



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

REQUEST FOR STATEMENT OF INTEREST

Number **W9126G-21-2-SOI-5043**

Project to be initiated in 2021

Applicants must be a member in one of the Cooperative Ecosystem Studies Units (CESU):
Californian 2018 Agreement
Desert Southwest Agreement

Project Title: Base-wide Inventory – Reptiles, Amphibians, and Fish, Edwards Air Force Base, California.

Responses to this Request for Statements of Interest will be used to identify potential investigators for a project to be funded by the US Air Force which provides professional and technical support for Edwards Air Force Base (EAFB) in order to facilitate successful implementation of the 16 USC 670c-1 Sikes Act. Approximately **\$311,512** is expected to be available to support this project during the **base period**. Additional funding may be available for follow on work in subsequent fiscal years to the successful Recipient/Awardee, subject to the availability of funds.

Background:

Edwards AFB encompasses approximately 308,180 acres in the Antelope Valley in southern California and is located in the western Mojave Desert. Fish and wildlife program management focuses on conserving desert habitat on Edwards AFB. Native wildlife includes a wide variety of invertebrates, reptiles, amphibians, birds, and mammals adapted to various desert habitats on base. Natural resource management is critical to the maintenance of biodiversity which provides critical support to the military mission. Periodic fauna surveys are conducted to determine fauna presence, trends, and viability of various animal species. Long-term monitoring is a fundamental aspect of adaptive management to determine the overall health of the ecosystem and allow a focused and cost-effective monitoring program.

The current Edwards AFB HQA Modified Monitoring Protocol focuses on flora. Five habitat types are identified in general with subsets as necessary. These are Joshua tree (*Yucca brevifolia*) woodland, creosote bush (*Larrea tridentate*) scrub, halophytic phase saltbush (*Atriplex spp.*) scrub, xerophytic phase saltbush scrub, and mesquite (*Prosopis glandulosa var. torreyana*) woodland. There are 70 HQA monitoring plots distributed proportionally across the base within these five habitat types. An additional wetlands/pond habitat subset and urban area habitat subset shall be added to the five HQA subsets for the reptile, amphibian, and fish survey effort. A recent large mammal survey identified the need for 100 monitoring sites distributed proportionally across the base within these five habitat types to adequately survey for large mammals. The reptile, amphibian, and fish survey effort should be proportional to the acreage of each habitat type across the base and within the wetlands/pond and urban habit subsets to be statistically relevant.

The EAFB environmental programs 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.

In agreement with the above stated goals, the recipient/cooperator (hereafter Cooperator) agrees to provide the necessary personnel, equipment, and materials required to implement, in part, the Air Force responsibilities pursuant to the Endangered Species Act (16 USC 1531 et seq.), the Sikes Act Improvement Act, the Migratory Bird Treaty Act (16 USC 1361 et seq.), the National Environmental Policy Act (42 U.S.C. 4321 et seq.), and applicable implementing regulations, such as Air Force Instruction 32-7064, *Integrated Natural Resources Management*.

Type of Award:

This project will be awarded under the authority of the *Sikes Act* (Sec. 103A [16 USC 670c-1]) “the Secretary of a military department may enter into cooperative agreements with States, local governments, Indian Tribes, non-governmental organizations, and individuals, ...” This project is in support of the Integrated Natural Resources Management Plan, as directed in the *Sikes Act*, and as a result, it is anticipated that a cooperative agreement through the CESU program will be awarded. Such awards 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%).

Note: Must be a non-federal partner in one of the CESU Units, referenced above, to be qualified for considered.

