



Department of Defense Legacy Resource Management Program

Scope of Work Template for Amphibian and Reptile Surveys and Inventories on Department of Defense Lands



Department of Defense Partners in Amphibian and Reptile Conservation

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The Department of Defense Partners in Amphibian and Reptile Conservation (DoD PARC) network developed this Scope of Work (SOW) template to help installation natural resources personnel save time and effort when contracting for amphibian and reptile (herpetofauna) surveys/inventories, and to help standardize how herpetofauna surveys/inventories are conducted on DoD lands. Users may modify this template for installation-specific needs, for nearly any type of surveys/inventories of herpetofauna. Useful notes and considerations are in blue font. Red font indicates where template users should provide their input. Users may substitute “Offeror” with “Contractor” or “Cooperator” depending on if this work will be executed using a contract or cooperative agreement.

Scope of Work for
Surveys of Amphibians and Reptiles at [Project Location]
[mm/dd/yyyy]
Contract or Interagency Agreement [XXXXXX-XX-X-XXXX]
TASK ORDER [XXXX]

Section 1.0 – Introduction

Note to User: In the Introduction, state the need for the survey and its goals and objectives. Include the requirement(s) (DoD, Military Service, Sikes Act, Endangered Species Act, etc.) for the work. Briefly describe the installation’s location, acreage, and general habitat types. Consider including one or more maps showing features and locations of interest (infrastructure, habitat types, wetlands, possible survey locations), especially for large installations or those with multiple special use areas. Consider including a summary of previous herpetofauna surveys on the installation, important findings, and key data gaps (areas not previously surveyed, species for which targeted surveys have not been done). We recommend including a species list drawing from previous surveys, the installation’s Integrated Natural Resources Management Plan (INRMP), and/or the DoD PARC Amphibian and Reptile Database.

Example:

To proactively manage the ecosystem and its constituent species, the Navy requires periodic surveys, using the best available methods, to determine the presence and location of plant and wildlife species. Reptiles and amphibians (hereafter, herpetofauna) are important components of ecosystem functions and are valuable indicators of ecological integrity. Many species have experienced precipitous population declines, and their persistence is threatened by habitat loss and fragmentation, disease, climate change, introduced species, and other factors.

The goal of this project is to determine the occurrence and distribution of herpetofauna on Naval Support Activity (NSA) Mid-South, located near the town of Millington in Shelby County, Tennessee. In partnership with the US Fish and Wildlife Service (USFWS) and the Tennessee Wildlife Resources Agency (TWRA), the Navy is responsible for managing natural resources at NSA Mid-South. In accordance with the Sikes Act Improvement Act of 1997, the facility's Integrated Natural Resources Management Plan (INRMP) describes the goals, objectives, and projects of the Navy's ecosystem-based natural resources program. This project implements the goals and objectives of the NSA Mid-South INRMP.

Of NSA Mid-South's 1,470 acres, about 206 acres are "unimproved" and include several habitat types where wildlife may occur (Attachment A). The Big Creek Drainage Ditch follows the majority of the southern boundary of NSA Mid-South, drains the majority of the installation's surface water runoff, and is bordered by bottomland hardwood forest. Pine-Hardwood Mixed Forest is found along Mid-South's nature trail and in other areas. Sewage treatment lagoons are abandoned settlement basins, separated by an earthen berm, that are inundated with water for most of the year; various plant species and successional zones surround the lagoons.

Of the nearly 80 herpetofauna species that may occur at NSA Mid-South, eighteen (18) amphibians and eighteen (18) reptiles have been confirmed (Attachment B). Our review of previous surveys at Mid-South, in addition to recent taxonomic changes, have led to uncertainty about which species and subspecies occur at Mid-South, and this uncertainty warrants clarification.

Section 2.0 – Work Elements

Note to User: The Work Elements section contains general requirements set forth by the Government for the survey, without going into detail about the schedule, methods and deliverables for the work. Typically, this section includes the following: experience/expertise of the Offeror; permits (if required); ownership of purchased equipment; and ownership and use of collected data.

Example:

The Offeror shall furnish all labor, materials, tools, supplies, services, equipment, project management, permits, contract/procurement administration, transportation and incidentals necessary to perform all work in accordance with the SOW as well as remove any materials following the end of the project. The Offeror is responsible for obtaining all necessary state and federal permits (if necessary) to conduct the work prior to beginning any field surveys.

