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

REQUEST FOR STATEMENTS OF INTEREST

NUMBER W9126G-21-2-SOI-4916

PROJECT TO BE INITIATED IN 2021

Project Title: Natural Resources Support, Holloman AFB, NM

Responses to this Request for Statements of Interest will be used to identify potential investigators for a project to be funded by Holloman AFB (HAFB), NM which provides professional and technical support for its Integrated Natural Resources Management Plan (INRMP) in order to facilitate successful implementation of the Sikes Act [16 USC 670c-1]. $311,946 is expected to be available to support **Tasks 1,2,5, & 6** in the **Base Year** of this project. Additional funding may be available for follow on work in subsequent 4 Option Years.

Background:

The Holloman AFB (HAFB) natural resources program ensures military mission activities are conducted in compliance with all applicable environmental laws, regulations, and policies. 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.

Type of Award:

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.

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 federal partner and the nonfederal partner when carrying out the activities specified in the project agreement. The exact nature of the government's involvement will be defined in the statement of objectives, issued with a request for full proposal.

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 the CESU Network or a not-for-profit, non-federal entity to be qualified to be considered.

Brief Description of Anticipated Work:
This research focuses on the following objectives:

1) Task 1 – Conduct vegetation management and maintenance of the Holloman Wetland Complex Area (HWCA).

2) Task 2 – Continue long-term monitoring of established sites for wetland birds at Holloman Wastewater Evaporation Pond and Lagoon G during migratory and breeding seasons.

3) Task 3 – Support HAFB in implementing its INRMP as directed in the Sikes Act and AFMAN 32-7003.

4) Task 4 – Species management to include studies and surveys on the following:
    a. Bats
    b. White Sands Pupfish
    c. Burrowing Owl
    d. Various Threatened & Endangered Species
    e. Neotropical Migrant Birds
    f. Various Mammals (to include coyotes, wolves, foxes, etc.
    g. Raptors
    h. Herpetology (lizards & amphibians)

5) Task 5 – Habitat management to include studies and surveys on the following:
    a. Burrowing Owl habitat
    b. Chihuahuan Desert habitat

6) Task 6 – Invasive species management (including noxious weeds & Salt Cedar)

Period of Performance. The base period of this agreement will extend one year from award. Four option periods extending for one year are anticipated pending funds.

Materials Requested for Statement of Interest/Qualifications:

Please provide the following via e-mail attachment to: sandra.justman@usace.army.mil
(Maximum length: 2 pages, single-spaced 12 pt. font).

1. Name, Organization, Cage Code, Duns number, and Contact Information
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:

USACE
Sandra Justman Contract Specialist
CESWF-CT
Email: sandra.justman@usace.army.mil
Office: 817-886-1073

And

USACE
J. Grant Harrison
CESU Project Manager
jason.g.harrison@usace.army.mil
817-266-3001

Timeline for Review of Statements of Interest: The RSOI are required to be out for a minimum of 10 working days. Review of Statements of Interest will begin **11 AUG 2021**.

STATEMENT OF OBJECTIVES
for
NATURAL RESOURCES SUPPORT
for
HOLLOMAN AFB, NEW MEXICO

1.0 PURPOSE

1.1 The Holloman AFB **(**HAFB**)** natural resources program ensures military mission activities are conducted in compliance with all applicable environmental laws, regulations, and policies. 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.

2.0 AUTHORITY/ BACKGROUND

2.1 In accordance with 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 (INRMP), as directed in the *Sikes Act* and Air Force Manual 32-7003, Environmental Conservation

2.2 In agreement with the above stated goals, the recipient/Cooperator agrees to provide the necessary personnel, equipment, and materials required to implement, in part, the HAFB responsibilities pursuant to the Sikes Act Improvement Act (16 USC 670 et seq.), the Endangered Species Act (16 USC 1531 et seq.), and the Migratory Bird Treaty Act (16 USC 1361 et seq.).

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 **(**DoD**)** 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 as accepted in the Master MOU for the establishment and continuation of the CESU program Article II 1-4 and Article VI 1-7.