Brief Description of Anticipated Work:

The NFE shall establish procedures and provide services and equipment to implement the following:

1. Determine existing reptiles, amphibians, and fish found or likely to be found on Edwards AFB.
2. Develop effective reptile, amphibian, and fish survey protocols to determine distribution of each species on base and their relative abundance. Survey protocols shall be scientifically agreed upon as accurate and cost-effective. Survey protocols will be designed to include habitat subsets as identified in Edwards AFB Habitat Quality Assessments (HQA) current design and an additional wetlands/pond subset and urban area subset, not include or overlap current HQA plot locations, and be able to be replicated in future surveys to allow for trend analysis.
3. Implement approved survey protocols and complete surveys within period of performance. The NFE shall obtain all necessary state and federal permits required for handling any surveyed animals.

Optional surveys include:

- Option 1: Second field season survey of reptiles, amphibians, and fish and incorporate the results from both the first and second field season efforts.
- Option 2: Develop, implement, and document a base-wide inventory survey for nesting and migratory non-nesting birds on Edwards AFB using a similar scope established for the reptile, amphibian, and fish survey.
- Option 3: Perform a second field survey of nesting and non-nesting birds following the previously established methodology and incorporate the results from both the first and second season efforts.
- Option 4: Develop, implement, and document a base-wide inventory survey for small mammals on Edwards AFB similar to the previously established survey methodologies.
- Option 5: Perform a second field survey of small mammals following the previously established methodology and incorporate the results from both the first and second season efforts.

Note: At this time we are only requesting that you demonstrate available qualifications and skills for performing similar or same type of work. You will be evaluated for request for a proposal based on skills, qualifications and certifications demonstrated in your SOI.

Preference will be given to statements of interest that demonstrate field technicians that have at least five years of experience conducting point count surveys and be able to accurately identify riparian birds by sight and audibly and estimate distance and direction using common field instruments, as well as a principal investigator that has the ability to synthesize collected field data into a cohesive report, including methods, results, statistical analysis, and management recommendations.

Period of Performance. The base period of performance is anticipated to be 18 months from date of award plus five optional 18-month periods.

Materials Requested for Statement of Interest/Qualifications:

(Maximum length: 2 pages, single-spaced 12 pt. font).

1. Name, Organization, Cage Code, Duns number, and Contact Information (Email)
2. Brief Statement of Qualifications (including):
 - a. Biographical Sketch,
 - 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. Any brief description of capabilities to successfully complete the project you may wish to add (e.g. equipment, laboratory facilities, greenhouse facilities, field facilities, etc.).

Note: A full study proposal and proposed budget are NOT requested at this time.

Review of Statements Received: All statements of interest received 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. Based on a review of the Statements of Interest received, an investigator or investigators will be invited to prepare a full study proposal. Statements will be evaluated based on the investigator's specific experience and capabilities in areas related to the study requirements.

Please send responses or direct questions to:

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Timeline for Review of Statements of Interest: The RSOI is required to be posted for at least 30 days prior to the Government making a decision and requesting full proposals. Responses due by 5:00 P.M., Central Time, on **20 AUGUST 2021**.

[End of RSOI]

STATEMENT OF OBJECTIVES
for
BASE-WIDE INVENTORY – REPTILES, AMPHIBIANS, AND FISH
FSPMA53216120 A Mgt Species INRP
at
EDWARDS AIR FORCE BASE, CALIFORNIA

Cooperative Ecosystems Studies Unit (CESU) Cooperative Agreement

1. PURPOSE

This Scope of Objectives (SOO) provides the details of technical support to be performed for Edwards Air Force Base (AFB) through a cooperative agreement (CA). The CA objective is to develop, implement, and document a base-wide inventory and survey of reptiles, amphibians, and fish on Edwards AFB. This project will build on previous research conducted at Edwards AFB and help to fulfill a known data gap in the Edwards AFB Integrated Natural Resources Management Plan (INRMP).

