

How to survey for otters, water voles, harvest mice and water shrews

Otters (otter spraint ID course essential)

Each site needs to be visited at least once per year and is counted as positive if you find one or more otter spraints.

1. Search a total of 600m of bank. You can walk either side of the river and in any direction from the starting point. Try to choose a route with easy access or good features such as silt bars, obvious large trees or channel debris that is easily checked.
2. As soon as a sprainting site is found the spraints are counted and the site is recorded as positive.
3. If you find other evidence of otters such as footprints or feeding signs, record these in the notes section. If you are unsure of the signs take a photo and email it to us at Essex Wildlife Trust for ID – remember to put a coin or other object in shot for scale.
4. If no signs are found record the survey as negative on your record form.
5. Please record signs of mink (scats and footprints) if you are sure of your identification.
6. If you are not taking part in the water vole survey you can finish your survey as soon as you find a spraint and move on to your next one.

For the purposes of the repeat survey, a site is only positive if spraints are found. However verifiable photos of field signs, such as footprints, can be used to infill gaps in our distribution maps.

Access

Many of the sites are accessible via public rights of way. If the site is on private land the landowner's permission needs to be obtained before entry. If you make contact with a landowner please ask if they are willing to give contact details so that future surveyors can get in touch prior to surveying.

Timing

Please start surveying as soon as you wish. The easiest time for the survey is before the vegetation gets too tall but otter signs can be found all year round. NEVER survey when the river is flooded. It is dangerous and any field signs will be washed away. Wait at least 2 days after the water levels subside.

Submitting your findings - www.essexwtrecords.org.uk

Please enter your results online by visiting the Essex Wildlife Trust records website where there is a separate RIVERSEARCH form. The first time you use the system you will need to request a login, but after that you can enter your records whenever you like, and can also use the site to record other species you see. If you need any help with use or logins contact our Biological Records Officer, Lorna Shaw on lornas@essexwt.org.uk.

Alternatively you can record information on the forms provided and send by post or email if you wish. Please complete the record sheet even if the site is negative and return your results by the end of June. Also make a note of any signs of mink and also what the access is like.



Above: Otter spraint on raised log and otter footprints on clay pad

Water voles (water vole training course essential)

The strongholds for water vole are along the coastal borrow dykes, ditches, streams and drains of the **Dengie, Rochford** and **Tendring peninsulas** but colonies are now found on the River Colne. If you have been on a water vole training course and are confident looking for water vole signs then do so while undertaking your otter survey. Please tick the relevant boxes if you see:-

1. **Latrines or droppings.** These are distinctive, 'tic tac' shape and size, often brown or green and the best evidence for water vole presence.
2. **Feeding stations or signs.** Vegetation is left cut up in piles along the water's edge, often with a distinctive 45° cut angle on the ends. Again a good indicator of water vole presence.
3. **Burrows.** Usually close to water level with a track running straight down into the water (rats often link their burrows with greasy pathways up and along the banks). Burrows alone are not enough to prove water vole presence.

Timing

Water voles are best surveyed between April and September although signs can be found from March to November. See note on flooding (page 1).

Submitting your findings

Please use the same online or hard copy forms as the Otter survey.



Water vole droppings look like brown or green 'tic tacs'. There may also be feeding signs, vegetation cut up into lengths and left in piles. Look out for tracks and pathways through vegetation leading to the water.



Water vole burrows are often found along the edge of the water and are usually about 4-8 cm high. They are often oval, being higher than they are wide. Burrows of different animals are easily confused so always look for droppings or feeding signs to back up your evidence.

Harvest Mouse (previous experience useful)

Any habitat that includes long grasses or similar tall vegetation is suitable for harvest mice (our smallest UK rodent). This includes grasses, sedges, rushes, reeds, cereals and so on. Harvest mice utilise stiff, leafy grasses to build their nests and can be found in both dry and wet habitats, building a breeding nest above the water level in reed beds for example in the summer. Suitable habitats include tussocky field margins and roadside verges, reed beds, marshes, wild bird covers, young plantations, woodland glades, scrubland, heathlands and so on.

Cock's foot (*Dactylis glomerata*) and common reed (*Phragmites australis*) are two species favoured by harvest mice, but they are not limited to habitat containing these two species and will use other monocotyledonous plants to nest in too. Along the rivers you can find nests in emergent vegetation along the edges of the water course.



Surveying

Surveying involves searching for the distinctive woven nests of the harvest mouse.