Offeror personnel shall have expertise and recent experience surveying for and handling herpetofauna. Credentials of Offeror personnel shall include a minimum of a Bachelor's degree in Wildlife Biology or related science discipline and at least five years of recent experience conducting herpetofauna inventories/monitoring.

All field notes, field data forms, photographs, and equipment produced or purchased as part of this SOW are the property of the U.S. Government. These data will not be used, in whole or in part, in any professional, scientific or non-scientific report, paper or note, published or unpublished or be part of any technical or non-technical presentation without the written pre-authorization and review by the installation representative and others as required.

Section 3.0 - Services Requested

Task 1 – Meetings and Progress Reports

Note to User: This task describes meetings and/or progress reports requested by the Government. Be as specific as possible so the Offeror can estimate the time and effort to complete this task.

Example:

*Within **XX** days of contract award, the Offeror shall coordinate and participate in a project kickoff meeting via teleconference or on-site to review the scope of work, identify roles and responsibilities of project members, discuss installation access requirements, and review safety protocols. Within **XX** days of the kickoff meeting, the Offeror shall submit draft minutes summarizing the kickoff meeting for the Government’s review and acceptance.*

*During the period of performance of the project, the Offeror shall participate in up to **XX** one-hour teleconferences or on-site meetings to discuss the progress and findings of the project and address any issues or concerns of the Offeror or the Government. The Offeror is responsible for providing draft and final meeting minutes summarizing the content and discussions held during the meetings.*

By the seventh day of each month, the Offeror shall email monthly progress reports to the points of contact listed below. Monthly progress reports shall summarize the work that was conducted the previous month, percentage of each task completed to date, and what tasks are expected to be performed in the coming month.

Task 2 – Work Plan

Note to User: A project-specific work plan is optional. In general, a work plan may be more suited for a complex, well-funded project. A work plan should be developed and approved before field work begins, should identify methods and timing of the services requested (tasks), should clearly state how the Offeror’s effort and deliverables will satisfy the Government’s requirements, and may describe contingency plans if the original goals and objectives are not initially met. A well-thought-out plan can contribute to a successful project.

Example:

Within **XX** days after the kickoff meeting the Offeror shall prepare and submit a draft Work Plan to the Government's Project Manager (PM). Within **XX** days of receiving the PM's comments, if any, the Offeror shall address the Government's comments and submit the final Work Plan to the PM. This task shall be completed prior to beginning field work. The Work Plan shall describe the following: the project objectives; the personnel performing the work; the protocols for ensuring the safety and welfare of project personnel and wildlife; proposed survey/inventory techniques, data collection and delivery methods; a schedule of survey events and deliverables; and the Offeror's quality control measures related to data and deliverables. The Work Plan shall include a list of herpetofauna species already confirmed present on the installation and those with the potential to be present.

Task 3 – Field Surveys

Note to User: This task identifies the number and timing of survey events (and field days) being requested by the Government, and survey techniques to accomplish the project's objectives. The number of field days will vary depending on the size of the installation, project budget, and survey methods.

DoD PARC endorses the use of HerpMapper (<https://www.herpmapper.org>) to document species encountered in the field. HerpMapper is an applet that runs on smart phones and can be used to record data (including a species' common and scientific names, date, time latitude/longitude, age, sex, photographic voucher and more) of captured herpetofauna. You may consider using HerpMapper as a substitution for the Offeror filling out data sheets. Data entered into HerpMapper can be downloaded and exported into an Excel spreadsheet and/or converted to a Geographic Information System (GIS) file as deliverables. Additionally, DoD PARC leadership uses data in HerpMapper to update the DoD-wide inventory of herpetofauna.

Example:

Schedule and Timing: The Offeror shall conduct **XX** field survey events for amphibian and reptile species in the project area. Field surveys will be conducted generally during the **[spring, summer and fall]** and will consist of **XX** field **[days/nights]** per survey event conducted by **[at least two]** biologists. The field work shall be performed during the appropriate time of year and time of day/night 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. For nocturnal surveys, the Offeror shall implement sufficient safety protocols and may be required to coordinate the time and location of surveys in advance with installation Security Forces.