The proposed effort is identified in the current Edwards AFB INRMP and will help accomplish the following:

- Goal 5: Provide a sustainable ecosystem by maintaining biodiversity and implements.
- Project 5.1.3: Develop survey protocols and implement surveys for nesting birds.
- Project 5.1.4: Develop survey protocols and implement surveys for migratory non-nesting birds.
- Project 5.1.5: Develop survey protocols and implement surveys for reptiles.
- Project 5.1.6: Develop survey protocols and implement surveys for small mammals.
- Project 5.1.7: Develop survey protocols and implement surveys for amphibians

Background

Edwards AFB encompasses approximately 308,180 acres in the Antelope Valley in southern California and is located in the western Mojave Desert. Fish and wildlife program management focuses on conserving desert habitat on Edwards AFB. Native wildlife includes a wide variety of invertebrates, reptiles, amphibians, birds, and mammals adapted to various desert habitats on base. Natural resource management is critical to the maintenance of biodiversity which provides critical support to the military mission. Periodic fauna surveys are conducted to determine fauna presence, trends, and viability of various animal species. Long-term monitoring is a fundamental aspect of adaptive management to determine the overall health of the ecosystem and allow a focused and cost-effective monitoring program.

In general, habitat quality on base is good for reptiles. Previous reptile surveys were conducted to document the common species observed in the various plant communities (Tetra Tech 1993, AMEC Earth and Environmental 2008). In the 1993 survey, 13 different reptile species were observed. In 2005, AMEC took photographs of several seldom seen nocturnal reptiles, such as the glossy snake (*Arizona elegans*) and night snake (*Hypsiglena torquata*). In AMEC's 2008 report, 22 reptile species were documented during field surveys that took place in February and

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October of 2003 and 2004, one of which—the Painted turtle (*Chrysemys picta*)—was a non-native. Aquatic seining and dip-netting, drift fences, coverboards, and visual surveys were the methods used to survey for reptiles. Specific areas appeared to support higher numbers of individuals and species than may otherwise be expected. Eighteen of the 22 (82 percent) of the reptile species known to occur on Edwards AFB were found in creosote bush scrub, 9 species (41 percent) were found in halophytic saltbush, 7 species (32 percent) were found in Joshua tree woodland, 2 species (9 percent) were found in mesquite bosques, and 6 species (27 percent) were found in xerophytic saltbush scrub (AMEC Earth and Environmental 2008). Four species were found at only a one location.

AMEC Earth and Environmental (2008) also attempted unsuccessfully to document the presence of several sensitive reptile species, including coast horned lizard (*Phrynosoma coronatum*) and two-striped garter snake (*Thamnophis hammondi*). Another reptile Species of Interest found on Edwards AFB is the northern legless lizard (*Anniella pulchra*) or as yet undescribed species. The Mojave fringe-toed lizard (*Uma scorparia*) could also potentially be found on base, as could other undocumented species.

At least four species of amphibians are known to occur on Edwards AFB. These include two native species, the Pacific treefrog (*Pseudacris regilla*), the western toad (*Anaxyrus boreas*), and two non-native species, the African clawed frog (*Xenopus laevis*) and American bullfrog (*Lithobates catesbeianus*) (AMEC Earth and Environmental 2008). Tree frogs are common and native to wetlands and wetland areas throughout California and western toads are common in the housing areas and at the Piute Ponds Complex. Bullfrogs have been found at Branch Memorial Park Pond and African clawed frogs have been found at the Piute Ponds Complex. AMEC Earth and Environmental (2008) attempted to document several potential sensitive species, including the federally threatened California red-legged frog and arroyo toad, but neither was found.

Fish are not known to occur naturally on Edwards AFB. Branch Memorial Park Pond is stocked with bluegill (*Lepomis macrochirus*), largemouth bass (*Micropterus salmoides*), rainbow trout (*Oncorhynchus mykiss*.) and channel catfish (*Ictalurus punctatus*). Goldfish are sometimes placed in the Muroc Golf Course pond and in the ponds at the AFRL Fire Station and Downfall, usually without coordination with natural resource personnel. Mosquitofish (*Gambusia* sp.) have been placed in the tertiary-treated effluent Piute Ponds Complex ponds to control mosquitoes by the county public health department.