- Use your hands to move the vegetation apart for a proper look
- Nests can be found around ground level or much higher off the ground, depending on the vegetation and whether it is a breeding nest or not
- In tussocky vegetation, such as cock's foot, purple moor grass (*Molinia caerulea*) or tufted hair grass (*Deschampsia cespitosa*) look on the top of tussocks between the stems, or beneath overhanging leaves of tussocks
- Look within bigger clumps of suitable vegetation that has fallen over due to the weather
- Look further up the stems as well - in tall, standing vegetation such as tall standing grass, reeds, cereals or wild bird covers, nests can be about halfway up the flowering stem and potentially over a metre from the ground



Timing

Harvest mouse nest searches are usually carried out between October and March so can be undertaken when the water vole survey season ends. Please be aware that in mild autumn weather, harvest mice may still be breeding well into November so **never remove a breeding nest** at this time of year.

Access and submitting your findings

Please refer to the previous section on otters. At present we are just looking for presence/absence of harvest mice across the county. You can search river banks in winter as part of the normal RIVERSEARCH survey locations, or choose new sites that look suitable. It is NOT necessary for harvest mouse surveys to be associated with a water course if you wish to pick your own locations to search.



Above: Harvest mouse breeding nests are about the size of a cricket ball or slightly larger and are constructed from leaves of plants such as reeds and grasses, shredded lengthways into strips a couple of millimetres wide. The strips remain joined at the base of the leaf which is still joined to the plant. This results in a partly green nest in summer making it less obvious to predators.

Below: Non-breeding nests are made all year by male harvest mice and by females in winter. They are smaller and more flimsy than a breeding nest, and not lined.

Water Shrews (no experience required)

The survey

One way to discover if water shrews are present is to use bait tubes to collect the droppings of any small mammals on a survey site. Essex Wildlife Trust can then analyse the returned droppings to identify which species are present, including the water shrews themselves. If you find any owl pellets these can also be sent to Essex Wildlife Trust for analysis (see “Returning your results” overleaf).

When to survey

In summer (June – August) population densities are highest and their presence/absence should be easiest to establish however surveys can be carried out any time from April to October.

Making your survey bait tubes

If you are taking part in the water shrew survey you will first need to construct 10 bait tubes to place along the edge of your chosen river; stream; ditch or pond.

1. Cut a 2m length of 4cm diameter plastic waste pipe (available from all DIY stockists) into lengths of 20cm. You may want to sandpaper the ends if they are quite sharp.
2. Cover one end of the tube with a small piece of muslin (or old nylon tights) and secure with an elastic band. This will stop the bait falling out but small mammals can easily chew through it.
3. Bait your tubes with approx 20-30 dried mealworms available from most bird food stockists, wildlife visitor centres, garden centres or online bird food retailers. (You can also use pre frozen casters available from fishing tackle shops if you prefer).



A 2m long plastic waste pipe costs about £2 from a DIY shop and will make 10 bait tubes. It will take no more than 15 minutes to assemble all your tubes from scratch.



How to set your bait tubes

Research has shown that water shrews like sites with high reed cover and a good plant litter layer; tussocky sedges or grasses; good water quality; water less than 2m deep and a high diversity of aquatic insects. They are often found on ponds, lakes, reservoirs, river margins, streams, ditches, canals and sometimes even vegetated shingle.

Choose a convenient site that you have permission to visit that has at least one of the habitat types described above.

1. Place your bait tubes horizontally within 2-3 metres of the water's edge with the entrances flush to the ground, hidden from view in the vegetation. (Tubes placed in open exposed locations are rarely visited)
2. A loop of wire can be used to secure the tube and avoid it being knocked about by visiting animals.
3. If well hidden ensure a little brightly coloured tape or twine marks the spot so you can find it when you return!
4. All tubes should be high enough above the water to prevent flooding
5. Place your 10 tubes at 10m intervals to give a 100m survey length.
6. Leave the tubes overnight (max 2 nights) then collect them up and place them in a plastic bag so you don't lose the contents.



A bait tube placed in vegetation close to the edge of a pond. We suggest placing them approx 10m apart and in good cover.



Nests of water shrews may be found in wetland areas along with the adult animals. The water shrew is the largest of our three mainland shrew species (12-14cm long including the tail) and the only one to actively hunt aquatic insects underwater.

Returning your results

You will need to send any droppings you collect back to us at Abbots Hall Farm for identification. Please follow these instructions to ensure we receive them in good condition.

1. Air dry your tubes so any scats or droppings won't degrade.
2. Once dry, scrape out the droppings and place them into a small container such as a film canister or a sealable plastic bag. (If using a bag wrap it inside some sturdy card before posting so the droppings don't get crushed).
3. Record your contact details, the site location (grid reference is useful), dates of your survey and details about the type of habitat (eg pong, river, ditch) along with any other notes then return your samples to Darren Tansley at the address below.
4. If you find any owl pellets during your survey please return these at the same time along with details of where you found them.

The results of this survey will be published in the 2014-2017 RIVERSEARCH report.

If you have any queries or questions about these surveys, please contact:

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Harvest mouse information adapted from "National Harvest Mouse Survey 2013 and 2014 Instructions for Surveyors" published by the Mammal Society - www.mammal.org.uk