

Cooperative Ecosystem Studies Units
Scope of Work
Species Surveys at Naval Installations in Maine

References: Sikes Act (P.L. 86-797 § 103, as amended and extended); 16 USC 670c-1.

Background and Project Location:

Naval Support Activity (NSA) Cutler occupies 3,003 acres in the town of Cutler, ME and 3.65 acres in the Town of Machiasport, ME. These towns are in the easternmost region of ME, in Washington County, approximately 30 miles southwest of the Canadian border.

The Center for Security Forces Detachment Kittery Survival, Evasion, Resistance, and Escape Facility (SERE School) is located approximately 110 miles north of Portland, ME and 70 miles northwest of Augusta, Maine. The entire Installation is located within Redington Township, approximately seven miles east of the Town of Rangeley. The SERE School encompasses two parcels totally 12,466 acres that are separated by the Appalachian Trail (AT) corridor, which traverses the southeastern corner of the property. The main parcel is north of the AT corridor and is 11,320 acres. The southern parcel is 1,146 acres.

Great Pond Outdoor Adventure Center (GPOAC) is located in Hancock County, in central ME, approximately 35 miles northeast of Bangor, ME and approximately 30 miles north of Ellsworth, ME. GPOAC encompasses four parcels of land, totaling approximately 397 acres, and is located adjacent to three waterbodies (Great Pond, King Pond, and Alligator Lake) in Hancock County, ME. Two parcels, which total approximately 332 acres, are situated along the eastern and western shoreline of the 647 acre Great Pond. The third parcel is a narrow strip of land that encircles 147 acre King Pond and is approximately 59 acres. The fourth parcel is rectangular in shape, covers approximately six acres, and is located adjacent to the northwestern shoreline of the 1,067 acre Alligator Lake.

In 2019, a Cooperative Agreement was executed through the Cooperative Ecosystem Studies Unit (CESU) to conduct the roseate tern and red knot surveys at Cutler. Other surveys in this scope have previously been awarded under various Government contracts.

Purpose:

Naval Facilities Engineering Command (NAVFAC) plans to continue and / or expand upon the previous surveys completed at each of the listed Installations. These efforts are further defined in the Request for Statements of Interest.

Military Mission Benefits:

The SERE School's primary mission is to provide training in a remote natural environment that is conducive to teaching military personnel survival, rescue, evasion, and resistance skills. The SERE School provides year-round training, emphasizing the basic skills necessary for long-term survival; evasion of capture by hostile forces; resistance to interrogation, indoctrination, and exploitations; and escape when captured and held by the enemy.

NSA Cutler's primary mission is to provide secure and reliable strategic and tactical command and control telecommunications services to U.S. and Coalition ships and submarines in the North Atlantic, Arctic Ocean, and the Mediterranean Sea.

GPOAC is a recreational facility with a role of providing morale, welfare, and recreation (MWR) opportunities for DoD personnel and their families. The facility does not provide military training or operations. The MWR opportunities are highly dependent upon the careful management of the natural resources at the site.

Period of Performance:

The period of performance covered by this Agreement is for eighteen months beginning the date this Agreement is awarded.

Cooperator Deliverables/Responsibilities:

The Cooperator will conduct natural resources surveys as described in the tasks below for each Installation.

Task 1: Roseate Tern and Red Knot Surveys at NSA Cutler:

The Cooperator shall conduct weekly point count surveys for shorebirds and terns following Program for Regional and International Shorebird Monitoring (PRISM) survey guidelines, with the addition of terns as a target group, for the autumn survey period (July 15 through October 25). Over 14 surveys, data collected shall include individual counts by species, survey date, GPS location, census start and end times, weather conditions, and tide at each site for each survey. Data collected will be compiled to show trends in species presence over the duration of the survey period. Survey sites shall represent both foraging and roosting areas, and include the full range of substrates and landforms present at the installation. Data on behaviors including foraging and roosting shall be collected by species by survey point.

The Cooperator shall review past and current monitoring efforts for details on how to conduct the survey. These files will be provided upon award.

