The Live trapping Small Mammals: A Practical Guide

Additional Information

John Gurnell and John Flowerdew

This is a support site for the 4th Edition of *The Live trapping Small Mammals: A Practical Guide* Mammals Society booklet written by John Gurnell and John Flowerdew and published by the Mammal Society in 2019 – it will be updated from time to time.

Those of you who would like to send comments, hints and tips, details of traps, suppliers, software and references for posting on the webpage, please contact The Mammal Society Office at info@themammalsociety.org.

Contents

1. Traps and other equipment

(a) General

Small mammal traps - NHBS Web: www.nhbs.com - supplies a range of small mammal traps, including the Longworth trap, and other field equipment.

BioEcoss tube traps – 1 Granary Steps, Bridgnorth, Shropshire WV16 4BL
Tel: 44(0)3300 010716 Web: https://bioecoss.azurewebsites.net/

Havahart traps - Web: http://www.havahart.com/

Heslinga traps - Zilvermeer 47, 9735 BC Groningen, The Netherlands. Email: tom[at]heslingatraps.nl Web: http://www.heslingatraps.eu

Longworth traps - Penlon Ltd, Abingdon Science Park, Barton Lang, Abingdon, Oxfordshire OX14 3NB. Tel: 01235 547000. Web: www.penlon.com

Ugglan traps - Grahnab, Glimmervägen 6, 335 32 Gnosjö, Sweden. Tel: +046(0)3709 332480. Email: info@grahnab.se Web: www.grahnab.se

(b) Animal marking

Eartags - National Band & Tag Company, 721 York St., P.O. Box 72430, Newport, KY 41072-0430, USA. Tel: 1-(859)-261-2035 Email: tags@nationalband.com Web: https://nationalband.com/

PIT tags
Wildlabs - Email: info@wildlabs.net Web: https://www.wildlabs.net.
Fishtrack - Email: andy@fishtrack.co.uk Web: http://www.fishtrack.co.uk/.

(c) Balances

Pesola balance - NHBS - Web: www.nhbs.com

Ourweigh - Web: www.ourweigh.co.uk

(d) Radiotracking equipment

Biotrack Ltd.- The Old Courts, Worgret Road, Wareham BH20 4PL. Tel: 01929 552992 Email: info@biotrack.co.uk Contact: www.biotrack.co.uk/enquiry-form.php. Specialist in animal radio and GPS tracking.

Followit – Followit Sweden AB, Bandygatan 2, SE-711- 34 Lindesberg, Sweden. Web: www.followit.se Email: info@:followit.se Tel: +46 581 17190.

2. Analytical software

(a) General

Pisces Conservation Ltd. - IRC House, The Square, Pennington, Lymington, Hants., SO41 8GN UK. Web: http://www.pisces-conservation.com Tel: 01590 674000 Email: pisces@pisces-conservation.com

Ecological Software Solutions LLC – Web: http://www.ecostats.com/web/ Contact: http://www.ecostats.com/web/Contact_Us.

(b) Estimating population size

Book: *Analysis of capture-recapture data* (2014) by McCrea, RS & Morgan, BJT (Chapman and Hall/CRC 314 pages) with links to useful software at www.capturerecapture.co.uk/software.html

Mark - www.phidot.org/software/mark/ - provides parameter estimates from marked animals, developed and maintained by Gary White (Colarado State University).

Density - www.otago.ac.nz/density/ - spatially explicit capture-recapture models.

(c) Estimating home range size and movement

Home Range Tools (HRT) for ArcGIS Https://www.movebank.org/node/14735

Animal Movement 2.0 extension for Arc View 3.3 - Hooge PN, Eichenlaub B. (2000). Animal movement extension to Arcview. 2.0 ed. Anchorage (AK): Alaska Science Center, Biological Science Office, U.S. Geological Survey.

Preastoni, DG & Bisi, F (2013) HRTools: commodity functions for home range calculation. https://r-forge.r-project.org/R/?group_id=1531.

Ranges 9 - Anatrack Ltd Web: www.anatrack.com - software for the analysis and presentation of ranging behaviour data.

3. References

The following references contain useful information in relation to carrying out field studies on small mammals or analysing trapping data.

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4. Hints and tips

1) New traps can be 'seasoned in' to lose their 'new smell' by placing them in the back garden or somewhere similar and rinsing them out with cold water before use.
2) If a trap feels unusually heavy when inspecting it with the door closed, then smell it before opening. It may contain a weasel (*Mustela nivalis*)!
3) When checking traps be sure to look into the tunnel and check the treadle for fouling. Traps with open doors may still be blocked by a slug, rearranged bait, leaves or earth. Wood mice in particular often block up inviting openings with leaves, earth, stones or even potential food such as haws or acorns.
4) Cover traps with leaves or grass in hot or cold weather but make sure you can find them again.
5) Vigorous, large and noisy mice are likely to be yellow-necked mice (*Apodemus flavicollis*).
6) Field voles usually have a strong musky smell which clings to the clothes if used to calm the animal down.
7) If young mice or voles are found in the trap disturb them as little as possible and leave the trap in position and the door locked up with the prebait catch. The female will usually return to collect them as they squeak using audible and ultrasonic sounds. Young rodents can survive for long periods at low body temperatures.
8) The Mammal Society has a 'Full Species Hub' at http://www.mammal.org.uk/species-hub/full-species-hub/discover-mammals/ where you can see photographs of British mammals and click links for further information.