The installation agrees to provide substantial involvement including, but not limited to, the following:

- HAFB is involved in development of study methodology, data gathering, analysis, and/or report writing
- HAFB actively participates and collaborates in carrying out the project plan of work, reviews and approves activities.
- HAFB 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:
  - Escort into sensitive areas
  - Base & Range access passes – 49th Security Forces Squadron and White Sands Missile Range (WSMR)
  - Computing services
  - Staff time for work on the project
  - Previous reports and data
  - Signage and protective barriers as needed
  - Review and authorization of scholarly reports and presentations

HAFB and WSMR shall provide long-term passes to all Cooperator personnel that require more than 15 business day's access to the installation and associated support site and/or ranges if the background investigation is positive. All personnel that require long-term passes shall contact the Natural Resources Manager (NRM) at least eight weeks prior to initiation of fieldwork. If there are any changes in personnel, the Natural Resources Program Manager (NMRP) shall request a 30-day pass from 49th Security Forces. The NRM is available to meet at the Welcome Center, Bldg 1 during working hours (Monday – Friday, 0730 – 1600) for issuance of the 30-day pass.

3.0 DESCRIPTION OF OBJECTIVES

3.1 Task 1- MGT, Wetlands/Floodplains (Mandatory) CLIN 0001:

3.1.1 Conduct vegetation management and maintenance of the Holloman Wetland Complex Area (HWCA). The purpose of the task is to continue ecosystem restoration within HWCA. Management activities may include removal of invasive vegetation from the HWCA and planting of native species in accordance with the management plan. If wetlands no longer retain standing effluent, management recommendation shall be for removal of invasive species under Task 6.

3.1.2 Mechanical equipment may be used for portions of this task if approved by the NRM at HAFB. The NRM shall identify specific locations upon coordination with HAFB elements, such as: Flight/Ground Safety and Airfield Operations, etc.

3.1.3 Focus shall be on continued management and monitoring of the area to enhance the functionality and value as a wildlife habitat. Assess drainage and flow patterns to determine adequacy and recommend changes for current management practices of the area. Perform wetland vegetation and soil assessment to determine a suitable replacement species after invasive mitigation is complete for Salt Cedar. Monitor

annual water levels and provide recommendations to enhance habitat sustainability. Update the Holloman Wetlands Complex Area (HWCA) geodatabase as required.

3.1.4 Provide technical assistance to the NRM for the management of the HWCA. Requests may include notification of any threats to springs/arroyo, installation of signage/barriers, review of and edits to the wetlands/springs section in the INRMP, identification of activities that may require coordination with the United States Army Corps of Engineers, technical assistance and review of specific projects and recommendations for best management practices. The Cooperator shall respond to requests within two calendar days and agree upon a specific date for a full response to the request.

3.2 Task 2- Monitor, Wetlands (Mandatory) CLIN 0002:

3.2.1 Continue long-term monitoring of established sites for wetland birds at Holloman Wastewater Evaporation Pond and Lagoon G during migratory and breeding seasons.

3.2.2 Monitor parameters of habitat function and health and extent of invasive species.

3.2.3 Implement the operational plan current monitoring recommendations and update Holloman Wetlands Complex Area (HWCA) and Invertebrate Monitoring Plans to reflect changes in wastewater storage/movement.

3.3 Task 3- MGT, INRMP and Outreach (Optional) CLIN 0003:

This task is to support HAFB in implementing its INRMP, as directed in the *Sikes Act* and AFMAN 32-7003 in support of mission sustainment. Also, based on available funding, to provide support to the following areas:

3.3.1 INRMP: Quarterly, shall update the INRMP natural resources management goals, objectives and time frames for proposed actions previously coordinated between the NRM, the U.S. Fish and Wildlife Service (USFWS) and New Mexico Department of Game and Fish (NMDGF)**.** Quarterly, shall update the INRMP with data analyzed from species/habitat studies and surveys that have been previously performed throughout the contract year.

