

Scope of Work

PROJECT TITLE: DENSITY AND MOVEMENT OF COYOTES ON ONSLOW BEACH, MCB CAMP LEJEUNE, NC FOR T&E SPECIES PROTECTION

Background

Coyotes (*Canis latrans*) have expanded their geographic range and are now established across most of North America. Coyotes are adaptable generalist predators, taking advantage of whatever prey is most abundant in a given area. The beaches of offshore islands are critical nesting habitat for sea turtles and numerous bird species, and there is concern that coyote predation could jeopardize those species (some of which are federally listed as threatened or endangered). The Marine Corps Base Camp Lejeune (MCBCL) Environmental Conservation Branch (ECON) annually partners with USDA Wildlife Services for assistance with reducing the impacts of coyote predation on nesting shorebirds and sea turtles. Even with active trapping efforts occurring throughout the year, we seemed to have an increase in coyote predation in 2022 to several shorebird species (e.g., American oystercatcher and Least terns) and sea turtle nests. Coyotes were even observed harassing sea turtles in the process of nesting causing them to abandon their egg laying activity.

The proposed project consists of tasks associated with a project to better understand the coyote population related to movement patterns, behavioral information, home range size and locations, habitat use, scat analysis, and population densities to inform future management and removal actions for the conservation of the federally threatened or endangered shorebirds species and sea turtles at MCBCL.

Services Requested:

ECON is proposing to work with a university and/or non-governmental organization to establish a study design and conduct a multi-season project using GPS tracking collars, camera traps, scat analysis, or a combination of these methods for coyotes on Onslow Beach. The goal would be to obtain more information about population density, seasonal movements, home range size and locations, habitat use, behavior (including response to removal of coyotes), and immigration into the vacant territories to assist us in evaluating current strategies for protection of T&E species and develop new strategies to improve predator management.

Depending on budget, we may also want to include diet metabarcoding to determine what coyotes are eating through genetic scat analysis and impacts of the use of fladry on coyote and shorebird behavior.

Period of Performance:

The period of performance is expected to not exceed 30 months from date of award.

Meetings and Deliverables

A kickoff teleconference or in-person meeting between the cooperator and MCBCL staff shall take place following the award of the cooperative agreement. The purpose of the teleconference is to discuss any questions the cooperator may have regarding the tasks, study design, explain base access and security requirements and discuss other pertinent information which could have a bearing on the work to be performed. Three additional teleconferences may take place during the 30-month period of performance.

Depending on the final agreed upon project objectives, the cooperator will provide a minimum of the following:

1. Study plan/design that details how it will meet objectives.
2. Final report in Microsoft Word documenting the project narrative, methods, results, and implications for of results for future population management.
3. All raw data collected (e.g., areas surveyed, locations of scats collected, movement locations of collared coyotes, etc.) during the project (format to be determined contingent on the type of data).
4. Project photographs in .jpg/.jpeg format with date-time and location coordinates with file naming indicating sampling event and species.
5. One presentation about the results to MCBCL staff.

Responsibility of the Government:

Substantial involvement is expected between the USMC and nonfederal partner when carrying out the activities specified in the scope of work and will include activities such as the USMC's involvement the development of study methodology, data gathering and analysis; review of work plans, reports and all deliverables; providing staff time to oversee and participate in the project.

1. Shall provide an Explosive Ordnance Disposal (EOD) escort in areas of the installation it is required, such as the North end of Onslow Beach.
2. Shall provide previous collected data on coyote management actions and predation data on MCBCL.
3. Staff assistance with field surveys and field data collection as determined by ECON.
4. Shall review and provide comments on the submitted data and documentation upon completion of all stated work.

Responsibility of the Cooperator:

1. Shall participate in a kick-off teleconference or in-person meeting within 30 days of award to discuss protocols, scheduling, and data and report format.
2. Shall conduct the study as discussed in the scope of work.
3. Shall visit the designated area as often as necessary and within the limits stated above to accomplish the objectives of this project.
4. Shall comply with all site security and access rules, regulations, requirements, and day-to-day operational changes thereto.

5. Shall provide all transportation, meals, and lodging for himself/herself and his/her personnel and all equipment necessary to complete the work unless otherwise noted in the Scope.
6. Shall work closely with the installation natural resource manager and technical representative in planning and carrying out field investigations.
7. Shall employ appropriate Quality Assurance/Quality Control standards to ensure that data is correct, accurate and complete.
8. Comply with all Occupational Safety and Health Administration (OSHA) requirements. It is the Cooperator's responsibility to conduct all field activities in a manner that ensures the training and safety of the field personnel and avoids damage to vehicles and property. The USMC is not responsible for any Cooperator injuries during the time of this project.
9. To obtain all applicable permits and licensing in accordance with local, state, and federal laws and regulations necessary to perform required activities.