STATEMENT OF OBJECTIVES
MANAGEMENT HABITAT, REPTILES at LAUGHLIN AFB, TX
And
MANAGEMENT NUISANCE WILDLIFE, at GOODFELLOW AFB, TX

1.0 PURPOSE

1.1 The Laughlin AFB (LAFB) and Goodfellow AFB (GAFB) environmental programs ensure 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 Cooperative Ecosystem Studies Unit (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 In agreement with the above stated goals, the recipient/cooperator (hereafter Cooperator) agrees to perform Anchor/Mandatory Task 1: Reptile Management Laughlin AFB. Cooperator also agrees to perform one or more of the optional tasks defined in this Statement of Objectives (SOO) to support the Natural Resource program at the 47th Civil Engineer Squadron, Environmental Section, located at Laughlin AFB (LAFB), Texas and the 17th Civil Engineer Squadron, Natural Resource Element, which will be located at Goodfellow AFB (GAFB), Texas. The scope of this agreement will include, but is not limited to, developing, implementing, and evaluating documents and reports; environmental research; regulatory reviews and guidance; document preparation; field surveillance and oversight; training and preparation of briefing materials; database management support; participating and attending meetings at base level and headquarters functions; compiling data for Goodfellow, Laughlin, and other agency data calls, including the annual report to Congress; and, compiling, consolidating and evaluating program data for leadership.

The scope of this agreement includes an anchor/mandatory task and optional tasks defined in this SOO to support all of the various requirements identified in the GAFB and LAFB *Integrated Natural Resources Management Plans* (INRMP). The GAFB INRMP was used to define the environmental requirements for the white-tailed deer management activities outlined in this SOO. The Laughlin INRMP identifies five state listed reptiles having potential to reside in Val Verde County. These species include the Texas horned lizard *(Phrynosoma cornutum),* reticulate collared lizard *(Crotaphytus reticulatus),* Texas indigo snake *(Drymarchon melanurus erebennus),* the Texas tortoise *(Gopherus berlandieri),* and the trans-pecos black-headed snake *(Tantilla cucullata).* Additionally, the southern subspecies of the spot-tailed earless lizard *(Holbrookia lacerata subcaudalis),* a rare lizard petitioned for federal listing in 2010 occupies Laughlin AFB.

1.3 In order to perform this work successfully, the cooperator must have capabilities to support on site goals and objectives at both Laughlin AFB, Val Verde, Texas and GAFB, San

Angelo, Texas.

LAFB Goals and Objectives

The specific goals and objectives to be accomplished will continue special status reptiles monitoring, and more fully investigate relative abundance, habitat/vegetation analysis, and distribution within all habitat types of the five state listed species and H. l. subcaudalis. A conservation management plan will be developed for each special status species as indicated by the survey results.

GAFB Goals and Objectives

The specific goal and objective to be accomplished will entail an operational white-tailed deer trap, transport, and process control program at GAFB located in Tom Green County, San Angelo, Texas. The primary goal of the operational program will be to reduce white-tailed deer populations in order to alleviate the damage caused by vehicle strikes, negative impacts to the local ecosystem, and reduce safety concerns at GAFB.

2.0 AUTHORITY

2.1 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 LAFB responsibilities pursuant to the Sikes Act Improvement Act (16 USC 670 et seq.), Department of Defense Instruction 4715.03, Natural Resources Conservation Program, Department of Defense Directive 4700.4, Natural Resource Management Program, and the United States Air Force Instruction (AFI) 32-7064, Integrated Natural Resources Management Plan

In agreement with the above stated goals, the Cooperator agrees to provide the necessary personnel, equipment, and materials required to implement, in part, the GAFB responsibilities pursuant to the Sikes Act Improvement Act (16 USC 670 et seq.), Air Force Instruction (AFI) 32-7064 (Chapter 13), and Executive Order (EO) 13112. All of these documents require proactive management to limit the overpopulation of white-tailed deer and seek a small manageable population.

2.2 A Cooperative agreement is a legal instrument which, consistent with 31 USC Part 6305, is used to enter into the same kind of relationship as a grant, except that 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. The installation further (hence DOD) agrees to provide substantial involvement as directed under the CESU Cooperative Agreement #W9126G-l2-2-0019. Specifically, GAFB and LAFB will provide administrative assistance, as appropriate and necessary to execute this Agreement and subsequent modifications, and will provide further cooperation in the following areas:

- Coordinate research activities with other installation entities,

- Close monitoring during performance,
- Involvement in technical decisions such as methodology, and
- Participation in status meetings including kick off meeting and document reviews.