Locations: The Offeror shall conduct surveys at all areas with suitable habitat for amphibians and reptiles and shall include a map(s) and GIS data of all survey locations in the draft and final

report. During field survey events, the condition of areas surveyed should be minimally disturbed and as best as possible restored back to its original state if disturbance was required for survey efforts (e.g. returning moved logs and rocks to their original locations).

Data Collection and Management: *The Offeror shall collect the following data for each animal: species common name and scientific name, date, time, location, sex, breeding status, relative age class, weather conditions, and general habitat type. All herpetofauna that are observed or collected will be recorded on a data sheet or using the HerpMapper applet. The Offeror shall use a handheld Global Positioning System (GPS) device to record the location of all captured and observed herpetofauna. The Offeror shall take quality, diagnostic photographs of at least one individual of each species encountered, and shall photograph any animals that could not be readily identified in the field.*

Animal Safety: *The Offeror is responsible for the welfare of animals that are captured during this survey and care should be taken not to kill or injure any wildlife or rare plants. Surveys shall not be conducted during extreme conditions (e.g., extended drought, cold or hot weather) when animal welfare may be jeopardized. Captured wildlife should be released at the site of capture and not moved to another area of the installation. Any wildlife killed, or incidentally encountered as deceased, should be identified, the location noted, and a voucher photograph collected. If feasible, the organism should be collected and deposited in a local museum or university as a voucher specimen.*

Specific Survey Methods: *The Offeror shall consider and propose survey techniques (examples provided below) that are specific to accomplishing the objectives in this SOW. Proposed survey technique(s) shall consider the ecology and natural history of the target species, acreage and habitat types of the survey area and the period of performance of this task order. When proposing use of survey techniques that require soil disturbance such as pitfall traps and drift fencing, ensure that all necessary coordination is completed. This may include submittal of a work permit, dig permit or other informational forms that are reviewed by relevant specialists such as cultural resources, based on the location of the proposed activity. The installation natural resource specialist can assist with this task.*

Note to User: The survey techniques requested in the SOW will vary depending on the objectives of the study and budget. For a general herpetological inventory, DoD PARC recommends three rounds of Visual Encounter Surveys (Heyer et al. 1994) in the spring, summer and fall for a period of five days each (total of 15 days/nights), performed by two experienced biologists working together to increase animal detections and safety. However, the number of survey events and field days may be more or less than five days depending on the size of the installation and budget. Listed below are the typical survey techniques for amphibians and

reptiles. We recommend using multiple methods to increase the likelihood of detecting a broad variety of species.

Visual Encounter Surveys: *The Offeror shall use the Visual Encounter Survey (VES) methodology to inventory the amphibians and reptiles in the survey area. This survey method involves searching selected wetland and upland habitats for amphibians and reptiles when and where the probability of encounter is high (appropriate microhabitat, weather, and time of day for the target species). Field surveys will be conducted generally during the spring, summer and fall and will consist of **XX** field days per survey event conducted by at least two biologists. Particular attention should be taken to search under fallen logs, loose tree bark, flat or loose rocks, plywood boards, and other discarded materials since these items are known to provide cover habitat (refugia) for herpetofauna.*

Dip Net Surveys: *The Offeror shall use the dip net technique to survey for aquatic and semi-aquatic herpetofauna. Dip netting is a good method to find small turtles (e.g., Kinosternon spp.), aquatic snakes (e.g. Liodytes spp.), adult and larval (tadpole) frogs and toads (Order Anura), and a variety of adult and larval salamanders (Order Caudata). A dip net is a long wood or metal pole with a mesh net on one end. This technique involves walking the wetland bank or wading slowly through the water and sweeping the dip net through the water or underneath floating vegetation. For tadpoles and some salamanders, the best habitat is shallow water (less than two feet deep) which is not shaded and has open areas mixed with submerged aquatic vegetation. Small snakes, turtles, and some salamanders inhabit mats of floating vegetation near the edges of water bodies.*

Egg Mass Surveys: *The Offeror shall conduct egg mass surveys at seasonal or permanent wetland sites during the breeding period of amphibians to monitor reproductive activity. Egg mass surveys can provide information on the presence/absence and reproduction of amphibians. This technique involves searching the perimeter and interior of wetlands for globular masses of eggs attached to vegetation. Egg masses of respective species shall be photographed in situ and left in the location they were observed.*

