

## **Small Mammal Trap Line Protocol**

### What is a survey location and what is a survey?

Each trap line is a survey location and each night of trapping on each trap line is a survey.

### Selection of Survey Locations

Within each Quarter Quadrangle grid cell target a riparian cover type and the two most dominant habitat cover types within for survey. However, if the two most dominant habitat cover types are both extensively modified by humans (e.g., hay field and cropland), only survey one of these. Additionally, survey locations should be prioritized for survey based on: (1) their accessibility on public land or are on private lands where you have received permission from the land owners to survey; (2) the size of the cover type patch (large patches should be sampled whenever possible to reduce confusion as to which cover type a species is associated with).

### Trap Line Orientation and Setting Traps

Trap lines should be oriented in habitat cover type patches so that they are relatively consistent in their habitat structure. Each line is 100-meters long and composed of 10 stations, each spaced 10-meters apart. Each station has 1 Victor mouse trap, 1 Museum Special, 1 pitfall trap, and 1 Sherman trap and station numbers 2 and 9 also have a rat trap (see diagram below). Trap lines do not have to be straight and can be placed in an arc in order to remain in a single habitat cover type. When laying out trap lines, one person can pace out the site, beginning with a flag to facilitate relocation of the trap line, and drop traps and pitfalls at 10-meter intervals. The second person should dig pitfall traps taking care to place them flush with the ground so that animals are not alerted to their presence; when possible, pitfall traps should be placed to take advantage of natural fences in the terrain like logs, rocks and drainages. After the first person has laid out the trap line, they should bait and set the snap and Sherman traps. Snap traps are baited with a peanut butter and sweet feed mix and Sherman traps are baited only with sweet feed mix to keep the trigger devices clean. Snap and Sherman traps should be placed in natural runways approximately 1-meter from the central pitfall trap rather than at exact right angles as indicated in the example diagram below. Be sure to test and adjust the tension on the Sherman trigger plates each day since the trigger sensitivity changes with temperature and needs to be kept as sensitive as possible in order to capture smaller animals like shrews. Traps should only be set in the evenings.

### Checking Traps and Processing Animals

All traps need to be checked daily as early as possible to minimize animal stress and mortality. Traps should all be sprung and left closed each morning in order to prevent incidental mortalities of non-target species during the day. In order to ensure that surveyors do not contract diseases, latex gloves and HEPA masks should be worn at all times when handling live and dead animals and checking traps and hand sanitizer should be used after handling traps. To check Sherman traps with live captures, place a bag over the trap opening and shake the animal into the bag. The animal can then be weighed in the bag and manipulated for measurement. Leather gloves should be used when handling a live specimen for measurement and release. The following measurements should be recorded for the first two specimens of each species: weight in grams (use smallest scale possible), total length (nose to tail tip, excluding hairs extending beyond tail), tail length, hind foot (include claws), ear length, and sex. To allow for identification of possible recaptures, the hairs on the back of live animals should be clipped in an easily identified straight line. If previously marked animals are filling Sherman traps each night, please note this on the datasheet.

### Euthanization and Museum Voucher Specimens

The following should be kept as museum voucher specimens within each Quarter Quadrangle grid cell: (1) only the first specimen of deer mouse, montane vole, and meadow vole; (2) all snap trap captures of all other species, regardless of number captured; (3) all shrews (euthanize any live shrews); (4) any animal for which species identity is uncertain (euthanize animals if necessary); (5) one example of each species captured (euthanize live animals if they haven't already been captured in a snap trap). To euthanize live or injured animals place a

cotton-ball dabbed with a small amount of isoflurane into the opposite corner of the bag until 15 or more minutes after the animal has stopped breathing. Vouchered specimens should be placed in an individual zip lock bag with a fully completed museum voucher tags (use the following date format – 25 May 2009). All specimens from each trap line should then be placed in a larger bag labeled with the trap line (site) name and number and Quarter Quadrangle grid cell name and number. After the three nights of trapping in a Quarter Quadrangle grid cell, place all bags from each trap line in a bag labeled with the Quarter Quadrangle grid cell name and number. Immediately after traps are checked, voucher specimens should be placed on ice or in a refrigerator.

#### Data and Photographs

Data sheets should be filled out thoroughly with comments on the surrounding habitat for each trap line. Digital photographs of each trap line should be taken from a vantage point that allows the trap line flags to be seen in the context of the surrounding habitat. Ideally only a single photograph will be needed. However, if multiple photographs are necessary, they should be labeled a, b, c, etc. as viewed from left to right. Each trap line should be labeled on the QQuad map as M-01, M-02, ....etc..

#### Preventing the Spread of Weeds

In order to prevent the spread of weeds, care should be taken to remove weed seeds from boots, socks, packs, and other field gear between sites. Weed seeds should also be removed from grills, radiators, and under carriages of vehicles whenever possible.

## Small Mammal Trapline Survey Form

QQuad Name \_\_\_\_\_ Observer(s) \_\_\_\_\_ Date \_\_\_\_\_

SurvLoc # \_\_\_\_\_ Locality \_\_\_\_\_ Ownership \_\_\_\_\_

Latitude (DD) \_\_\_\_\_ Longitude (DD) \_\_\_\_\_ Bearing of Line \_\_\_\_\_

**Habitat** - [ Barren Crop/Ag DecidWoodland ConifWoodland Herbaceous HerbWetland  
IntroHerbVeg MixedUplandWetland RecentBurnForest Shrubland SteppeSavannah WoodyWetland ]

**Ecological System** \_\_\_\_\_

Weather Categories [ Clear Partly Cloudy Overcast Rain Snow ] - Conditions 24hr prior to checking traps.

**Weather**      **Night 1** \_\_\_\_\_ **Night 2** \_\_\_\_\_ **Night 3** \_\_\_\_\_ **Night 4** \_\_\_\_\_

**Set Time/Temp**      \_\_\_\_\_/\_\_\_\_\_      \_\_\_\_\_/\_\_\_\_\_      \_\_\_\_\_/\_\_\_\_\_      \_\_\_\_\_/\_\_\_\_\_

**Check Time/Temp**      \_\_\_\_\_/\_\_\_\_\_      \_\_\_\_\_/\_\_\_\_\_      \_\_\_\_\_/\_\_\_\_\_      \_\_\_\_\_/\_\_\_\_\_

**Comments** \_\_\_\_\_

Effort Table						Site Overview Photo Taken Y / N					
Date	Mus. Sp.	Vic	Sher	Pitfall	Rat	Photo Descriptions:					
<b>Totals</b>											
<b>Total Effort</b>											
<b>Total Cap.</b>											
Length (mm)											
Date	Capt. ID	Trap-Station	Species	Sex/status	Age	Weight	Ear	Body	Tail	H-Foot	Voucher #
Victor:		Mus. Sp:		Sherman:			Pitfall:			Rat:	

UNAVAILABLE TALLY

									Length (mm)		
Date	Capt. ID	Trap-Station	Species	Sex/status	Age	Weight	Ear	Body	Tail	H-Foot	Voucher #
Victor:	Mus. Sp:		Sherman:				Pitfall:			Rat:	

UNAVAILABLE TALLY