The federally threatened desert tortoise (*Gopherus agassizii*), a resident species found on base, is monitored separately, and is not targeted as part of this project. The western pond turtle (*Actinemys marmorata*), found at the Piute Ponds Complex (Gomez 2020a), is also monitored separately and is not targeted as part of this project. However, any sightings of these species will be documented and reported with the other findings.

2. AUTHORITY

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

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- 2.1. In agreement with the above stated objectives, the recipient/cooperator agrees to provide the necessary personnel, equipment, and materials required to implement, in part, the Air Force responsibilities pursuant to the Endangered Species Act (16 USC 1531 et seq.), the Sikes Act Improvement Act, the Migratory Bird Treaty Act (16 USC 1361 et seq.), the National Environmental Policy Act (42 U.S.C. 4321 et seq.), and applicable implementing regulations, such as Air Force Instruction 32-7064, *Integrated Natural Resources Management*.

- 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.), all CESU projects must carry out a public purpose of support or stimulation, instead of acquiring goods or services for the exclusive direct benefit 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)
 - 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

- 2.3. 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 DoD agrees to participate at a national level in support of the CESU program Agreements as accepted in the Master MOU for the establishment and continuation of the CESU program Agreements Article II 1-4 and Article VI 1-7.

- 2.4. The installation (hence DoD) further agrees to provide substantial involvement as directed under Article II (A) CESU Master Agreements to include, but are not limited to, the following:
 - Edwards AFB and AFCEC Edwards ISS are involved in development of study methodology, data gathering, analysis, and/or report writing
 - Edwards AFB and AFCEC Edwards 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
 - Edwards AFB and AFCEC Edwards ISS incurs in-kind or direct expenditures in carrying out the activities specified in the project agreement.

3. DESCRIPTION OF OBJECTIVES

Conduct tasks in accordance with this Description of Objectives, as prioritized by AFCEC Edwards ISS and Base Natural Resources Manager (NRM). This Cooperative Agreement supports the efforts as described in SubTask 3.1 below.

Travel, Coordination, and Project Management for all tasks is as follows:

Travel: Provide transportation and fuel for all Non-Federal Entity (NFE) staff to get to and from all field sites. Retain current proof of insurance and current registration for all modes of transportation.

Coordination: Coordinate concurrently with the Base NRM, AFCEC Edwards ISS and USACE PM. All work schedules shall be approved by the AFCEC and be consistent with the Project Schedule & Work Plan (Deliverable 9.7) approved by the Base NRM. Schedule changes will be jointly made by the USACE PM, Base NRM and AFCEC Edwards ISS and align with the Sikes Act compliant INRMP and original ACES 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 Edwards ISS only.

Project Management: Each task includes a section on level of effort specific to that task. A Cooperative Agreement Project Manager should be assigned to coordinate across tasks, manage all personnel hired to complete work, and ensure all scoped objectives are completed under this Cooperative Agreement on time. *Level of effort for Cooperative Agreement Project Management is expected to be at least 4 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.

3.1. Task 1: FSPMA53216120 A Mgt Species INRP

OBJECTIVE

The NFE shall establish procedures and provide services and equipment to implement the following:

1. Determine existing reptiles, amphibians, and fish found or likely to be found on Edwards AFB.
2. Develop effective reptile, amphibian, and fish survey protocols to determine distribution of each species on base and their relative abundance. Survey protocols shall be scientifically agreed upon as accurate and cost-effective. Survey protocols will be designed to include habitat subsets as identified in Edwards AFB Habitat Quality Assessments (HQA) current design and an additional wetlands/pond subset and urban area subset, not include or overlap current HQA plot locations, and be able to be replicated in future surveys to allow for trend analysis.
3. Implement approved survey protocols and complete surveys within period of performance. The NFE shall obtain all necessary state and federal permits required for handling any surveyed animals.