Road Surveys: *The Offeror shall conduct road cruising surveys for herpetofauna. This technique involves driving roads during the day or night when herpetofauna are active. During the winter and early spring, road cruising during a mild rainy night is an effective way to find amphibians moving to or from breeding ponds. Cruising roads is most successful when targeting specific areas, species and times, rather than when conducted randomly. Extreme care must be taken to avoid running over small animals. Encountered herpetofaunal species shall be photographed for documentation.*

Artificial Cover: *Because herpetofauna seek refuge under cover, placing artificial cover objects (tin, metal or plywood boards) on the ground is an easy way to attract and detect a variety of herpetofauna. The Offer shall place [**add type and number of cover boards**] cover boards (1/2*

inch thick, 4'X 4') in the field in a grid configuration [or along a transect, or randomly] within multiple habitat types [or in a target habitat type for a specific species] and shall check the cover materials [add number of times to be checked] times during the study. The Offeror shall mark (with flagging or pin flag) the artificial cover to avoid disturbance (though the marking may have the unintended result of attracting attention to the cover). At the conclusion of the study, the Offeror shall remove all cover objects and marking from the study area.

Auditory Surveys: The Offeror shall conduct auditory surveys for breeding frogs and toads [once a month] from [start month to end month] [Note: the timing will depend on the species and location; typically, frogs and toads are vocal between February and August.] Numerous methods exist to accomplish this using both active and passive recording methods. For active surveys, consider using the North America Amphibian Monitoring Program protocol (<https://www.usgs.gov/centers/eesc/science/north-american-amphibian-monitoring-program>).

Automated Recorders: The Offeror shall purchase and deploy [add number of automated loggers] automated acoustic loggers at [add number of wetland sites] wetland sites within the project boundary. The acoustic loggers will be programmed to record two minutes of sound at the beginning of each hour from 7:00 pm to 1:00 am each night generally from February-August. The Offeror shall analyze the recordings and identify the species of frogs/toads present at each site based on their species-specific vocalizations. Recorders must be marked to identify the surveyor in the event of discovery and avoid disturbance. [At the end of the study, the Offeror will give the acoustic loggers to the installation NRM.]

Basking and Spotlight Surveys: The Offeror shall use basking and/or spotlight surveys to survey for herpetofauna. During a basking survey, the observer walks or boats along the perimeter of a water body or wetland, and uses binoculars to look for basking turtles, snakes or crocodilians. For turtles, basking surveys should be conducted during the late spring or early summer when turtles are active and basking, but not during the summer when warm water temperatures reduce basking behavior. Spotlight surveys are used to detect herpetofauna active at night and involves the use of a spotlight/flashlight in conjunction with binoculars (Wildlife Research Associates, 2016). Spotlight surveys may require special permission from the installation or state, so it is recommended that you check with the installation natural resources manager and/or state wildlife agency, prior to conducting this activity.

Turtle Trapping: The Offeror shall purchase and deploy [XX] nylon netting hoop-style traps at [XX] locations. Each hoop net shall be baited with a partially opened can of sardines, placed in the water, and secured with rope to keep the trap in place. The Offeror must ensure that the top 3 – 4 inches of the hoop net extend above the water line to allow turtles and other organisms space to breathe if water levels rise (e.g., after rain). Each hoop net shall be checked daily to remove captured individuals, to ensure there is sufficient air space, and to check the bait.

Disease Sampling: To determine the presence of and the species affected by amphibian chytrid fungus (*Bd*; *Batrachochytrium dendrobatidis*), salamander chytrid fungus (*Bsal*; *Batrachochytrium salamandrivorans*), Ranaviruses, and snake fungal disease (*Ophidiomyces ophiodiicola*), the Offeror shall collect at least (XX) samples from a variety of taxa and individuals and shall analyze the data using DNA extraction and quantitative PCR amplification (qPCR) to determine the prevalence of these diseases on the installation.

Note to User: If the objective of the project is to collect information on the population status/trends of herpetofauna species, then you may consider using the techniques below. Please note that these techniques are more labor intensive and will increase the cost and period of performance of the project.