3.0 DESCRIPTION OFOBJECTIVES

As shown below, there are multiple objectives with associated technical tasks anticipated for natural resources support at Laughlin Air Force Base and Good Fellow Air Force Base. Task 1 Reptile Management will be funded as the Basic Task each year. Task 2 Habitat Restoration and Task 3 White Tail Deer Control will be Optional Tasks that may be funded during each year depending on project conditions and needs.

Objective/Task	Base Year	Option Year 1	Option Year 2	Option Year 3	Option Year 4
Base Task 1 - Reptile Management Laughlin AFB	*	*	*	*	*
Optional Task 2 - Habitat Restoration to Support Reptiles & Other Species Laughlin AFB	**	**	**	**	**
Optional Task 3 - White-Tailed Deer (WTD) Control Goodfellow AFB	**	**	**	**	**
*Basic Task to be funded each year **Optional Task - may be funded at any time each year while the agreement is active					

3.1 Anchor/Mandatory Task 1: Reptile Management Laughlin AFB

The cooperator shall provide managerial, technical, and administrative program support to survey the diversity of reptiles at LAFB with a specific focus on the spot-tailed earless lizard (STEL), a state listed species of greatest conservation need according to the Texas Parks and Wildlife Department; map distribution of all STELs encountered; document results in the Laughlin AFB GIS database.

The Laughlin AFB INRMP identifies five state listed reptiles having potential to reside in Val Verde County. These species include the Texas horned lizard (*Phrynosoma cornutum*), reticulate collared lizard (*Crotaphytus reticulatus),* Texas indigo snake (*Drymarchon melanurus erebennus)*, Texas tortoise (*Gopherus berlandieri)*, and the Trans-Pecos black-headed snake (*Tantilla cucullata).* Additionally, the spot-tailed earless lizard (*Holbrookia lacerata*, a rare lizard petitioned for federal listing in 2010) occupies Laughlin AFB.

Reptile surveys on base in 2017-2020 documented healthy populations of the Texas horned lizard and spot-tailed earless lizard. In addition, 2017 radio-telemetry monitoring and mark-recapture surveys of the spot-tailed earless lizard indicated that this species is more common than previously thought on Laughlin AFB and possibly state-wide. The 2017-2020 data suggest that the perceived rarity of the spot-tailed earless lizard state-wide may be due to poor sampling techniques. Continued radio-telemetry monitoring and mark-recapture surveys of the spot-tailed earless lizard on Laughlin AFB are required to substantiate this hypothesis.

Surveys shall provide baseline inventory and distribution of all reptiles encountered, and more fully investigate relative abundance, habitat/vegetation analysis, and distribution within all habitat types of the five state listed species and the spot-tailed earless lizard. Surveys shall be conducted twice monthly, March (if weather allows) through June, and at least monthly July through September. In addition to the surveys, Cooperator will continue mark-recapture surveys of the spot-tailed earless lizard on Laughlin AFB. A conservation management plan will be developed for each special status species and the spot-tailed earless lizard as indicated by the surveys, radio-telemetry monitoring, and mark-recapture results.

The cooperator shall provide a vehicle, field supplies and equipment, unless otherwise noted in this SOO. All survey data and GIS shape files shall be provided to the Laughlin natural resource manager. Data shall be collected, processed and delivered using formats directly compatible with the methodology underlying the network of state Natural Heritage Programs/Conservation Data Centers.

3.1.1 Collaboration
The Cooperator will work closely with Laughlin AFB personnel to ensure practical and achievable strategies. It will be critical to consult with installation personnel to ensure appropriate methodology, access to installation areas, required deliverables, and ultimate completion of all project goals. An initial kick-off meeting with the natural resource office will be required to discuss a work plan and establish points of contact and installation access.

3.2 Optional Task 2: Habitat Restoration to Support Reptile and Other Indigenous Species Management at Laughlin AFB (Optional Task)

The Cooperator shall provide managerial, technical, and administrative program support for post-treatment monitoring of three separate areas distributed along the northwest, southwestern and eastern boundaries of the installation. These areas are designated as Areas A, B, and C, in the Laughlin Salt Cedar Eradication Plan (attached). The first action under this task will be coordination with the Laughlin AFB Natural Resources Manager, to determine, based on available funds and site conditions, a work plan that includes monitoring for Salt Cedar in all prior treatment areas, removal or treatment of newly identified salt cedar and re-sprouts, and habitat restoration monitoring and additional actions necessary to stabilize the three treatment areas. All three Areas are undeveloped and largely unmaintained with the exception of unimproved roads that enable access.