Task 1.2: Report and GIS deliverables

All data collected during the field surveys will be compiled and presented in draft and final summary reports. The draft and final reports will include maps, habitat descriptions, sample locations, and management/conservation recommendations. All spatial data and relevant mapping information shall be provided in a Geographical Information System (GIS) format and displayed on report maps. Coordination with any Federal Agency shall be completed through the installation Natural Resource Manager (NRM) unless designated otherwise.

Task 2: Atlantic Salmon Surveys at SERE School:

During review of the survey plan for efforts launched in 2019, SERE School partners Maine Inland Fisheries and Wildlife (IFW) and United States Fish and Wildlife Service (USFWS) requested that the Navy look further into the barrier identified on Orbeton Stream, suggesting that this barrier and the falls do not pose barriers to passage of listed Atlantic salmon (*Salmo salar*) into Redington Pond. Furthermore, Maine Department of Marine Resources (DMR) has theorized, based on new evidence, that brown trout (*Salmo trutta*) can and do hybridize with Atlantic salmon. If this were true, those hybrid species would be subject to regulatory action based on the status of Atlantic salmon.

The current 2019 survey tagged five brown trout and one brook trout in order to characterize movements of these species within the watershed. Initial results indicate that tagged fish are completing their life cycle on the property. The presence of several age classes of juvenile brown trout sampled via electrofishing in the upstream tributaries of the pond further suggest that brown trout populations found on installation are a separate population than those found below Orbeton Falls (identified in 2015 as a potential barrier to fish migration). However, until further evidence proves this theory, DMR is of the opinion that the brown trout within Redington Pond are sourced from Orbeton Stream below the falls and

that there is no significant reproducing in the pond, while IFW believes the brown trout freely move between Orbeton stream and the pond on a regular basis.

Past surveys at the SERE School have captured brown trout in Redington Pond via gillnets and in the outlet reach of Orbeton Stream via backpack shocking. Both brown trout and Atlantic salmon occur within Orbeton stream below Orbeton falls.

Based on the above, this task requires the Cooperator, in conjunction with the Navy, to develop a survey plan that builds off the 2019 efforts by increasing the sample size of the original project and further defining fish movement on the property within the watershed. The following subtasks are required as part of this task.

Subtask 2.1: One three-day sampling event in early June to collect a minimum of six (6) brown trout and six (6) brook trout in Redington Pond/Orbeton Stream located on SERE property and surgically implant radio transmitters for tracking. Radio tags will have a 1-year battery life. Based on the results of previous surveys, it is assumed that this level of effort will provide us with a large enough sample size to achieve the new project goals. Brook trout are being added as another species with potential to ascend and descend the potential barrier on Orbeton Stream to further assess this geological feature as a barrier.

Subtask 2.2: Three, two-day sampling events (1 spring, 1 mid-summer, and 1 fall) to electro fish Orbeton Stream from the SERE Property Boundary to the outlet of Redington Pond, and the various tributaries to Orbeton Stream below Redington Pond to document the fish assemblage where it has not been done during previous surveys. Fish captured during the spring sampling event can be used in tagging efforts if deemed of appropriate age and size. These waters on the installation occur within the INRMP exempt Critical Habitat for Atlantic salmon.

Subtask 2.3: Following the successful radio tagging of brown and brook trout, the fish will be checked and located two days per month (as allowed by Navy training schedule), for the life of the tags. If mortality occurs, the contractor shall complete up to three 1-day efforts to redeploy any tags recovered from mortalities.

MDIFW sampling permits will be obtained and all approved gill netting and backpack-electroshocking protocols will be followed. All coordination with State and Federal agencies shall be coordinated through the installation Natural Resource Manager (NRM). The Cooperator shall be responsible for obtaining all required collection permits for the survey work. A draft collection permit shall be submitted to the NRM for review prior to submission to the agencies.

All activities are subject to change based on mission activities and schedule.

Previous study reports and GIS will be provided upon award.