5. Video – what to put in a Longworth trap.

See The Mammal Society video at:
https://www.youtube.com/watch?v=C952Riv6Pgc

6. Apps

Individual distribution records may be recorded via the Mammal Tracker App - http://www.mammal.org.uk/science-research/record-submission/ that has a link to the App and other web-based recording sites

Distribution records on the move are monitored by the Mammal Mapper at:
App - http://www.mammal.org.uk/volunteering/mammal-mapper/

U-Tube Tutorial for the Mammal Mapper App see -
https://www.youtube.com/watch?v=JJaaXxUwpSg

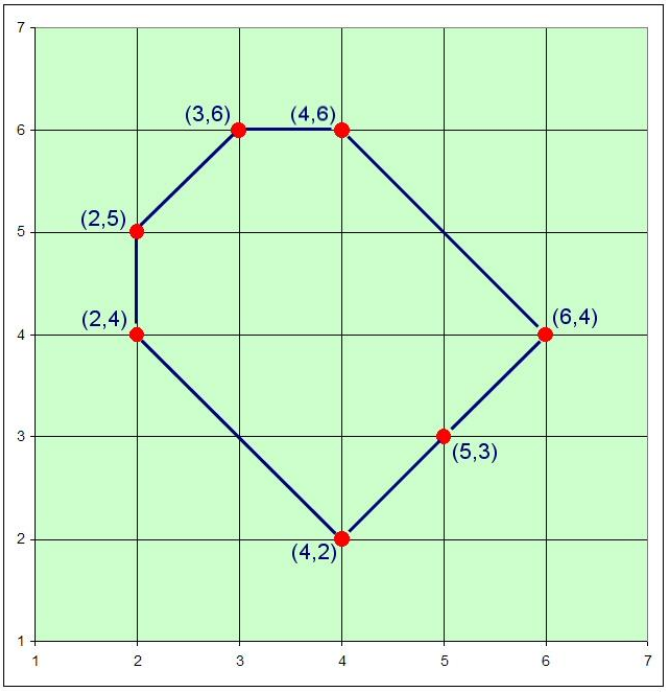
For other Apps for work with wildlife – see: https://blog.nhbs.com/subject/geology/ten-favourite-free-apps-wildlife-lovers/

7. Worked example of mapmakers formula

To calculate the area of any polygon use the mapmaker's formula (Jennrich and Turner, 1969).

Formula: $$Area = \frac{1}{2}\sum(x_i y_{i+1} - x_{i+1} y_i)$$

Map of 60 m by 60 m grid; red = capture points; blue – lines connecting points.



To use the mapmaker's formula, order the peripheral capture points anti-clockwise about their geometric centre to form a polygon. Units are meters.

Point	x_i	y_i	$(x_i y_{i+1} - x_{i+1} y_i)$				
6,4	6	4	(6*6)-(4*4)	=	36- 16	=	20
4,6	4	6	(4*6)-(3*6)	=	24-18	=	6
3,6	3	6	(3*5)-(2*6)	=	15-12	=	3
2,5	2	5	(2*4)-(2*5)	=	8-10	=	-2
2,4	2	4	(2*2)-(4*4)	=	4-16	=	-12
4,2	4	2	(4*3)-(5*2)	=	12-10	=	2
5,3	5	3	(5*4)-(3*6)	=	20-18	=	2
							19
							*0.5
					Area		9.5 m^2

8. Home range sizes of British small mammals

Approximate home range sizes (m^2) for some common British small mammals (from various sources using various methods of calculation). R-track = radio-tracking.

Species	Method	Season	Habitat	Males	Females
Wood mouse	Trap	All	Decid.wood	2200	1800
	Trap	Winter	Conif./Decid.wood	230	240
	R-track	Summer	Decid.wood	10800	4000
	Trap	Summer	Arable	12200	6300
Bank vole	Trap	All	Decid.wood	1700	1300
	Trap	Winter	Conif./Decid.wood	380	260
	Trap	Summer	Conif./Decid.wood	930	270
Field vole	Trap	All	Grassland	300-700	200-400
				Males + females	
Common shrew	Trap	Winter	Dune grass/scrub[1]		900-1850
	Trap	Summer	"[1]		530-800
	Trap	All	Grassland		800-1100
	Trap	All	Decid.wood		2800
Pygmy shrew	Trap	All	Grassland		1400-1700
Water shrew	R-track	Winter	Streamside[2]		80-170
	R-track	Summer	"[2]		100-370

[1]Netherlands [2]Switzerland

9. Licenses to trap – useful web sites

Natural England
https://www.gov.uk/government/publications/shrews-licence-to-take-them

Natural Resources Wales
https://naturalresources.wales/permits-and-permissions/protected-species-licensing/uk-protected-species-licensing/small-mammal-licensing/?lang=en

Northern Ireland Department of Agriculture, Environment and Rural Affairs
https://www.daera-ni.gov.uk/articles/wildlife-licensing

Scottish Natural Heritage
https://www.nature.scot/professional-advice/safeguarding-protected-areas-and-species/licensing

10. Guide to technical competence

Crawley, D. & Yalden D. (2013) Competencies for Species Survey: Shrews. CIEEM, Technical Guidance series. Chartered Institute of Ecology and Environmental Management, Winchester. 4 pp. Web: www.cieem.net

Download at:
https://www.cieem.net/data/files/Resource_Library/Technical_Guidance_Series/CSS/CSS_-_SHREWS_April_2013.pdf
(See also Hazel dormouse and Water vole in the same series.).