3.3.2 Fish and wildlife Management: Quarterly, shall collect and assist with management of the scientific display and HAFB scientific authorization permit annual renewal, as requested by the NRM. Quarterly, shall generate four articles of outreach material (pamphlets and/or computer splash displays) related to Holloman's wildlife during the contract year to educate base personnel. Twice a year, shall collect and assist with information the NRM requires for the renewal of the HAFB depredation permit and annual report. Respond to injured and nuisance wildlife issues on base, and to ensure proper handling of Threatened and Endangered species (T&E) or Species of Concern

(SOC) as needed during the contract year. Monthly, shall assist the NRM to perform surveys and compile information from site surveys for critical species/habitat for new construction, renovation of facilities for Base Civil Engineer Work Request (AF IMT 332), Request for Environmental Impact Analysis (AF IMT 813) and Base Civil Engineering Work Clearance Request (AF IMT 103 - aka dig permit) for National Environmental Policy Act compliance. Monthly, shall inspect and maintain field cameras for monitoring Oryx/coyote and human incursion in special restricted areas (pupfish habitat), replace memory cards and analyze pictures gathered to identify potential problem areas during the contract year. Conduct a GPS collar study on the Oryx population as a native habitat management (impact of exotic species on sensitive natural habitats since they are an introduced species). Monitoring the Oryx behavior (knowing their movements/distribution) can provide an idea of when they are most active and would be a higher High-Speed Test Track risk (since they congregate in that area) as well as the flight line.

3.3.3 Support Mission Sustainment: Quarterly, shall provide data to assist the NRM with habitat evaluations and recommendations for avian species (raptors/grassland birds/waterfowl). Study differences in avian species distribution/reproduction/etc. Conduct two separate "avian management" and "avian habitat management". Avian management would cover species surveys and avian habitat management would be habitat management practices to promote habitat improvements for at risk species (i.e. perch construction, tamarisk removal, etc.). Conducting habitat management would also make it easier to incorporate specific surveys for Southwestern Shallow Flycatchers since they are Salt Cedar obligates. Study control of avian presence in the airfield area to prevent potential safety issues to aircrew and destruction of USAF property. Quarterly, shall provide current avian data and trends to NRM for Quarterly Fly Safe & Semi-Annual Bird Working Group meetings.

3.4 Task 4- MGT, Species (Optional) CLIN 0004:

3.4.1. MGT, Species, Bats

3.4.1.1 Conduct an investigation of Bats on HAFB. This project shall survey for Bats using bat detector devices and mist nets. Historic sites shall be surveyed and areas containing water. Bats shall be mist netted to attach a radio telemetry device so that they may be tracked back to roost sites. All bat species shall be of interest.

3.4.1.2 The project shall begin within 90 days after receiving notice to proceed with Scope of Work. Principal investigator/project manager shall meet with HAFB Natural Resources Program Manager (NRM) at the beginning of the project for discussions on methodology, maps, and any logistical problems.

3.4.1.3 Survey for bat diversity, including migratory, breeding and over wintering bats on HAFB. Ultra-sonic bat detectors/recorders such as Anabat devices and/or Petterson and Sonobat equipment shall be placed in strategic areas during the spring and summer. This equipment shall be placed around caved structures, water sources, abandoned buildings and other structures that appear to provide suitable bat habitats. An initial site visit shall

be made with the NRM to select suitable sites. The recording devices shall be checked periodically through the spring and summer for downloading and analysis of any captured vocalizations. The Cooperator shall identify maternity roost sites. Radio transmitters shall be placed on several individuals of various species of bats. Install acoustic devices near sources of standing water, with mist netting to be conducted during emergence times in spring/summer. Mist netting may be conducted to find roost locations if building inhabitance becomes a safety/personnel issue. Mist nets shall be used at watering holes known to be used by bats such as Lost River, Holloman Wastewater Evaporation Pond, Constructed Wetlands and Bradford Springs. The age, sex and reproductive status shall be recorded for all species caught. Those individuals that show signs of being in a high reproductive state shall be outfitted with transmitters and released. All other bats shall be immediately released. The attached transmitters shall then be followed back to the maternity roost sites. These capture and release events shall take place 2 – 4 times during the spring and summer months.