Task 2.2: Report and GIS Deliverables

The Cooperator shall be required to produce the following reports:

1. Monthly progress reports for all months associated with active field work
2. Fish species survey plan for review and approval by Navy and stakeholders prior to field work.
3. Draft and final fish species survey / inventory reports. Reports shall include developed, formal survey routes with points established in freshwater stream and pond habitat types with accompanying GIS route coverage. These reports will include a table of contents, purpose/objectives, study plot description, describe methods, provide the results and any analysis, make recommendations for follow-on work, and list literature cited and provide any references.

Field data sheets shall be included as an appendix and a CD/DVD of the report with all photographs taken during surveys (tracks, scat, track routes equipment, etc.) shall be included. GPS location data will be depicted on maps/figures and the Geographic Information System (GIS) shapefile data provided to installation and region staff in accordance with the Region's GIS specifications, which will be provided upon award.

4. Checklist of freshwater fish for GPOAC (within the report) and in pamphlet form.

Task 3: Protected Species Surveys at GPOAC

Regulations require current information on species presence/absence data as part of natural resources management and the installations Integrated Natural Resource Management Plan (INRMP). In order to maintain compliance with ESA and to meet the requirements of the INRMP, periodic surveys for ESA species shall be completed. Potential for federally listed species presence at GPOAC include Atlantic salmon, Canada lynx (*Lynx canadensis*), and state and federally listed bat species.

This task requires the Cooperator, in conjunction with the Navy, develop and implement species surveys that target federally protected species, as well as State listed species (i.e. little brown bat, eastern small-footed bat). The Cooperator shall possess or have the ability to obtain all the appropriate permits required to conduct the required survey work. Including, but not limited to, electrofishing and mist netting for birds and protected bat species. The Cooperator shall work with the NRM to develop survey plans to be provided to Sikes Act partners for review and approval prior to conducting any fieldwork.

Fieldwork associated with species surveys will occur during the appropriate times of year for each of the target species. The Cooperator shall anticipate the following minimum effort for field survey work covered by each subtask below:

Subtask 3.1: Atlantic Salmon Surveys

The Cooperator shall complete fish surveys and habitat assessments at the GPOAC facility, inclusive of Great Pond and King Pond and their tributary reaches that occur on the property. The survey shall cover a representative sample of perennial aquatic systems with the potential to provide habitat for fish species. This task shall incorporate a variety of sampling techniques (rod & reel, electrofishing, seine nets, and fish traps) in order to verify and/or supplement the existing fish inventory for the installation. Fish habitat shall be visibly assessed and documented during the fish survey work.

MDIFW sampling permits will be obtained and all approved sampling and backpack-electroshocking protocols will be followed. All coordination with State and Federal agencies shall be coordinated through the installation Natural Resource Manager (NRM). The Cooperator shall be responsible for obtaining all required collection permits for the survey work. A draft collection permit shall be submitted to the NRM for review prior to submission to the agencies.

The Cooperator shall perform an assessment that will include desk-top analysis and a minimum of three (3) two-day site visits. The site assessment should include at a minimum the following components:

1. Development of a stakeholder list (regulatory agencies, owners, private groups).
2. Research site locations in association with freshwater streams located on the GPOAC property. GPOAC contains streams and waterbodies that would normally fall within designated critical habitat for Atlantic salmon. Therefore, work will require coordination with the USFWS Maine Field Office prior to implementation. All coordination with State and Federal Agencies shall be coordinated through the NRM. The Cooperator shall be responsible for obtaining the State Scientific Collection Permit for all survey work. The Cooperator shall provide the draft scientific collection permit to the Installation and Navy NRMs for review prior to submitting to the State.

3. Prepare a draft freshwater fish species survey plan to deliver a comprehensive list of fish species occupying freshwater streams and pond(s) on GPOAC property.
4. Coordinate stakeholder participation in survey events as necessary (USFWS, MEDIFW).