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Recommended Reptile, Amphibian, and Fish Survey Protocols:

The current Edwards AFB HQA Modified Monitoring Protocol focuses on flora. Five habitat types are identified in general with subsets as necessary. These are Joshua tree (*Yucca brevifolia*) woodland, creosote bush (*Larrea tridentate*) scrub, halophytic phase saltbush (*Atriplex spp.*) scrub, xerophytic phase saltbush scrub, and mesquite (*Prosopis glandulosa var. torreyana*) woodland. There are 70 HQA monitoring plots distributed proportionally across the base within these five habitat types. An additional wetlands/pond habitat subset and urban area habitat subset shall be added to the five HQA subsets for the reptile, amphibian, and fish survey effort. A recent large mammal survey identified the need for 100 monitoring sites distributed proportionally across the base within these five habitat types to adequately survey for large mammals. The reptile, amphibian, and fish survey effort should be proportional to the acreage of each habitat type across the base and within the wetlands/pond and urban habit subsets to be statistically relevant.

The NFE shall conduct a two-year field season survey consisting of a minimum of three field survey events (spring, summer, and fall) in the first field season and a minimum of three field survey events (spring, summer, and fall) in the second field season. This provides for potential weather variations occurring over more than one year. Field surveys will be conducted generally during the spring, summer and fall and will consist of a minimum of five field days per survey event per monitoring site conducted by at least two biologists. The field work shall be performed during the appropriate time of year and climatic limits to maximize the potential for detecting target species. Surveys shall not be conducted during extreme conditions (e.g., extended drought, cold or hot weather conditions) when detection of species presence is unlikely. Both daytime and nighttime surveys shall be conducted.

All fauna species that are observed or collected will be recorded and data collected according to the most recent version of the *Edwards Air Force Base Standards for Geographic Environmental Support Section 412 CEG/CEVA*. All observed reptiles and amphibians will also be recorded in HerpMapper.

The NFE shall consider and propose a survey technique(s) that is specific to accomplishing the objectives in this SOO. Proposed survey technique(s), shall consider the target species ecology, habitat preferences, acreage and habitat types of the survey area and the period of performance of this task. If one of the proposed survey techniques in this study is the use of drift fence arrays and pitfall traps, all monitoring sites will be located outside of an identified cultural resource site.

The NFE will create a series of museum specimens/vouchers for permanent deposition in a regional collection for each species captured. All methods will be consistent with recommendations of the Society for Study of Amphibians and Reptiles and the American Society of Ichthyologists and Herpetologists. Captured wildlife not used as specimens/vouchers should be released at the site of capture and not moved to another area of the installation. State and Federally listed species will not be used for specimens/vouchers unless appropriate permits are secured and approved by NRM.

The NFE will conduct trapping and visual encounter surveys (VES). The NFE will utilize both

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pitfall traps and box-funnel traps on drift fences where possible to capture reptiles (Graeter et al. 2013). For reptiles, the NFE will construct a trapping array composed of a 30-m temporary drift-fence with four box traps and pit falls. The NFE shall use the dip net technique to survey for the larval (tadpole) stage of amphibian species in aquatic habitats in the survey area. The NFE shall conduct auditory surveys for breeding frogs and toads following the North America Amphibian Monitoring Program protocol (<https://www.pwrc.usgs.gov/naamp/>).

To capture diurnal and nocturnal reptiles and amphibians, the NFE will construct box funnel traps (41 cm by 19.5 cm by 21 cm) with wooden frames, wrapped with 1/8" hardware cloth following standard designs (Graeter et al. 2013). The NFE will utilize thin sanded plywood squares (16 cm x 16 cm) to serve two functions. First, they serve as an easy means to close the traps and secondarily they serve as a place for animals to thermoregulate. Trap lids contain a secured piece of Styrofoam inside to act as insulation and the lids were covered with standard roofing shingles. Finally, soil will be placed in and around the traps in order to keep traps cool and also facilitate thermoregulation.