3.4.1.4 The Cooperator shall survey all bat locations/roost sites and produce a GIS map to be incorporated into the final report.

3.4.2 MGT, Species, White Sands Pupfish

3.4.2.1 Conduct surveys to determine abundance and distribution of White Sands Pupfish, during all seasons they occur on HAFB. Prescriptions for habitat management shall be developed to support and improve breeding habitat for this species on HAFB in coordination with the NRM. Results shall be incorporated into the installation INRMP to support annual tripartite coordination.

3.4.2.2 Provide technical assistance to the NRM for the management of this species. Requests may include notification of any threats, delineation of prime habitat of the species, review of and edits to the species sections in the INRMP, genetic studies, technical assistance and review of specific projects and recommendations for best management practices. Incorporate a Visible Implant Elastomer (VIE) mark/recapture population estimation technique to obtain a better population estimate for the refuge population. This can also be used as a means of determining travel across reaches during flood events. Respond to requests within two calendar days and agree upon a specific date for a full response to the request. Communications between the Cooperator and NRM shall be conducted via phone, meetings, or email. Notes from the communications shall be documented in an email by the Cooperator and submitted within two business days.

3.4.2.3 Update the geodatabase to include data on species location and abundance.

3.4.3 MGT, Species, Burrowing Owl

3.4.3.1 Conduct surveys to locate and monitor Western Burrowing Owls that have returned from winter migration beginning the first week of March and continuing through

the end of August. Surveys can be conducted during any time of day that the Cooperator deems appropriate. When owls are observed**,** work includes examination of color bands, documentation of the band sequence or band number and recording the location on a map. All occupied burrows shall be identified using UTM coordinates (NAD 83 UTM Zone 13) and a map of these locations shall be produced.

3.4.3.2 Banding adult owls shall begin when they return to HAFB from their winter migration and continue until approximately the end of August. Adults and chicks shall be banded throughout the breeding season. Conduct banding events for owls using artificial burrows to determine site fidelity and authorize trapping/relocation for owls in hazardous locations (i.e. along flight line, adjacent to sensitive infrastructure, etc.).

3.4.3.3 Install digital cameras as needed near nest burrows to determine predation on nests and/or owls. Location of the cameras shall be coordinated with the NRM three weeks prior to installation for authorization. Flags shall be provided by NRM to mark proposed locations; Holloman AFB requires specific flag colors for dig permit review.

3.4.3.4 Conduct repeated observations where owl pairs are observed, using established protocols designed to determine reproductive success. A data form shall be created by the Cooperator and submitted to the NRM by 1 February of the base year; comments shall be provided to the Cooperator within two calendar weeks. The data form shall be completed for each observation. Work includes identification of the location of each burrow using a Geographical Positioning System (GPS). GPS coordinates (NAD 83 UTM Zone 13) of pairs/nests/satellite burrows shall be provided to the NRM within two business days after identification.

3.4.3.5 Provide technical assistance to the NRM for the management of the species. Requests may include notification of any threats to owls and/or burrows, installation of artificial burrows and monitoring**,** signage/barriers, delineation of prime habitat of the species, review and edits of the species sections in the INRMP, technical assistance and review of specific projects and recommendations for best management practices. Responses to the request are anticipated within two calendar days and agree upon a specific date for a full response to the request. Communications between the Cooperator and NRM shall be conducted via phone, meetings, or email. Notes from the communications need to be documented in an email by the Cooperator and submitted within two business days.

3.4.4 MGT, Species, Threatened & Endangered Species,

3.4.4.1 Conduct surveys to determine abundance and distribution of Federal and/or State listed Threatened & Endangered Species, during all seasons they occur on HAFB. The Cooperator should compare habitat requirements to known vegetation communities and habitats on HAFB. Current geospatial data and images and aerial photography (if available) can be used to determine if suitable habitat exists for the species of concern. On-site habitat assessments should be conducted as needed for the identified species. Surveys should be conducted as needed to validate the presence of species of concern. A

survey of the species occurring in and around the bodies of water on HAFB should be conducted in order to identify any species of concern.