3.2.1 Areas A, B and C
Prior to treatment, Area C was large dense thicket of mature tamarisk identified along the southern tip of the study area. The immediate area of infestation was associated with sensitive aquatic habitat. This area is bordered by perimeter roads which serve to limit the dispersal of the species. Due to the isolated location of the site and dense monotypic speciation, a more intensive approach to eradication was utilized and ground disruption was avoided wherever feasible. Hand treatments were utilized in areas where cultural artifacts have been observed, or within delineated wetland areas.

For control of remaining young tamarisk:

3.2.1.1 Weed pulling or foliar spray for seedlings and saplings <2-3 feet in height.

For all other age classes that have been identified or re-sprouted:

3.2.1.2 The cut-stump method is recommended. Tamarisk trees should be cut as close to the ground as possible with chainsaws or pruning shears and the stumps immediately sprayed with Triclopyr (Garlon 3A® and Garlon4®) as directed by the herbicide label for cut-stump applications. Waiting to apply herbicide more than a few minutes may result in increased resprouting.

3.2.1.3 Once the trees are felled, all slash and debris may be chipped off the site, away from cultural areas. Chipped material should not be placed in sensitive aquatic areas. The chipped material would be considered fill within the wetland and as such shall be maintained in upland areas.

In order to reduce the potential for spreading salt cedar, the cooperator shall thoroughly clean and inspect all equipment and clothing on a daily basis before leaving the work site.

3.2.3 Site Restoration
Once salt cedar has been successfully removed, and dependent on restoration targets established in the work plan, revegetation is recommended, when funding allows, to provide competition against future invasion and restore a native vegetation community. Without special planning and care, treated areas may be rapidly re-invaded by salt cedar or other invasive species. In such instances, sustainable control over the long term is best accomplished by planting competitive native plants that have a high exclusionary ability. Revegetation with regionally native grass seed and in accordance with native seed supplier recommendations for seed mixes, rates, and dates will provide protection against soil erosion and sedimentation as well as minimizing re-infestation of the site.

A native grass seed mixture containing species such as South Texas side-oats grama, little bluestem, bristlegrass, Canada wild rye, and hairy grama is recommended.

For long-term restoration of the site, native riparian/wetland woody species such as cottonwood, hackberry, and/or black willow have a rapid growth potential under conditions of low environmental stress and are good candidate species for plantings. These or similar species approved for planting according to Laughlin's Sustainable Landscape Development Plan are recommended to be planted at each Treatment Area after salt cedar removal.

3.2.4 Post-Treatment Monitoring Program
The success or failure of control measures shall be monitored in accordance with the LAFB Salt Cedar Eradication Plan and the Wetlands Restoration Plan.

3.2.5 Laughlin AFB Herbicide Application Requirements.

- Cooperator personnel handling and applying herbicides shall possess a current State of Texas certification, business license and training in the appropriate herbicide/ pesticide categories. A copy of all state certifications/licenses of personnel applying herbicides shall be provided to the Laughlin AFB Pest Management Quality Assurance Evaluator (QAE) and seven (7) days prior to the application of any pesticide.

- No uncertified technicians will be authorized to mix or apply herbicides. The cooperator shall perform treatment of vegetation in accordance with federal and state regulations and DoD Pest Management Programs prescribed in AFI 32-1053, particularly para 4.7.4, and 4.7.6, and DoDI 4150.7 Encl 4 para 5b(3).

- The cooperator shall provide the QAE with the herbicide product used, the site of application, and the pounds active ingredient applied, utilizing the LAFB pesticide reporting forms as supplied by the QAE.

- The cooperator shall submit the following information to the QAE for approval ten (10) Days prior to herbicide application.

  (a)The type of herbicide(s) to be applied; with trade name & EPA number & application rate
  (b) Timing of application(s)
  (c) The type of application equipment

- Herbicides will be applied in accordance with label directions, including required personal protective equipment, application rates, and use restrictions. The contractor shall submit a report (DD Form 1532-1) to the COR the following regular workday after application listing the target pest, temperature, wind speed, direction, the type and amount of chemical used per location and pesticide applicator(s). Wind speed information can be obtained from the Base Weather Office at 325-696-2524.

- Storage and mixing of herbicides by the contractor is not allowed on base. Contractors must have a spill kit on each vehicle capable of containing 110% of the greatest container volume. All wastes shall be the responsibility of the contractor and will be disposed of offsite in accordance with all Federal and State regulations pertaining to hazardous chemicals, wastes, and herbicides/pesticides. In no manner will the government be responsible for off- base disposals.

3.3 Optional Task 3: White-tailed Deer (WTD) Control (Optional Task)
The Cooperator shall provide managerial, technical, and administrative oversight for white-tailed deer capture and removal on Goodfellow AFB.