Traps will be checked between 05:30 AM to 10:00 AM daily to avoid injury or mortality to captured animals due to heat and or stress. Traps will be slowly opened to prevent escapes, and all venomous species will be removed from traps safely using snake hooks (Midwest Tongs, Greenwood, MO) or long metal forceps (BioQuip, Rancho Dominguez, CA). Handling of venomous species will be done using the same implements, and/or tubing them for processing. Hand-grabbing venomous species is not permitted without implements to reduce potential envenomation risk.

The NFE shall mark herpetofauna (temporarily or permanently) for future identification and attempt to recapture these animals after initial release. Animals may be marked to the individual or to the population level. Marks should be recorded in field datasheets and included in the draft and final reports. Procedures should meet any Institutional Animal Care and Use Committee (IACUC) and/or permitting guidelines for the agencies involved, and may include body marks (shell notching, toe clips, etc.), bands/identification plates, PIT tags, or other such measures. Visual Encounter Surveys (VES) will be conducted within each of the predefined strata. However, here the NFE will focus on microhabitats within the biotic community that may be perceived to have greater likelihood of being inhabited by reptiles, amphibians, and fish. Analyses will provide detailed baseline information on the abundance and diversity of reptiles encountered on Edwards AFB. For each species with ample captures, the NFE shall create baseline information on the abundance and diversity of species encountered, as well as create species accumulation curves and diversity indices.

QUALIFICATIONS

The NFE should meet the minimum qualifications necessary to perform tasks described in the project work statement. The principal investigator should 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 furnish all labor, materials, equipment, supplies, technical expertise, and supervision needed to perform all field efforts.

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TASK SPECIFIC DELIVERABLES

- Draft and Final Work Plan, to include survey protocols
- Draft and Final technical report
- Draft and Final GIS Data
- Weekly Status Report
- Draft and Final Brochure
- Draft and Final Poster
- Draft and Final Video Script
- Press Release – Initial and Results

4. GOVERNMENT FURNISHED MATERIALS OR PROPERTY

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

5. GENERAL PROVISIONS

Edwards AFB encompasses approximately 308,180 acres in the Antelope Valley in southern California. The installation lies in the western Mojave Desert in portions of Kern, Los Angeles, and San Bernardino counties. The base is approximately 100 miles southeast of Bakersfield. Approximately 13,400 military and civilian personnel work on Edwards AFB, many of whom live either on the base or in nearby communities, such as California City, Lancaster, Palmdale, and Rosamond.

Access: Access to Edwards AFB 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 the Air Force Research Laboratory (AFRL), the Precision Impact Range Area (PIRA), the airfield, and other restricted facilities on EAFB may require additional security clearances and training. 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 *Edwards AFB Contractor Access Request Procedures Template*.

Photography Use: Photography at Edwards AFB 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 Edwards Air Force Base Invasive Species Management Plan.

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Environmental Awareness Training: All NFE project personnel working on Edwards AFB shall attend desert tortoise awareness training prior to commencing work or visiting the work site.

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

6. OPTIONS: As discussed in 7.2 below, five optional periods are anticipated to support this project.

7. PERIOD OF PERFORMANCE

7.1. Base Period: The base period of performance (PoP) is anticipated to be 18 months from Notice to Proceed.

7.2. Option Periods: The efforts produced in Option Periods 1, 2, 3, 4, and 5 will be identical to the amount of effort produced in the Base Period.

Option Period 1:

Provide a cost proposal to perform a second field season survey of reptiles, amphibians, and fish which would follow the work plan methodology and provide a technical report covering the results from the first and second field season efforts. The option would be exercised during FY22 at the Government's discretion based on the availability of funds and would extend the PoP by 18 months.

Option Period 2:

Provide a cost proposal to develop, implement, and document a base-wide inventory survey for nesting and migratory non-nesting birds on Edwards AFB similar in scope to the work plan methodology of the base year but applicable to nesting and migratory non-nesting birds. Deliverables would be the same as described for the base year's first field season. The option would be exercised during FY23 at the Government's discretion based on the availability of funds and would extend the PoP by 18 months.