3.4.4.2 Provide technical assistance to the NRM for the management of all threatened and endangered avian species within two calendar days and agree upon a specific date for a full response to the request. Requests may include notification of any threats to all threatened and endangered nesting birds, delineation of prime habitat of the species, review of and edits to the species sections in the INRMP, technical assistance and review of specific projects and recommendations for best management practices. Communications between the Cooperator and NRM shall be conducted via phone, meetings, or email. Notes from the communications shall be documented in an email by the Cooperator and submitted to the NRM within two business days. HAFB NRM shall provide information to the 49th CES/CENMP for annual updates of the HAFB Avian Protection Plan.

3.4.4.3 The Cooperator shall compare habitat requirements to known vegetation communities and habitats on HAFB and associated ranges.

3.4.5 MGT, Species, Neotropical Migrant Birds for Natural Resources Program

3.4.5.1 Conduct surveys to determine both nesting and transitory birds of HAFB, during all seasons they occur. The surveys are to determine species movement patterns as relevant, macro-scale habitat use, and nesting success within known species distributions on HAFB. Prescriptions for habitat management shall be developed to support and improve breeding habitat for avian species on HAFB in coordination with the NRM. Results shall be incorporated into the installation INRMP to support annual tripartite coordination.

3.4.5.2 Monitor grassland and shrubland birds in the primary habitats at HAFB and the associated ranges with a focus on nesting by grassland and shrubland species of conservation concern.

3.4.5.3 Focus on finding breeding pairs and territories of species of conservation concern, with emphasis on Cassin's Sparrow (*Peucaea cassinii*), Crissal Thrasher (*Toxostoma crissale*), and Loggerhead Shrike (*Lanius ludovicianus*)

3.4.5.4 Compare breeding and migrating assemblages by vegetation type, document presence of threatened, endangered, and sensitive species, and provide management recommendations for grassland species and their habitats.

3.4.6 MGT Species, Mammals

3.4.6.1 Conduct surveys to determine abundance, territories, home range, and den locations. Conduct population and breeding surveys during the season for species. Fieldwork shall be conducted throughout the year. Accomplish the required monitoring tasks using established and approved New Mexico Department of Game and Fish

(NMDGF) guidelines. Monitor population, offspring fate and success, causes of breeding failure, and success in accordance with approved protocols.

3.4.6.2 Conduct and determine abundance and distribution of meso-carnivore study. This covers coyotes, wolves (if they were to occur), foxes, etc. The purpose of this study is to determine where the bulk of meso-carnivores are residing, and appropriate management through track and capture methods using approved professional snare traps. This study shall be conducted if prey are observed congregating in mission-sensitive areas. Employ satellite GPC collars in accordance with NMDGF regulations. Determine survivorship with attached tracking devices for daily monitoring, and retrieve any carcasses, if necessary, to determine fate.

3.4.6.3 Focus shall be to continually collect and evaluate small species information data to support resource management plans. Conduct a baseline small mammal survey to determine species presence, Federal status, and abundance on HAFB and Boles Wells Water System Annex (BWWSA). Provide recommendations for management of any species of concern.

3.4.6.4 Update the geodatabase to include data on species location and abundance. Incorporate findings and maps into installation INRMP to support annual tripartite coordination.

3.3.4.7 MGT, Species, Raptors

3.4.7.1 Continue to document occurrences of all raptor species on established road transects, including Federal and State threatened, endangered, sensitive, and protected raptor species

3.4.7.2 Document evidence of breeding, including activity at any raptor nest. Monitor raptor nest success.

3.4.7.3 Document avian mortalities related to HAFB energy infrastructure, with focus on raptors.

3.4.7.4 Document any electrical utility infrastructure that has been retrofitted for avian safety since the creation of the Avian Protection Plan**;** re-assess those structures for avian safety.

