

Virginia Master Naturalist Program Project Proposal Form



Project proposals should be completed by partner organizations or chapter members and submitted to the chapter's Board of Directors for review. Projects will be evaluated for relevance to program mission and objectives. Projects and activities implemented without approval are not considered Master Naturalist activities, do not count towards required service hours, and do not carry the liability shield.

Fill in all areas. Fields/boxes will expand as needed to fit

Project Name : *(For approval and recording purposes)*

Identification of Eastern Spotted Skunk Habitat and Range Boundaries in Virginia

Submitted By:	Phone or Email Contact:
Emily Thorne	(909) 263-0610; edthorne@vt.edu

Project Purpose and Value: *(How will this project contribute to natural resource management, conservation, or education?)*

Eastern spotted skunk (*Spilogale putorius*) populations are believed to have declined throughout much of their range in the eastern United States since the 1940's. Hypothesized declines have been attributed to habitat loss or change, increased competition with sympatric carnivore species, or diseases. Lack of information regarding the spatial distribution and habitat associations of the eastern spotted skunk in Virginia dictates the need for increased ecological study regarding this species of concern. To better understand the current distribution of spotted skunks in Virginia, we aim to determine the species' range boundaries and habitat associations throughout Virginia using baited remote-sensing cameras. Eastern spotted skunk populations are not currently managed in the Commonwealth though the species has been rare or largely absent over the last few decades from areas where it was once abundant. Outcomes of this project will directly assist in the development of long-term, large scale monitoring as well as effective management and conservation assessments.

Project type: *(Is this project education/outreach, citizen science/monitoring, stewardship, or administrative?)*

Citizen science/monitoring

Project Description: *(Describe what the project involves. What will participants actually do?)*

This project is a large scale/statewide trail camera survey. The intent of the survey is to determine where skunks are or are not present. Locations for baited camera stations will be chosen in forested areas on public or cooperating private lands. We are currently sampling throughout the George Washington and Jefferson National Forests and various private lands in western Virginia and hope to expand sampling effort eastward to the Atlantic coast to include lands where Master Naturalist chapters have working relationships. The camera surveys will be conducted from December through April when spotted skunks are easiest to detect and black bears are in hibernation. Participants will follow a sampling protocol provided by the project leader, Emily Thorne prior to the start of the project. Camera stations consist of one remote-sensing, motion activated camera with LED flash mounted to a tree up to 3 feet above ground. Camera stations will be baited with road-killed white-tailed deer either staked down or wired to a tree approximately 6 to 10 feet in front of the camera. Salvage permits are required to collect road kill and can be obtained by chapters or individuals through VDGIF. Cameras should be located in forested areas approximately 200 yards from roads for convenience of transporting bait to camera stations. If sample areas are large enough to have multiple camera stations, cameras should be separated by approximately 1 mile to ensure the same spotted skunk is not visiting multiple camera

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stations. Camera stations should be visited by project participants at least once per week to check for photos of spotted skunks and ensure cameras are functioning properly. Bait should be replaced as needed. Photos will need to be uploaded to an online file sharing site (such as Dropbox) set up in advance by the project leader, Emily Thorne. A detailed project protocol will be supplied to all volunteers who sign up for the project.

Project Location: *(Where will this project take place?)*

The goal of this project is to determine the statewide distribution of the eastern spotted skunk, therefore the camera sampling will take place at various locations throughout Virginia including National Forests, State Parks, cooperating private properties determined in advance by the project leader, Emily Thorne, and/or public or private properties where Master Naturalists chapters have current working relationships and consent to deploy baited trail cameras. Input from volunteers about potential locations on public and/or private land (including personal property of volunteers if desired) is highly welcomed and volunteers are free to contact Emily Thorne with any questions and suggestions.

Time Frame: *(What, if any, is the time frame for this project? Be as specific as possible –What time does the volunteer need to be there and how late are they expected to stay? If it is seasonal, what are the approximate dates or appropriate weather conditions? Is this an on-going project or does it have a fixed end date? About how many hours can a volunteer expect to put into this project?)*

This project began in December 2016 and will continue through April 2019. Camera stations will be established in early December and checked at least once per week throughout the project. Camera set up and checking/rebaiting typically takes 10 to 15 minutes. Upload of photos to the online file sharing site may vary depending on internet connection and number of files to upload. Collection of road-killed deer is typically opportunistic and requires a vehicle capable of carrying an adult white-tailed deer carcass. Travel time to and from cameras will vary depending on location of camera stations. Expected time required to participate in this project is less than 50 total hours per camera from February through April. This time estimate includes collection of deer, travel to and from a camera station, camera set up/check/rebait, and uploading picture files. Cameras should be set up and checked during day light hours, though no specific time of set up/check/rebait is required and can be completed at the participant’s convenience. This project takes place during the winter and inclement weather conditions are possible. For safety reasons, participants should wait until inclement weather passes before attempting to check cameras.