Drift Fence and Pitfall/Camera Trap Surveys: The Offeror shall install pitfall trap arrays at [add number of locations] locations. Using camera traps instead of pitfall traps may also be used. [Note: Use of pitfall traps may require dig permits or unexploded ordinance clearance prior to installation. If you want the Offeror to use camera traps, you should include time and money in the budget for the Offeror to analyze the photos]. In the Work Plan, the Offeror shall propose the length, configuration (e.g., circle or split-cross array) and materials of the drift fences, the number and size of buckets (if using pitfalls), and/or the number and specifications of camera traps. The Offeror shall deploy [at least two] funnel or box traps at each trap array. While in use, the Offeror shall check the pitfall traps at least once a day to remove captured animals (herpetofauna and non-target species) and to make repairs to the array if needed (it is not rare for large animals like deer and cattle to run or walk into drift fences and cause significant damage). Conditions that may result in overcollection or mortality shall be avoided by closing traps prior to triggering weather events. At the end of the study, the Offeror shall remove the drift fence and traps from the study area and shall fill empty pitfall holes with soil.

Radio Telemetry: The Offeror shall use radio telemetry to monitor the movement patterns and habitat use of [add species and range, maximum, goal, or specific number of individuals to be tracked] for a duration of [add number of months/years to tracked]. Transmitters shall be implanted or attached to subjects following scientifically proven procedures. Each tagged animal shall be monitored at a minimum of [add number of days] each [day or week]. During the initial capture of subjects to be monitored, data collected shall include: date, time, observer, latitude and longitude, sex, age, length (e.g., total length and snout-vent length), mass; and notes on observable health issues, ectoparasites or abnormalities. Following transmitter implantation or attachment, animals must be tracked frequently to ensure there are no ill-effects, such as capture myopathy or entanglement, of the implantation/attachment. For each tagged animal, the Offeror shall record the following data during each relocation: subject ID (this may be a unique ID or frequency of the transmitter); date, time, observer, latitude and longitude, habitat type, and notes on behavior.

At the end of the study, the Offeror shall calculate the following for each tagged animal and shall include these results in the draft report: total distance moved, distance moved per day, distance per movement, Minimum Convex Polygon (MCP) activity range, Kernel activity range, and relative habitat use. If transmitters are actively working at the end of the study, the Offeror shall provide the Government with a list of transmitter frequencies, radio receiver equipment, and user account information to tracking software or subscriptions so the Government may continue to monitor animal movements after the period of performance of this task if feasible.

Mark-Recapture: *The Offeror shall mark (temporarily or permanently) herpetofauna and attempt to recapture or re-observe the animals after release. Procedures must meet any Institutional Animal Care and Use Committee (IACUC) guidelines for the agencies involved. Methods may include body marks (shell notching, toe clips, etc.), bands/identification plates, colored nail polish (for reptiles), Passive Integrated Transponders (PIT) tags, or other such techniques. For each marked animal, the Offeror shall take quality photographs and shall record the following data: unique identifier (based on the marking method); date, time, and latitude and longitude; sex, age, length (e.g., total length, snout-vent length), and mass; observable health issues, ectoparasites or abnormalities (e.g., five legs); habitat type; and behavior. During each re-capture or re-observation, the Offeror shall record the date, time, location, habitat, and other important observations. At the end of the study, the Offeror shall calculate the following for each tagged animal and shall include these results in the draft report: home range size, Minimum Convex Polygon (MCP) activity range, Kernel activity range, and relative habitat use.*

Environmental DNA: *The Offeror shall collect up to [add number of samples] water or soil samples for analysis of Environmental DNA (eDNA). This technique involves collecting water or soil samples from wetland/terrestrial sites and identifying the species that inhabit those environments based on the species-specific DNA in the water or soil. This technique is best used when determining if a particular species is present at a site and is not recommended for documenting species that can more easily be determined using other survey techniques. It is recommended that multiple water samples from each pond be collected during the appropriate time of year for the target species. For more information on the use of eDNA on DoD lands, visit: <https://erdc-library.erdcdren.mil/jspui/handle/11681/48275>*