3.4.8 MGT, Species, Herpetology

3.4.8.1 Continue to document occurrences of all lizard and amphibian species on established road transects, including Federal and State threatened, endangered, sensitive, and protected lizard species, if applicable.

3.4.8.2 Conduct annual herpetological surveys of HAFB/BWWSA and ranges to document species presence; monitoring for State and Federally listed species. Conduct annual surveys to delineate Western massasauga population and habitat. This task will be

a proactive measure for HAFB in the event the massasauga are listed. Provide recommendations for management of any species of concern. Update geodatabase on species location and abundance.

3.5 Task 5-MGT, Habitat (Optional) CLIN 0005:

3.5.1 MGT, Habitat, Burrowing Owls

3.5.1.1 Based on survey observations, burrowing owl populations on HAFB were determined to be relatively stable, with a slight decrease in the number of successful nesting events from previous years. The low density of burrowing owls could be a result of volatile weather patterns during the spring and summer months that are not conducive to successful nesting or a lack of available burrows on HAFB. While there are 13 artificial burrows installed across the base to alleviate this issue, they are not currently in the proper state to facilitate successful nesting. Renovate or repair existing artificial burrows and install additional artificial burrows near graveled or spatially open sites with low vegetation height. Create new structures within 100-300 meters of existing burrows and away from frequently disturbed sites and areas where Bird Aircraft Strike Hazard (BASH) issues could arise. Coordinate with the NRM potential locations of new artificial burrows. Evaluate the location practicality of installed artificial burrows and consult with the NRM any restoration or replacement considered. Upon visiting a location mark each burrow using a Garmin Montana 680t™ GPS or similar unit to update historic locations. Upon completion of historic site surveys and road surveys, create maps using ArcGIS® version 10.3™ or equivalent software showing location of visited burrows with supporting data such as viability of a burrow (condition or potential to support a nest), occupancy of the burrow if inhabited, and if the burrow was a natural or artificial structure.

3.5.1.2 Where owl pairs are observed, surveys will be conducted per avian standards. A pre-determined data form shall be filled out for each observation. The location of each burrow shall be recorded through a Global Positioning System (GPS) device.

3.5.1.3 Prey abundance studies shall take place on two burrows from different areas of owl distribution on base. Pitfall traps shall be used to analyze prey abundance and distribution. Sampling shall occur in different habitats of the base used by Burrowing Owls. Sampling shall occur throughout the breeding season, including during the pair formation, incubation, and nestlings' stages of reproduction. Prey mass shall be determined, and the type of prey identified.

3.5.2 MGT, Habitat, Chihuahuan Desert:

3.5.2.1 Conduct HAFB/BWWSA vegetation surveys on the installation proper during the base year and during the third option year if awarded, and on the ranges annually. The focus shall be to continually evaluate vegetative changes and land use throughout the base.

3.5.2.2 Obtain and utilize aerial/satellite imagery to perform GIS analyses and document changes in vegetative communities and land use to evaluate habitat fragmentation and locate invasive and sensitive species.

3.5.2.3 Perform a complete vegetation study and create maps of HAFB to be utilized for planning and management.

3.6 Task 6 MGT, Invasive Species (Optional) CLIN 0006:

3.6.1 The Cooperator shall perform habitat and invasive species management support for the 49 CES/CEIE, HAFB. There are currently eight species of noxious weeds identified on HAFB and the associated ranges. These invasive species impact or have the potential to impact natural resources and mission capability. Native vegetation community integrity and habitat functionality has been significantly decreased, and as a result, wildlife habitat value has declined, due in part to the encroachment of invasive weeds and ongoing drought conditions. Work shall involve surveying, cutting and chemically treating invasive species to include *Tamarix* (Salt Cedar) and *Peganum harmala* **(**African Rue**)** on HAFB and its associated Chihuahuan habitat and ranges.

3.6.2 Initially, the Cooperator shall conduct a survey or use an earlier survey approved by the NRM to determine the locations of invasive species on HAFB and associated ranges, then determine the species needing treatment, extent of encroachment, and the location and acreage.