Partner Contact: *(If a partner is involved, who at that organization is the contact for this project?)*

Name:	Organization:
Mark Ford;	USGS Virginia Cooperative Fish and Wildlife Research Unit and Virginia Tech Dept. of Fish and Wildlife Conservation;
Mike Fies	Virginia Dept. of Game and Inland Fisheries
Phone number:	Email:

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Ford – (540) 231-5927
Fies – (540) 248-9390

wmford@vt.edu
Mike.Fies@dgif.virginia.gov

Project Chair: *(Who from the chapter is the contact person and organizer for this project?)*

What, if any, prior experience or expertise is required or preferred?

No prior experience or expertise is required for participation in this project, though familiarity with sample sites will aid in choosing and accessing locations for camera stations.

What training will be provided and by whom?

No official training is required to participate in this project. A project protocol will be provide by the project leader (Emily Thorne) prior to the start of the project. However, if participants are unsure about the protocol and/or have questions, a conference call or webinar can be arranged as needed.

Resources provided: *(What equipment or other resources will be provided for the volunteer(s)?)*

Participants will be provided with a project protocol to follow as well as “Do Not Disturb Camera” signage with project and project leader contact information prior to camera station set up. Trail cameras, camera supplies and bait will need to be provided by the chapters (or participants if they choose to do so).

Resources needed: *(What will the volunteer(s) or chapter need to provide and how will these resources be acquired?)*

Camera equipment: One remote sensing camera per camera station provided by participating chapters or individuals. We are currently using Spypoint Force 10 and Bushnell Trophy Cameras. These cameras typically cost between \$100-150 per camera, requires one SD card per camera (8gb recommended) though multiple cards are helpful, and 8 AA batteries. We recommend using lithium batteries which have a longer life span and function well during freezing temperatures. Additionally, metal security boxes and locking cables are optional and can be purchased for these cameras to prevent damage by black bears or theft. A computer and internet connection will be required to check SD cards and upload photos to the online file sharing site.

Bait: A salvage permit is required to collect roadkill and can be obtained by chapters or individuals through VDGIF at <https://www.dgif.virginia.gov/permits/scientific-and-educational-collection/>. If individuals or chapters are unable to obtain a permit they may be sub-permitted under the our current salvage permit (contact Emily Thorne). Local regulations should be checked prior to collecting roadkill. A complete deer carcass can be wired to a nearby tree or staked down with rebar. Alternatively, the legs can be removed from the carcass and used as separate pieces of bait so that one carcass can bait multiple cameras. Wiring the bait will required 12-16 gage tie wire and wire cutters. Staking bait will require 2-4 foot pieces of rebar and a metal mallet. These supplies are available at most hardware stores.

Miscellaneous: We will provide “Do Not Disturb Camera” signage with project and project leader contact information. These signs will need to be printed and stapled to the tree on which the camera is mounted. Additionally, leather and/or rubber gloves are useful for handling bait.

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We expected total cost including purchase of camera equipment, miscellaneous supplies, and fuel to be approximately \$300 per camera station per winter field season (December through April).

Safety hazards and protocols: *(What hazards might the volunteers encounter and what safety protocols should be followed?)*

Because this is a baited camera survey, all forms of wildlife will be attracted to camera stations including carnivores (bobcats, coyotes, raccoons, striped skunks, spotted skunks, Virginia opossums). The possibility of interactions with wildlife at camera stations is low, however participants should use caution and be aware of their surroundings when checking and rebaiting cameras. Additionally, participants should avoid checking and rebaiting cameras during inclement weather.

Are minors involved?: *(If yes, then all volunteers must be trained in working with youth and the Above Suspicion policy.)*

Yes No

How will the project be evaluated during implementation and after completion?:

Photos uploaded to the file share website will be reviewed by the project leader (Emily Thorne) weekly. Additionally, the project leader will be in regular contact with the Master Naturalist chapters and project participants to check in on progress and answer any questions. Data collected during this project will be analyzed by the projected leader following completion of the project with the intention of submitting a scientific paper to an academic journal.

How will the Virginia Master Naturalist program be recognized?

The Virginia Master Naturalist program and participating chapter/individuals will be acknowledged in all publications and presentations resulting from this project.

How will volunteers benefit from participation in the project?:

Participants will be collecting valuable ecological data on this understudied and little known species. This project will provide participants an opportunity to assist in the establishment of a large-scale, statewide monitoring program and the development of necessary management and conservation assessments and action plans for the eastern spotted skunk, a species of conservation concern.

For Chapter Board of Directors Only:

Project approved?

Date Approved: