Mammal Society
National Harvest Mouse Survey
2021-2022

Guidelines for live trapping study

Summary
This document outlines a standard live trapping protocol that should be used to provide an independent assessment of harvest mouse presence and numbers at sites where searches have taken place for harvest mouse nests. It is based on using 40 Longworth live traps placed two at each of 20 points with 5 m between points along transect lines or in grids with 1 day of prebait followed by 2½ days of trapping.

Introduction
The Mammal Society's National Harvest Mouse Survey is based on nest searches. However, some surveyors may like to carry out trapping using live traps to provide an independent assessment of harvest mouse presence and numbers at selected sites. The Mammal Society will be very interested in the results from such studies.

There are many trapping designs for small mammals, most based on grids or lines of traps. The spacing and number of traps at each trapping point in the grid or line also varies. For the purposes of supporting the national nest survey, this document sets out a simple standard protocol for carrying out live trapping studies based on a minimum of 40 live traps. Most nest surveys will be carried out along linear habitats, and in these situations, it is appropriate to use a line of traps in follow-up trapping studies. However, some nest surveys may be carried out in fields, young plantations, or woodland where grids of traps would be more appropriate.

Have you done any small mammal trapping before?
If you have not carried out small mammal live trapping before, it is advisable to get someone who has experience to train you before you do so. This is with particular respect to the health and safety of the animals and of yourself. If you do not know anyone with experience who can train you, email the Society at surveys@themammalsociety.org and we will do their best to locate someone near your area who can assist.

Before you start
The following comprehensive guide to small mammal trapping, which includes advice on health and safety, should be consulted when planning and carrying out your study. The guide can be obtained from NHBS here - Mammal Society members can receive a 10% discount by quoting their membership number.

Gurnell, J. & Flowerdew, J. (2019, 2006) *Live trapping small mammals: a practical guide*. London, Mammal Society.

Additional information in support of the guide, including where traps and other equipment can be obtained, can be downloaded from The Mammal Society's website at https://www.mammal.org.uk/shop/

When to carry out a live trap survey
It is probably better to carry out a trapping study after the nest search survey has been carried out, although this is not essential if care is taken not to disturb the habitat during the study. It is also worth

noting that the numbers of harvest mice trapped in the autumn may better reflect the numbers of animals that constructed the nests, especially above ground breeding nests, but it is appreciated that some nest surveys will be carried out during the winter and this is still valuable information.

A check list of the equipment needed

- 40 (or multiples of 40) Longworth traps, but other small mammal live traps such as BioEcoSS or Heslinga traps could be used.
- 20 g or 50 g spring balance with a small bag for weighing animals.
- Sharp scissors to fur clip captured individuals.
- Large polythene bag in which to empty the contents of traps to remove captured animals.
- Food – grain in the form of whole oats, wheat or mixed bird food, blowfly castors (from angling/fishing tackle shops), fresh apple or carrot.
- Trap bedding – preferably hay.
- Notebook and pencil.
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Preparing the traps

The treadle tripping weight in a Longworth trap should be set as light as possible (e.g. 3 g to 4 g) – this is described in the trapping guide. Remember, adult harvest mice may weigh as little as 5 g - 6 g. Each trap should contain hay bedding and food in the form of grain, blowfly castors and a piece of apple or carrot. The castors are particularly important to provide food for captured shrews.

Trapping design

The trapping design should reflect how the nest searches were carried out.

- Linear habitat (e.g. hedgerow, reed bed along river) – mark out a 100 m transect line (or two 50 m transects).
- Field/young plantation/woodland habitat – mark out a 100 m transect or two 50 m transects along the edge or across the habitat or mark out a 4 by 5 m grid with 5 m between points (300 m^2) within the habitat. Adopt a design that minimises disturbance to the habitat.

Before trapping, mark out where you are going to place the trap points. So, along a 100 m line transect, mark out 20 trap positions at 5 m intervals using coloured pegs/tape or canes, beginning 2.5 m from the start of the line. Similarly, mark each point on the 4 x 5 grid with 5 m between points.

