

Water Shrew

Neomys fodiens (Pennant, 1771)

Order: Soricomorpha

Water shrews are the largest of the three British mainland shrews (Head/body length: 67-96mm, tail 45-77mm and weighing up to 18g), having the characteristic long pointed snout, small ears and tiny eyes. The adult fur is short, dense and black on the upper surface, with buff grey chin, neck and underbelly, usually with tufts of white hairs on the ears and around the eyes. Males and females are alike. Juveniles are dark all over and, rarely, adults remain entirely black. There are stiff hairs on the margins of the feet, and along the underside of the tail forming a keel, an adaptation for aquatic activity. Water shrew fur is denser than in other species, being adapted for aquatic activity. They groom it frequently to maintain its condition and prevent water-logging. Droppings are up to 10mm long and black when wet, they dry pale grey and may contain white fragments of aquatic crustaceans. They may be deposited on streamside rocks or at the entrance to burrows. The burrows are made in the banks of streams and rivers and are about 2cm across. Unlike bank voles, there is no disturbance of the surrounding vegetation.



Photograph: Jane Simpson



Water shrew burrow

Water shrews are generally solitary, and territorial. However, they are more tolerant of others living nearby if the habitat is of sufficiently high quality. They lead a short, highly energetic life of about 19 months and do not hibernate. Their constant need for food requires them to remain active all year. The adults produce two to three litters of 3-15 young between April and September. A nest of dry grassy material is constructed by the female in a burrow or similar structure. After breeding the adults die-off. The juveniles which survive the winter, become sexually mature in the spring.

Water shrews tend to be nomadic, ranging more widely than the common and pygmy shrew. Population densities are relatively low, about 9 animals/hectare in good quality habitat. They are most likely to be found in clean, freshwater habitats, typically along the banks of waterways including drainage ditches. They also frequent ponds and reed beds. Water-cress beds are particularly favoured for the quality of the water. Animals disperse after the breeding season and may turn up far from water, in grassland, scrub, hedgerows and even urban gardens.

Water shrews feed on a wide variety of aquatic and terrestrial invertebrates, depending on season and availability in the habitat. Their impressive, carnivorous dentition makes short work of prey such as beetles, woodlice, earthworms and snails, as well as freshwater shrimps, water slaters and caddis larvae, for which the animals dive up to a metre or more. Larger prey such as small frogs, newts and fish may be taken. A mild venom secreted in the saliva helps to overcome prey, which can cause a reaction in humans.

The main predators of water shrews are barn and tawny owls, occasionally other raptors. They may also be taken by opportunist predators such as foxes or even pike. However, shrews possess scent glands for territorial marking, producing strong-smelling oily substances, which some predators such as cats, find distasteful.

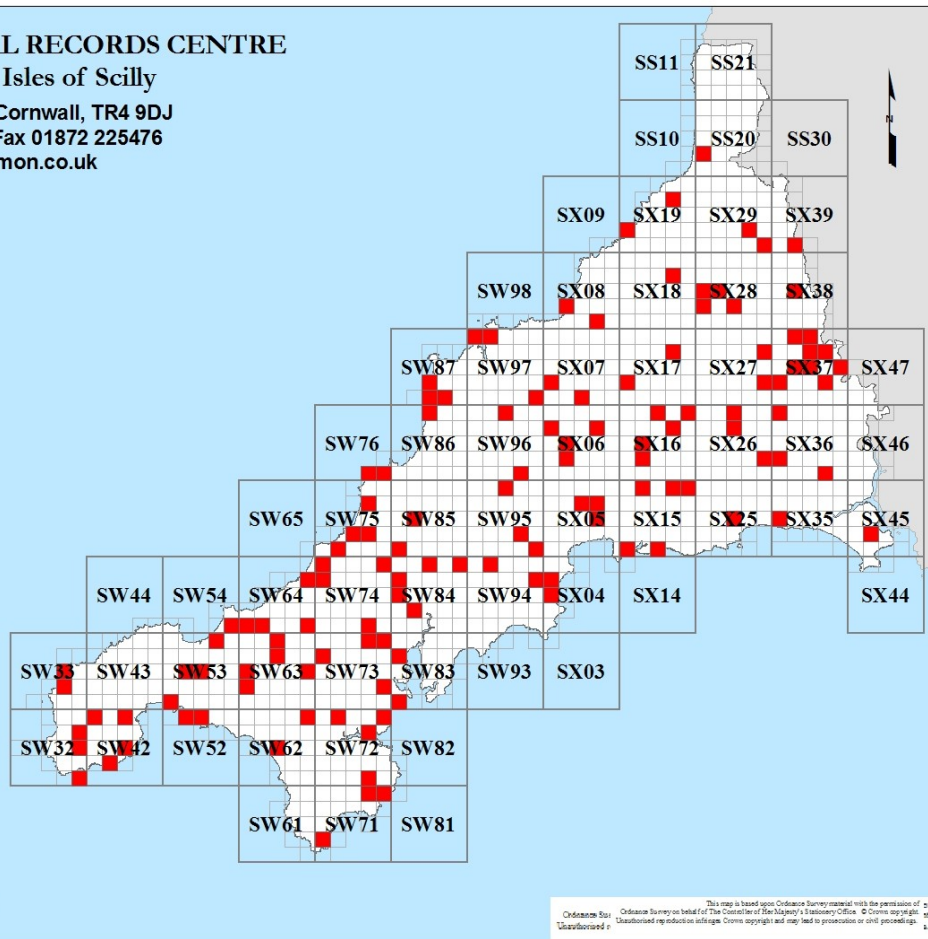


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Cornwall Mammal Group
Water shrew
Neomys fodiens
As of September 2009

Legend

-  Grid 10 Km
-  Grid 2 Km (Tetrad)
-  Water shrew records, 2000-2009



Local distribution and key sites

The map shows that the Water Shrew is widespread but probably under-recorded in Cornwall.

Number of records per date class

2002 to 2006 inclusive 142

1997 to 2001 inclusive 33

All records previous to 1997 73

Total 248

The water shrew occurs across Europe, from southern Scandinavia and Finland to the Mediterranean.

Water shrews are never very abundant and it is difficult to detect population changes. Declining numbers may result from habitat loss and reduction in habitat quality through pollution or physical destruction.

Water shrews are protected under Schedule 6 of the Wildlife and Countryside Act (1981). They may only be captured by persons in possession of a licence issued by Natural England. Because of their need for constant energy, all shrews risk death by starvation when trapped. Traps must be provided with adequate bedding and food, and checked frequently.

Survey Methods

- Small mammal trapping
- Plastic bait tubes
- Corrugated metal sheets
- Cat kills and incidental records

Did you know?

Water shrews, along with their relatives, are very vocal and communicate mainly in the ultrasonic range. They may be able to echolocate around their environment and bat detectors can be used to record their vocalizations but there is no distinctive call pattern between different species of shrews that would help identify them.

Key references

- Churchfield, S. (1990) The Natural History of Shrews. Christopher Helm, London.
- Gurnell, J. & Flowerdew, J.R. (1994) Live Trapping Small Mammals A Practical Guide (3rd edn.) The Mammal Society, London.