Seasonal Atlantic Salmon Survey

The Cooperator shall utilize methodologies, field survey protocols and techniques for all surveys, data recording methods and terminology as outlined in all necessary State and Federal permits and the subject report(s). The Cooperator should plan one field visit per season (spring, summer, fall) in order to adequately cover the each survey period. All families of fish will be surveyed. Federal/state threatened and endangered species will be surveyed and if observed noted and location data taken with GPS.

Reporting

The Cooperator shall be required to produce the following reports:

5. Monthly progress reports for all months associated with active field work
6. Fish species survey plan for review and approval by Navy and stakeholders prior to field work.
7. Draft and final fish species survey / inventory reports. Reports shall include developed, formal survey routes with points established in freshwater stream and pond habitat types with accompanying GIS route coverage. These reports will include a table of contents, purpose/objectives, study plot description, describe methods, provide the results and any analysis, make recommendations for follow-on work, and list literature cited and provide any references. Field data sheets shall be included as an appendix and a CD/DVD of the report with all photographs taken during surveys shall be included. GPS location data will be depicted on maps/figures and the Geographic Information System (GIS) shapefile data provided to installation and region staff in accordance with the Region's GIS specifications, which will be provided upon award.
8. Checklist of freshwater fish for GPOAC (within the report) and in pamphlet form.

Subtask 3.2 Canada Lynx Surveys

The goal of this subtask is to determine if Canada lynx utilize the installation property. Canada lynx survey efforts have not been conducted to date at GPOAC and survey work is required to determine if this species utilizes the installation property. Regulations and Navy policy require current information on species presence/absence as part of natural resource management.

The survey shall adequately cover the four parcels owned by the Navy. These areas include Great Pond (East and west shoreline properties, King Pond and Alligator Lake Parcels).

This survey will be conducted to ensure compliance with federal regulations and to avoid potential conflicts between the mission and T&E Species.

Survey shall be conducted in accordance with Maine Department of Inland Fisheries and Wildlife (MEDIF&W) and the U.S. Fish and Wildlife Service (USFWS) latest survey protocols for Canada lynx and meet the following:

1. A minimum of three tracking survey events shall occur during the appropriate survey season.
2. Surveys shall be conducted 24 to 72 hours following a snow event to allow sufficient time for animal movement and limit deterioration of track quality. If travel to the project site will take longer than one business day, the contractor shall address how they will monitor for snow events that create suitable tracking conditions and their travel response plan for meeting the previously mentioned survey window.

3. All survey routes shall be surveyed by a minimum of two trained observers on foot or a suitable, approved tracked vehicle.
4. At each lynx track intercept the location shall be marked by GPS and the following data shall be recorded; track measurements (length, width, stride, straddle, and sinking depth), direction of travel, number of lynx, a track quality index (U.S. Forest Service Technical Report PSW-GTR-157), behavioral data, habitat data, and photographs.
5. A minimum of five camera traps shall be set up at several high visibility, readily accessible sites (e.g., roadways), for the duration of the tracking surveys. The Cooperator shall propose locations to deploy the camera traps that will not conflict with the use of GPOAC property by mission tenants. The Navy will supply five (5) RECONYX PC800 HyperFire Professional Semi-Covert IR series cameras with the RECONYX Solar Panel Power Unit with external power jack and cable upgrade, along with some accessories (external power jack and cable, locks, enclosures, and mounts). The Cooperator will be responsible for purchasing compatible SD cards and AA lithium back up batteries (each camera requires 12) required for operation even with external power supplies. All camera traps shall be secured at their location and labeled in a manner that identifies their purpose and the NRM's contact information, to deter removal by GPOAC personnel unaware of the tracking survey effort.
6. Unless dictated otherwise by MDIF&W or USFWS protocols, each camera trap station will include a compact disc hung in a strategic position as a long range visual attractant, and a commercial skunk lure and a short range visual attractant (e.g., feathers) that will be placed underneath a platform on a wooden stake. Cameras will be positioned on a tree facing north, 1-2 m above the snow surface and pointed at a slight downward angle towards the wooden stake positioned 3-5 m from the camera. A GPS will be used to mark the location of each camera trap station and the local site will be marked discretely for future trap checks. Each trapline will be set for a minimum of 45-60 days and checked once every 2 weeks to download data, refresh attractants, and to ensure cameras are working properly.