Collection of Voucher Specimens and Genomic Analysis: *This task will consist of collecting voucher amphibian and reptile specimens from [insert installation name] and evaluating the genomic diversity of XX species to determine the health of populations. There are five primary objectives of this task: 1) perform field surveys to collect amphibian and reptile vouchers for collection of DNA, 2) sequence the whole genomes of representative individuals of reptiles and amphibians collected on the installation, 3) conduct bioinformatic and landscape genomic analysis of all DNA sequence data, 4) conduct analyses of multiple environmental stressors as explanatory variables to assess their impact on genetic health and resilience, 5) Send voucher*

specimens to [*state the museum or institution name*] with all required documentation and metadata [*include a blank voucher collection form*] for inclusion into their collection.

Note to User: DoD PARC can assist with the selection of a museum to send vouchers if requested.

Task 4 – Reporting and Deliverables

Note to User: This task describes specific reporting requirements by the Government including how data are analyzed and reported, content of draft and final reports, report due dates, and delivery of GIS and HerpMapper data and photographs. A list all deliverables, number of copies, and due dates are best described in a table format. Specific GIS data requirements may be included as an appendix to the SOW. We recommend that you be as specific as possible in order to ensure that you receive what you expect.

Example: *Within [45] days of completing field work, the Offeror shall submit a draft report (Microsoft Word for text, MS Excel for data spreadsheets) for the Government’s review. The report shall describe and summarize the following: survey methods and materials; data and results; maps illustrating locations of observations and findings; and recommendations for future population monitoring and habitat management. The report format shall follow that of a scientific publication and include the following section headings: Introduction, Methods, Results, Discussion and Literature Cited. Photographs, maps, and field data sheets (originals or scans) are appropriate as Appendices.*

Data and reports shall follow the standard naming conventions of the most recent Society for the Study of Amphibians and Reptiles’ Checklist of the Standard English Names of Amphibians and Reptiles. <https://ssarherps.org/publications/north-american-checklist/>.

The Offeror shall write in an active voice, avoiding the passive voice as much as possible. We recommend beginning each paragraph with a topic sentence, avoiding run-on sentences, and writing in the first person. The Offeror shall avoid or minimize typos, grammatical errors, and formatting and labeling inconsistencies. We strongly encourage using a multi-level list with headings. The Literature Cited shall include all documents referenced in the text, and vice versa.

*The Offeror shall submit digital photographs via a file exchange system such as DoD SAFE. [NOTE: The SOW should clearly describe what you want the Offeror to photograph] [*A minimum of one picture per species captured/observed is requested*]. If the Offeror entered data in HerpMapper, the Offeror shall download the data and provide it to the Government as an Excel spreadsheet containing the following information for each observation: common and scientific name; latitude and longitude of the observation or capture; date of observation or capture, and noteworthy observations (e.g., breeding condition, disease symptoms, etc.).*

The GIS data (including but not limited to: survey area points, lines or polygons; locations of animal observations and captures; and radio-telemetry points and home range polygons) shall be submitted with the draft and final reports. GIS deliverables shall be created in ESRI ArcGIS format (version 10.0 or higher) and shall be submitted in accordance with the specifications in [Appendix A] of this scope of work.

Within [30] days of receiving the Government's comments on the draft report and draft deliverables, the Offeror shall submit a final report (Microsoft Word and PDF formats), photographs, and biological and geospatial data. Final deliverables shall be emailed (e.g., using DoD's SAFE File Exchange) to the Government's Project Manager. Hard copies and discs are not required.

Section 4.0 – Special Requirements/Conditions

Note to User: In this section, list any special/specific requirements of the installation/base such as communication with range control, awareness briefs, munitions training and clearances needed to access the installation or special use areas on the installation (prohibited areas or restricted sites). In addition, this section should describe any restrictions on the use of equipment such as radio telemetry, acoustic data loggers, and photography.

Example: *This work is being conducted on an active military installation. All aspects of the mission take priority over other projects and may cause operational delays. Any delays or constraints caused by the mission may occur at any time with little or no advance notice.*

The Offeror shall obtain all required base access permits before field work and shall coordinate base access and logistics with the Navy's Technical Representative (NTR) and points of contact (POC) per NSA Mid-South instructions. A valid driver's license, vehicle registration and proof of vehicle insurance will be required to access the installation. The Offeror shall submit SECNAV Form 5512 (Attachment C) to the Installation IEPD (contact information in Section F) at least two (2) weeks before the beginning of field work. Activities at the site shall comply with Navy Safety Guidelines (Attachment D). Before initiating field work, the Offeror may be requested to meet with base security to discuss logistics and safety.