3.6.3 Manage invasive Salt Cedar (or other invasive species) by manually and/or mechanically cutting using the cut-stump method, and application of herbicide to all cut stumps and sprouts. Treatment of Salt Cedar within designated locations shall require personnel to use chainsaws and backpack spray equipment within the wetland areas. The order for treatment priority shall be identified by the HAFB INRMP and treatment shall be conducted in a single mobilization, anticipated for 2-3 weeks with a crew of three to five persons. Prior to field treatment, treatment locations and access shall be coordinated with the HAFB. Management of African Rue by annual mapping of spread and density via aerial/physical surveys on HAFB/ranges. Develop experimental plots for chemical species control, plant physiology study to determine African Rue life history as a means to determine viable native species replacement and most effective management strategy (i.e. competition vs. removal, etc.). The Cooperator shall not enter water/wetlands with heavy equipment or vehicles. Minimal soil movement or soil disturbance (beyond foot traffic) shall occur within the wetlands' boundaries. Cooperator must stay on existing roads when possible to reach work areas, minimize off road traffic unless access needed to reach work areas. In cases where off road access is necessary, the Cooperator shall minimize off road use to the extent possible.

Work may include, but is not necessarily limited to, the methods described below.

3.6.4 Mechanical Treatment- Cooperator shall manually and/or mechanically cut Salt Cedar using the cut-stump method especially around Lagoon G and canal, where no standing water remains, in the following manner:

a. Manual Treatment: Manually (by using chainsaws or other hand equipment) cut Salt Cedar to the base of the tree in sensitive areas (adjacent to native vegetation, water and/or designated preserve locations) as designated by the NRM. Trees shall be cut as close to the ground as possible. No stumps may be left higher than eight inches above the ground surface (except when "high-stumping" as needed). Tree material shall be removed from the area and placed on base in areas near Holloman Wastewater Evaporation Pond as designated by the HAFB NRM.

b. Mechanical Treatment: Mechanically (with equipment) remove Salt Cedar to the root system of the tree. Trees shall be removed as close to the ground as possible. No stumps may be left above the ground surface (except when "high-stumping" as needed).

c. The Cooperator shall backfill all resulting holes to original grade.

d. All stumps greater than 3-4 inches in diameter and any stems less than 3-4 inches in diameter shall be treated as described in the Herbicide section of this prescription. Root sprouts (resprouts) at a height of 2-4 feet and less than four inches diameter, shall be treated with herbicide as described below.

3.6.5 Herbicide Application- Herbicides shall be applied by a State Certified Herbicide Applicator, as applicable, in accordance with label. The Certified Applicator shall wear clothing and personal protective equipment as specified on the herbicide label. The Cooperator shall follow HAFB's general approved practices if spills occur. Prior to application of herbicide, all equipment shall be inspected for leaks, clogging, wear, or other damage. Any damaged equipment shall be repaired or replaced prior to use.

Herbicide formulations shall be mixed or poured into spray equipment within designated staging areas. These staging areas must be located far enough away from the river floodplain, irrigation canals, or other locations where groundwater, irrigation water, or drinking water could potentially become contaminated. For non-native species receiving cut-stump herbicide treatments, herbicide shall be applied to freshly cut stump surfaces within 15-20 minutes after cutting. Herbicide shall be applied using backpack spray units with appropriately outfitted wands and nozzles to assure direct contact with the target area of the stump and to avoid herbicide 'drift.' Herbicides shall not be applied when winds exceed 15 miles per hour or when rain is forecasted for the local area within 48 hours of application. When Garlon-4 is used, it should not be used within a 20-ft buffer zone from areas where standing or flowing water is present; an aquatic-approved herbicide should be used within the 20-ft buffer zone.

The Cooperator shall apply herbicide to all cut stumps and/or root sprouts according to the following methods.

Note: *Herbicide formulation requirements change depending on the size of vegetation being treated. All chemicals used shall be coordinated with the HAFB NRM beforehand, as directed in the HAFB INRMP.*

Stump Applications: (for cut-stumps greater than four inches in diameter): Apply herbicide directly to the stump within15-20 minutes of cutting. In situations where the stump herbicide application cannot be applied within the recommended 15 minute time frame, individual and/or groups of stumps can be left "high-stumped" (two feet or more above the ground) and then re-cut and sprayed later to facilitate herbicide uptake.