Reporting

The Cooperator shall be required to produce the following reports:

1. Monthly progress reports for all months associated with active field work
2. Survey plan that identifies means and methods and follows existing survey protocols for Canada lynx surveys. The plan shall identify the season, proposed routes, professionals performing the survey, and all requirements described above. A draft plan will be reviewed by the Installation and Navy NRMs, who may provide to IFW and USFWS for approval. Approval on the plan must be received prior to implementation of field work.
3. Draft and final technical reports. These reports will include a table of contents, purpose/objectives, study plot description, describe methods, provide the results and any analysis, make recommendations for follow-on work, and list literature cited and provide any references. Field data sheets shall be included as an appendix and a CD/DVD of the report with all photographs taken during surveys (tracks, scat, track routes equipment, etc.) shall be included. GPS location data will be depicted on maps/figures and the Geographic Information System (GIS) shapefile data provided to installation and region staff in accordance with the Region's GIS specifications, which will be provided upon award.

Subtask 3.3: Bat Surveys

The Cooperator shall conduct mist netting for bat species at GPOAC following the protocol developed by the U.S. Fish and Wildlife Service (USFWS) for the northern long-eared bat summer survey guidelines. The fieldwork will consist of a two-week field season with work conducted during the appropriate timing window. Mist netting will be conducted at pre-selected sites at each installation based upon past acoustic sampling results, habitat quality and areas targeted for future project development or significant

maintenance. Per current USFWS survey guidelines, each mist net site (Great Pond, Alligator Lake, and King Pond) will be sampled for nine (9) net nights (three nets per location each night for three calendar nights) beginning at sunset and lasting for at least five hours. If three locations are not available, then field team may use less (preferably two) if necessary. No more than three nets should be operated at one time if only two biologists are available to monitor. Captured bats shall be identified to species by the permitted bat biologist, and the sex, age, reproductive status, mass, and forearm length of each bat shall also be documented. Photographs shall be taken of all target species, plus representative photos of all other bat species captured.

If a reproductively active adult female or juvenile northern-long eared bat are captured prior to completing nine net nights of survey effort, then sampling may stop at that particular site and proceed to the next site. The goal would be to sample as many areas of future project development or and/or exceptional habitat as possible while remaining within budget for the project. Two mist net locations may be operated concurrently with two field teams to avoid long downtimes (no work) for field crew. Each location is required to have at least one federally permitted biologist on-site during operating periods. Survey focus will be on all federal and state protected species at the time of project award including Northern long-eared bat (*Myotis septentrionalis*), little brown bat (*Myotis lucifugus*), and eastern small-footed bat (*Myotis leibii*).

The Cooperator must possess all permits required to perform the services requested. Draft permits shall be approved by the Installation NRM prior to submission to regulatory agencies.

Reporting

The Cooperator shall be required to produce the following reports:

1. Monthly progress reports for all months associated with active field work
2. Survey plan that identifies means and methods and follows existing survey protocols for bat surveys. The plan shall identify the season, proposed routes, professionals performing the survey, and all requirements described above. A draft plan will be reviewed by the Installation and Navy NRMs, who may provide to IFW and USFWS for approval. Approval on the plan must be received prior to implementation of fieldwork.
3. Draft and final technical reports. These reports will include a table of contents, purpose/objectives, study plot description, describe methods, provide the results and any analysis, make recommendations for follow-on work, and list literature cited and provide any references. Field data sheets shall be included as an appendix and a CD/DVD of the report with all photographs taken during surveys shall be included. GPS location data will be depicted on maps/figures and the Geographic Information System (GIS) shapefile data provided to installation and region staff in accordance with the Region's GIS specifications, which will be provided upon award.

Substantial Government Participation

- The Navy will coordinate base access for Cooperating partner.
- The Navy will assist the Cooperators with study site selection, participation in study design and procedures, assist with surveys, review collection permits, and coordinate with regulatory agencies, and review Cooperator reports.

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