Option Period 3:

Provide a cost proposal to perform a second field season survey of nesting and non-nesting birds which would follow the work plan methodology and provide a technical report covering the results from the first and second field season efforts. The option would be exercised during FY24 at the Government's discretion based on the availability of funds and would extend the PoP by 18 months.

Option Period 4:

Provide a cost proposal to develop, implement, and document a base-wide inventory survey for small mammals on Edwards AFB similar in scope to the work plan methodology of the base year but applicable to small mammals. Deliverables would be the same as described for the base year's first field season. The option would be exercised during FY25 at the Government's discretion based on the availability of funds and would extend the PoP by 18

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months.

Option Period 5:

Provide a cost proposal to perform a second field season survey of small mammals which would follow the work plan methodology and provide a technical report covering the results from the first and second field season efforts. The option would be exercised during FY26 at the Government's discretion based on the availability of funds and would extend the PoP by 18 months.

8. COORDINATION

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AFCEC POC
Daniel F. Garcia, PE AFCEC/CZOW -
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9. DELIVERABLES

Edwards AFB requires use of the approved work plan template, standard report covers, and Standard Form 298 - Report Documentation Page. 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.

Brochures, posters and video scripts shall be presented in draft versions to Natural Resource Manager for review prior to submission as final deliverable. Review is for agreement of general concept only.

Report Deliverables include:

First Field Season: Work Plan to include survey protocols, Weekly Status Report, Monthly Status Report, and Press Releases.

Second Field Season: Draft and Final Technical Reports, GIS Data, Weekly Status Report, Monthly Status Report, Brochure, Poster, Video Script, and Press Releases.

9.1. Progress Reports - One typed letter report describing progress on the project. The report shall be due as of the last day of the third month (quarterly) and shall be transmitted via electronic

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mail, facsimile, or regular 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.

- 9.2. Weekly Status Report – The NFE shall provide to the Edwards AFB NRM weekly status reports via email when performing on-base project activities. The reports shall include activities accomplished, activities planned for the upcoming week, issues, and updated timelines for completion of work.
- 9.3. Monthly Status Report – The NFE shall provide a brief monthly project status report to the Edwards AFB NRM that describes the amount of work completed to date, work completed in the past month, upcoming work schedules, potential problems, and unresolved issues.
- 9.4. Work Plan – The NFE shall submit a separate draft and final work plan describing in narrative format the plan of action for the accomplishment of the project tasks. The plan shall follow the Edwards AFB Work Plan Template. 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 calendar days of any documented change in project schedule.
- 9.5. Technical Report – The NFE shall submit a separate draft and final technical report describing in narrative format the accomplishments of the project tasks, including pertinent maps, figures, tables, and photographs. 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.
- 9.6. GIS Data – The NFE shall comply with all requirements in the most recent version of the *Edwards Air Force Base Standards for Geographic Environmental Support Section 412 CEG/CEVA*. This document provides all details required for a successful GIS delivery. A preliminary technical consultation with 412 CEG/CEVA GIS staff shall be accomplished after the Post Award Kick-Off Meeting and prior to the start of all data collection for this project. The NFE will record all observed reptiles and amphibians in HerpMapper.
- 9.7. Brochure – The NFE shall prepare an interpretive tri-fold brochure (8.5” x 11”) that can be used to inform the general public about the findings of this project and the importance of a Large Mammal Survey. Write narrative to the 9th grade level, using captioned photographs, maps, and some text boxes to convey the key messages. Provide an editable electronic copy. Brochure shall be formatted for reproduction by the 412 TW/PA.
- 9.8. Poster – The NFE shall prepare an interpretive poster that can be used to inform the general public about the findings of this project and the importance of Large Mammal Survey. Write narrative to the 9th grade level, using captioned photographs, maps, and some text boxes to convey the key messages. Provide an editable electronic copy, formatted for reproduction by

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the 412 TW/PA, and two flexible matte laminated posters (Large Poster 24”h x 36”w).