Whip Application: Apply herbicide to root sprouts (new growth and/or re-sprouts, ~ three feet tall) less than four inches in diameter directly to the stem between 2" and 18" above the ground surface.

3.6.6 Follow-up Treatments: Upon site inspections by the Government, the Cooperator shall re-treat stumps that are missed during herbicide treatments. The Cooperator shall perform follow-up herbicide treatment of any root sprouts that occur after the first growing season. The Cooperator shall submit, in writing, a plan for treatment of the vegetation including exact methodology, herbicide to be used and proposed schedule.

4.0 QUALIFICATIONS

4.1 The Cooperator shall ensure only *qualified* personnel carry out the tasks outlined in this document. *Qualified* is defined as a professionally trained or certified individual whose experience relates to a Natural Resource Management field such as Wildlife Biology, Wildlife Management, Ecology, etc. There is an exception to this requirement for personnel who format and prepare the aforementioned studies.

5.0 GOVERNMENT FURNISHED MATERIALS OR PROPERTY

5.1 Physical Data: N/A

5.2 Facility: Office space may be provided as needed.

5.3 Equipment: 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 an annual inventory 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.

6.0 OPTIONS – Four (4) Option Periods of twelve months each subject to availability of funds.

Option Period 1 – 30 SEP 2022 to 29 SEP 2023
Option Period 2 – 30 SEP 2023 to 29 SEP 2024
Option Period 3 – 30 SEP 2024 to 29 SEP 2025
Option Period 4 – 30 SEP 2025 to 29 SEP 2026

7.0 PERIOD OF PERFORMANCE

7.1 The Base Period shall be from 30 SEP 2021 to 29 SEP 2022.

8.0 COORDINATION

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9.0 DELIVERABLES

9.1 Progress Reports - One (1) typed letter report describing progress on the project shall be delivered to both the HAFB Natural Resources Manager and the AFCEC Natural Resources Manager. The report shall be due as of the last day of the third month (**quarterly**) and shall be transmitted via electronic 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 monthly progress reports. No partial payment shall be approved unless the government has received all progress reports which are due.

9.2 Annual Report (if the project is longer than one year). One (1) paper copy of an annual report should be submitted no later than one month before end of each year to the HAFB Natural Resources Manager, the AFCEC Natural Resources Manager, and the USACE Project Manager. At a minimum, the report shall contain an introduction section, methods, project background/overview, and purpose of investigation, regulatory compliance information, data, results, maps and GIS data in SDSFIE format. For each

Task, the report shall summarize work accomplished for the Task. HAFB Natural Resources Manager and AFCEC Natural Resources Manager 08022007shall review and provide comments, if any, within fifteen (15) calendar days after receipt.

9.3 Draft Final Project Report. One (1) paper copy of a draft final report should be submitted no later than one month before end of the project to both the HAFB Natural Resources Manager and the AFCEC Natural Resources Manager. At a minimum, the report shall contain an introduction section, and one section for each Task identified in your proposal. For each Task, the report shall summarize work accomplished for the Task. HAFB Natural Resources Manager and AFCEC Natural Resources Manager shall review and provide comments, if any, within fifteen (15) calendar days after receipt.

9.4 Final Project Report. One (1) paper copy of the final report, incorporating HAFB Natural Resources Manager and AFCEC Natural Resources Manager review comments on the draft, if any, shall be submitted no later than fifteen (15) days after receipt of the HAFB Natural Resources and AFCEC Natural Resources Manager comments. Additionally, one (1) copy of the final report shall be submitted in an MSWord file(s), on digital media to the USACE Project Manager.

10.0 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 shall be subject to and recipient/Cooperator shall comply with 2 CFR 200.313 “Equipment”, 200.314 “Supplies”, and 200.315 “Intangible Property” which includes use of research data.

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