The Water Shrew (Neomys fodiens)

There are three species of shrew native to the British mainland: the Water Shrew (Neomys fodiens), Common Shrew (Sorex araneus) and Pygmy Shrew (Sorex minutus).

Neomys fodiens (the European water shrew) is the largest of the British shrews, and is distinct in its habits and appearance.

Water Shrew facts

1. Water shrews are semi-aquatic mammals which use water and wetlands for shelter and resources – in this case mainly for food.

2. Adult water shrews are around 15cm long - the head/body is: 67-96mm; & tail is: 45-77mm

3. Unlike the other two UK shrews, the water shrews tail is almost as long as its body.

4. Water shrews can weigh between 8 - 23g with an average of 12 – 18g. Pygmy and Common shrews generally weigh less than 12g (Macdonald and Barrett, 1993).

5. They have black, velvety fur on their back and a pale, silvery white stomach. This colouring makes them easily identifiable.

6. Their fur is denser than other shrews, efficiently insulating them against cold and wet.

7. Their ears are only visible as tufts of white hairs.

8. They have red tipped teeth and their saliva is slightly venomous and is used to stun larger prey.

9. The feet have a fringe of stiff, silvery hairs which help them to swim, and the tail has a hairy ‘keel’ on the underside.

10. They have sensitive whiskers which they use to detect prey whilst swimming.
Water Shrews – Their Ecology & Conservation

**Water shrew distribution**

Water shrews are thought to be widespread in the UK. However, they tend to be localised and to move around seasonally (Harris *et al*. 1995). Prior to 2003, little was known about UK water shrew ecology and their habitat requirements. It was feared that they may have suffered similar declines to the Water voles and only 71 records of water shrew were recorded for Sussex at this time. National and local surveys since then have shown that water shrews probably occur in low numbers locally but that they are relatively common. There are still huge gaps in our knowledge of where they live within the county however.

**Where do water shrews live?**

Water shrews often have a territory of under 300 m in size. Unlike common and pygmy shrews which specialise in dryer terrestrial habitats, water shrews are mostly found in wetter habitats. A recent study by Southgate *et al* (2006) showed that they appear to like sites such as reedbeds and tussock sedge beds, with deep plant litter layers and the presence of tussock grasses. They were also found on vegetated shingle and at a heathland site (although their presence on heathland is thought to be unusual). They have however been found as far as 3km away from water and will forage and migrate through drier terrestrial landscapes.

**What do water shrews eat?**

Water shrews feed on aquatic invertebrates (insects) and will dive to around 2m in water to find food. They prefer sites with an abundance of their preferred foods. They will eat terrestrial invertebrates and occasionally even carrion but they appear to prefer aquatic snails, caddis fly, mayfly, dragonfly and damselfly larvae and some water beetles (preferred families include *Trichoptera, Ephemeroptera, Hydrobiidae, Lymnaeidae, Physidae, Calopterigidae, & Chironomidae*).

**What else affects water shrews?**

Because they rely on aquatic invertebrates for food, poor water quality probably affects water shrews. Research in this area is limited however. Intensive management of watercourses is also likely to affect them, as is the destruction and drainage of wetland habitats, and heavy trampling by livestock. They are less likely to be eaten by predators as the venom in their teeth makes them taste horrible.
Likely locations to find water shrews

- Healthy wetland sites with high reed cover and thick layer of plant litter - tussocky sedges and grasses, good water quality, water less than 2m deep and a high diversity of aquatic insects
- They have been found on ponds, lakes, reservoirs, rivers, streams, ditches, canals, fens and other wetlands, vegetated shingle and even heathlands.

Unlikely locations to find water shrews

- Polluted sites (particularly those with low oxygen levels and high water temperatures)
- Bracken covered heathland, dense woodland with dense leaf litter and other dry habitats away from water
- Dry and drained sites with no water / wetland or only sporadic seasonal water
- Sites which are heavily grazed and trampled by stock (sheep and cows)
- Sites with concrete or artificial banks, and highly maintained / mown watercourses
- Watercourses which flash flood frequently

Why worry about water shrews?

Water voles, another semi-aquatic mammal, have suffered one of the most catastrophic declines of any native mammal in the 20th century. It was feared that water shrews might have also been affected by habitat destruction and the introduction of the non-native American Mink, but there is still not enough known about water shrews to know if they are declining or stable.

What can I do to help water shrews?

- Give your cat a bell and keep it in at night. Many small mammal and water shrew records come from cat kills
- Help create and restore wetlands. It doesn’t have to be fancy, a pond is incredibly good for wildlife
- Think about what you pour down the toilet and the drain. Chemicals and other substances which end up in our rivers can adversely affect wetland plants and aquatic invertebrates
- Manage land sympathetically. Consider reducing stock poaching and grazing of river banks, and try and create a mosaic of different interconnected habitats including some wet areas
- Don’t over drain your land. Even a damp patch of ground where a spring rises may provide valuable linking habitat for water shrews.
- Use less water – that way we have more left over in our wetlands for wildlife.
- Leave some areas of open but rough and tussocky grassland, rush or sedge vegetation.