9.9. Video Script – The NRE shall prepare an editable video script 5 to 10 minutes in length that can be used to inform the general public about the findings and importance of this project. Write narrative to the 9th grade level and provide photo suggestions for script narrative. Provide an editable electronic copy.

9.10. Press Release – The NFE shall prepare an editable press release for the general public. The press release shall identify the project as a 412 CEG/CEVA Natural Resource project, what the project’s objective is, where the project is located on base, when the project will be implemented, and how it will be implemented. The press release shall be no longer than approximately 200 words. Write the narrative to the 9th grade level. Provide an editable electronic copy of: 1) Beginning of project press release. 2) End of project results press release.

Deliverables Schedule: Submit deliverables as listed below, or as otherwise specified in the NFE’s proposal. Deliverable schedule must be within the PoP of the contract. The NFE may propose an alternate schedule but should not reduce the opportunities for and duration of Government review periods.

Description	When Due	Format
Work Plan Draft to include survey protocols	Notice to Proceed (NTP)+ 60 days	Microsoft Word editable: Electronic only (e-mail attachment, or file transfer)
Work Plan Comment Response	30 days after receipt of Government comments	Microsoft Word editable: Electronic only - comment matrix and work plan revision with track changes (e-mail attachment, or file transfer)
Work Plan Final to include survey protocols	21 days after Government approval of NFE’s response to all Government comments	PDF: Electronic only (e-mail attachment or file transfer)
Weekly Status Report	Friday prior to upcoming field work week	Email
Monthly Status Reports	Within 14 days after end of each month	Microsoft Word editable: Electronic only (e-mail attachment, or file transfer)
Draft Technical Report	To be determined by NFE	Microsoft Word editable: Electronic only (e-mail attachment, or file transfer)
GIS Draft Technical Report Deliverables	Submit with Draft Technical Report	Per EAFB GIS Standards: Electronic (e-mail attachment, or file transfer)
Technical Report Comment Response	30 days after receipt of	Microsoft Word editable: Electronic only - comment matrix and technical report

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Description	When Due	Format
	Government comments	revision with track changes (e-mail attachment, or file transfer)
Final Technical Report	21 days after Government approval of NFE's response to all Government comments	PDF: Electronic (e-mail attachment or file transfer); 2 hard copies spiral or comb-bound, each with a CD containing the full document and all references.
GIS Final Technical Report Deliverables	Submit with Final Technical Report	Per EAFB GIS Standards Electronic (e-mail attachment, or file transfer) and CD
Specimen mounts	Submit with Final Technical Report	Specimen cases with catalog that cross-references with the Technical Report and GIS deliverables
Brochure Draft	Submit with Draft Technical Report	Microsoft Word editable: (e-mail, compact disk, or file transfer)
Brochure Final	Submit with Final Technical Report	Microsoft Word editable and PDF file: (e-mail, compact disk, or file transfer)
Poster Draft	Submit with Draft Technical Report	Microsoft Word editable: (e-mail, compact disk, or file transfer)
Poster Final	Submit with Final Technical Report	Microsoft Word editable and PDF file: (e-mail, compact disk, or file transfer) and two flexible printed posters
Video Script Draft	Submit with Draft Technical Report	Microsoft Word editable: (e-mail, compact disk, or file transfer)
Video Script Final	Submit with Final Technical Report	Microsoft Word editable and PDF file: (e-mail, compact disk, or file transfer)
Press Release Initial	Submit with Work Plan Draft	Microsoft Word editable: Electronic only (e-mail attachment)
Press Release Results	Submit with Final Technical Report	Microsoft Word editable: Electronic only (e-mail attachment)

10. 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%).

Any resulting cooperative agreement will be subject to and NFE shall comply with 2 CFR 200.313 "Equipment", 200.314 "Supplies", and 200.315 "Intangible Property" which includes use of research data.

[End of SOO]