3.3.1 Capture Locations, Baiting, and Timeframe
Goodfellow AFB will bait locations used in prior capture events to concentrate deer

numbers beginning approximately one month prior to the Cooperator's coordinated capture event. The capture shall be a consecutive three-day event conducted no later than the month of March.

3.3.2 Collaboration
The cooperator will liaise between Goodfellow AFB and sub-contractors to provide a three-day capture event permitted by the Texas Parks and Wildlife Depart (TPWD) to trap, transport and process (TTP) WTD, and to secure an approved food bank that will take possession of the field dressed carcasses on site for final processing and distribution. The Cooperator will be responsible for securing the TTP permit. The Cooperator will also be responsible for the humane euthanasia of all captured deer, associated field dressing, and offal disposition over the duration of the three-day capture event.

It will be critical to consult with installation personnel to ensure appropriate methodology, access to installation areas, and ultimate removal of the maximum number of WTD possible within the three-day event window. An initial kick-off meeting with the natural resource office will be required to discuss a work plan and establish points of contact and installation access.

4.0 QUALIFICATIONS

4.1 The Cooperator must have or be able to obtain prior to the performance period all federal, state, and local permits needed to conduct work in the region.

4.2 Must be able to obtain appropriate permits and or certification for new employees or requirements during the performance period within 30 days of Notice to Proceed (NTP).

4.3 The Cooperator must have a great deal of experience on military installations throughout the United States and be prepared for the demands a white-tailed deer population control project requires.

4.4 Additionally, the Cooperator must have worked with state and federal entities (e.g., Texas Parks and Wildlife Department, U.S. Department of Defense, U.S. Fish and Wildlife Service, U.S. Forest Service) and other stakeholders to synergize research programs and management plans.

4.5 Due to the complexity of issues, previous knowledge military natural ecosystems management is preferred over other natural resource management system experience. Specific knowledge of the Endangered Species Act, Sikes Act, and INRMP implementation is highly preferred.

4.6 Investigators must be certified herpetologists/wildlife biologists, experienced in conducting reptile surveys, experienced in herpetological survey methods and protocols.

4.7 Must be capable of safely operating all-terrain vehicles (ATVs), four-wheeled vehicles, and safely working in rugged or remote locations.

4.8 Must be able to perform field work in all times and under all conditions such as but not limited to: high temperatures, high humidity, nighttime, weekends, in caves, remote areas, throughout multiple and remote locations within three counties, and with varying habitat types at each location.

4.9 Contractor personnel handling and applying herbicides shall possess a current State of Texas certification, business license and training in the appropriate herbicide/ pesticide categories.

5.0 GOVERNMENT FURNISHED MATERIALS

The government will provide maps, previous reports, master plans, INRMP, as are available. Two-way radios, sufficient office space as necessary.

6.0 OPTIONS

This effort includes four 18-month Option Periods that will be awarded based on project conditions, needs and subject to availability of funds.

6.1 OPTINAL TASKS: Each of the 18-month Option Periods will include Optional Tasks 2 & 3 as shown in section 3.0.

7.0 PERIOD OF PERFORMANCE

7.0 The Base period will be 18 months from the date of award.

7.1 Option periods – Each of the 4 Option Periods will be exercised 12 months from the date of award, and have a period of performance of 18 month months once exercised. The first option period will start at the end of the previous period of performance. The 18 month period of performance consist of 12 months of field work and 6 months of report and submittal requirements.

8.0 COORDINATION

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9.0 DELIVERABLES

9.1 A kick-off meeting for all three taskings post award will be required, to establish contact information, solidify work plans, and establish installation access protocol.

9.2 Weekly technical staff summary of activities completed the previous week and activities planned for current week. Summary can be in person or via conference call.

9.3 Monthly billing and project status reports, no later than (NLT) the 15th of each quarter.

9.4 Annual report on all activities performed and species monitoring conducted to include analysis and technical recommendations for continued management. Due NLT 30 days beyond the end of the performance period. Provide to USACE & Installation representative.

9.5 Complete Summary report of all option years' activities NLT 30 days beyond the end of the final option year. Provide to USACE & Installation representative.

9.6 All raw data and Geographic Information System (GIS) files in a single geo database.

10.0 REFERENCES

10.1 Goodfellow AFB – Prior WTD removal report

10.2 Laughlin AFB -Integrated Natural Resource Management Plan, 2017

10.3 Texas Parks and Wildlife Department, Val Verde County List of Rare, Threatened, and Endangered Species

10.4 Laughlin Salt Cedar Eradication Plan

10.5 Laughlin Wetland Restoration Plan

11.0 ADMINISTRATION

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 recipient/cooperator 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]