Trapping Method

On day 1 (see timetable below) during the afternoon or evening, place 2 traps about 50 cm apart at each trap point. Along a line transect place the traps with their entrances facing into the vegetation. Sprinkle a few grains of wheat or oats in front of the entrance of each trap. When placing a trap make sure the nest box is set at an angle to prevent water entering (see trapping guide). Leave on prebait for one night. On the evening of day 2, release the prebait catch on each trap. Replenish food in the trap and replace any damp bedding, and replace the traps set to catch. Sprinkle just a few grains of wheat or oats in front of the traps. Insepect the traps at midday and as late in the evening as possible. On day 3, inspect the traps as early as possible, during the middle of the day and again in the evening as late as possible. Repeat on day 4. On day 5, inspect the traps as early as possible and then collect in the traps and the markers/canes. Inspections of the traps have been numbered Round 1 to Round 7 in the timetable below.

Trapping timetable

<table>
<tr><th rowspan="2">Before</th><th colspan="5">Day</th></tr>
<tr><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th></tr>
<tr><td rowspan="3">Site survey and mark out trap positions</td><td rowspan="2"></td><td rowspan="2"></td><td>Round 1:</td><td>Round 4:</td><td>Round 7:</td></tr>
<tr><td>Early morning – inspect traps</td><td>Early morning – inspect traps</td><td>Early morning – inspect traps – remove traps and canes/markers</td></tr>
<tr><td>Afternoon or</td><td></td><td>Round 2: Midday - inspect traps</td><td>Round 5 : Midday - inspect traps</td><td></td></tr>
<tr><td>evening – place traps with prebait catches on</td><td>Evening – release prebait catches and set traps</td><td>Round 3:
Late evening - inspect traps</td><td>Round 6:
Late evening - inspect traps</td><td></td></tr>
</table>

Dealing with and recording the catch

Captured animals should be removed and handled with care. How to do this is fully described in the trapping guide. Individuals of all species should be weighed and sexed and given a general fur clip mark (except day 5). Note, shrews are difficult to sex in the field and it is probably easier not to worry about sex in these species. Also, because trapping is likely to be carried out in late autumn or winter, there is no need to record breeding condition. All captures from each trap round should be recorded in a notebook in the field. Making a record of the weather conditions before and during each trap round is useful. A photographic record of the study areas and catch is also good practice. Back at home, the findings can be transcribed onto the form below, which can also be downloaded from the survey website as an Excel form. Email the form, either as a spreadsheet or a picture of a paper form, to the Society at surveys@themammalsociety.org – also send photographs, numbered appropriately. Please send your results even if no harvest mice have been captured.

Reminders

- Avoid trapping in very wet or very cold conditions, even if this means stopping the trapping part way through.
- At all stages it is important to disturb the vegetation as little as possible.
- When checking the traps, make sure the bedding is dry - change as necessary. Also replenish the food: grain, casters and apple/carrot.
- Only place a few grains within 2-3 cm of the front of the trap, just enough to entice animals in but avoiding prolonged feeding outside the trap.
- Record all individuals of all species captured. It is likely that wood mice, bank voles or field voles will dominate the catch. Harvest mice may not be captured even if their nests have been recorded – also *vice versa*.
- Send your results sheets to the Society, even if no harvest mice were captured.

Harvest mouse survey - live trapping study	
Surveyor Name:	Contact email/ telephone:
Site name:	Site coords.:
Line or Grid number:	Reference photograph numbers:
Brief description of habitat:	
Dates of trapping:	Summary of weather:

Round	Trap No.	Species	Sex	Wt. (g)	M/U

Key: Species

Mm	harvest mouse
As	wood mouse
Af	Yellow-necked mouse
Mg	bank vole
Ma	field vole
Sa	common shrew
Sm	pygmy shrew
Nf	water shrew

Sex

M	male
F	female

Mark

M	marked
U	unmarked