below); at minimum include the CLIN. If the description or the minimum CLIN information is missing, the **SF270 and SF-PPR will be rejected**.

Example:
CLIN 0001 / Base
22SEP23 – 21SEP24
$100,000.00

Funding must be separated as specified on the Award document. Sub-CLINs that specify "*for funding only*" (e.g., numbered 000101, 000102, etc.) may be rolled into the primary CLIN (e.g., 0001) unless otherwise instructed. All others required PM approval.

The SF270 may have multiple pages. An SF270 in Excel format may be requested at: swf-cesu-invoice@usace.army.mil**,** however, **must be submitted in pdf format otherwise will be rejected.**

12.1.4. SF-PPR Standard Form-Performance Progress Report : The Recipient shall tailor the SF-PPR to include, at minimum, the following information:

- Separate details by CLIN as applicable
- Achievements (must detail work during quarter associated with the invoice)
- Percent Completion
- Project Status
- Problems encountered and impact of activities and personnel on schedule.
- Anticipated work in next reporting period.

If the SF-PPR is incomplete, the SF-PPR and SF270 will be rejected.

A tailored SF-PPR form may be requested at: swf-cesu-invoice@usace.army.mil.

12.2. The **Final** invoice package is due no later than 90 days from final (funded/exercised) POP end date and must include the following documents: If any of the required information below is missing, the final invoice package will be **rejected**.

Final SF270
SF-PPR
Final SF425
DD882
SF428 plus attachment B (C&S if applicable)
SF298
Final Report

Forms may be requested from the district office at swf-cesu-invoice@usace.army.mil or found at: https://www.grants.gov/forms.

[End of SOO]