The Offeror may be responsible for attending a safety, munitions, or natural and cultural resources awareness brief prior to the beginning of field work. Briefings will be arranged and/or administered by the installation point of contact and are expected to take no longer than two hours.

Section 5.0 – Government Furnished Data/Equipment

Note to User: In this section, list the data (maps and previous survey reports), GIS data, and equipment that the Government shall provide the Offeror.

Example: *The Government will provide the Offeror with maps and/or GIS data layers such as roads, wetlands, training areas, installation restoration sites and habitat types so the Offeror*

can determine suitable survey areas, deploy equipment, and make other decisions needed to adequately perform the work. Previous herpetological reports and data will be provided during the project kickoff meeting. Equipment loaned to the Offeror shall be returned then no longer being used or at the end of the period of performance of this project.

Section 6.0 – Points of Contact

Note to User: List all points of contact names, mailing address and email/phone numbers for the DoD installation and/or regional technical representative as well as the contracting officer representative and contract specialist.

Section 7.0 – Period of Performance and Project Schedule

Note to User: This section shall state the start and end date of the project (period of performance) and project schedule as determined by the Government. These will be variable depending on projects goals and objectives. For a general herpetofauna inventory, we recommend a minimum of one-year period of performance with field surveys conducted during the spring, summer and fall seasons.

Example: *The period of performance for this task order shall be eighteen months from the date of award. A general schedule of events is proposed below.*

Event	Date
Kickoff Meeting/Teleconference	Within [XX] days of contract award
Work Plan (draft and final)	Within [XX] days of kickoff meeting
Field Survey-1	Spring
Teleconference	TBD
Field Survey-2	Summer
Teleconference	TBD
Field Survey-3	Fall
Draft Report/GIS Deliverables	Within [XX] days after completion of field work
Final Report/GIS Deliverables	Within [XX] days after receiving the Government’s comments
Monthly Progress Reports	Within the first seven days of each month during the duration of the project.

Section 8.0 – REFERENCES

Recommend references for herpetofaunal surveys are provided below:

- Fisher, Robert; Stokes, Drew; Rochester, Carlton; Brehme, Cheryl; Hathaway, Stacie; and Case, Ted. 2008. Herpetological monitoring using a pitfall trapping design in southern California: U.S. Geological Survey Techniques and Methods 2-A5, 44 p.
- Guidelines for Use of Live Amphibians and Reptiles in Field and Laboratory Research. Second Edition, Revised by the Herpetological Animal Care and Use Committee (HACC) of the American Society of Ichthyologists and Herpetologists, 2004. (Committee Chair: Steven J. Beaupre, Members: Elliott R. Jacobson, Harvey B. Lillywhite, and Kelly Zamudio; <http://www.asih.org/sites/default/files/documents/resources/guidelinesherpsrese arch2004.pdf>)
- Graeter, G. J., K. Buhlmann, L. R. Wilton, and J. W. Gibbons (Eds.). 2013. *Inventory and Monitoring: Recommended Techniques for Reptiles and Amphibians*. Partners in Amphibians and Reptile Conservation Technical Publication IM-1, Birmingham, Alabama.
- Heyer, W. R., Donnelly, Maureen A., McDiarmid, Roy W., Hayek, Lee-Ann C. and Foster, Mercedes S. 1994. *Measuring and monitoring biological diversity: standard methods for amphibians* Smithsonian Institution Press, Washington and London. 364 pp.
- McDiarmid, Roy W., Foster, M. S., Guyer, C., Gibbons, J. W. and Chernoff, N. 2012. *Reptile Biodiversity: Standard Methods for Inventory and Monitoring*. Berkeley: University of California Press. 424 pp.
- Wildlife Research Associates. 2016. *Criteria for the Selection and Use of Light Sources and Binoculars for Visual Encounter Surveys of Adult and Sub-Adult California Red-legged Frogs (*Rana draytonii*)*.