



Water Vole © northeastwildlife.co.uk

Working with Wildlife

Water Vole (*Arvicola terrestris*) Species Action Plan

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Conservation Status

Wildlife & Countryside Act 1981, schedule 5
 UK Biodiversity Action Plan Species
 UK Mammal Red Data Book
 North East Biodiversity Action Plan Species
 Northumberland Red Data List, Vulnerable

Description

The water vole is the largest of the British voles weighing between 200 and 350 grams, with male voles normally being slightly larger than females. As a result of their size they are commonly mistaken for the brown rat, *Rattus norvegicus*. Distinguishing features are:

- Rounded body
- Blunt muzzle
- Short tail
- Almost invisible ears
- Darker colour
- Buoyancy (body is visible above surface of water)

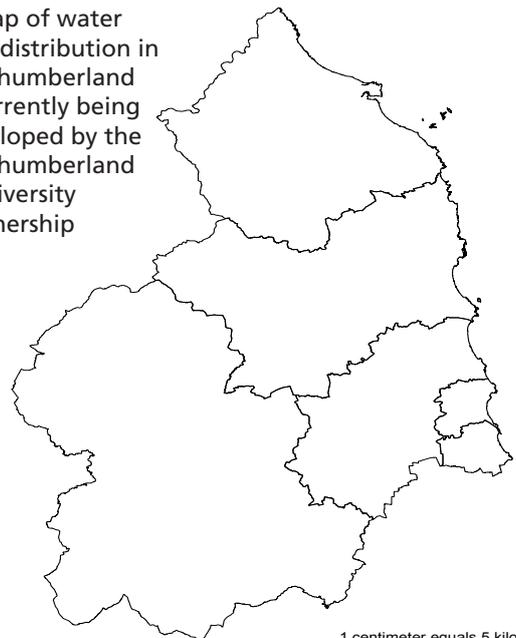
Water voles favour a slow-flowing water course with thick herbaceous riparian vegetation, where extreme fluctuations in water levels are rare. The upper reaches of rivers, small backwaters, ditches and ponds are strongholds for the species. They avoid excessively shaded watercourses with extensive shrub and tree cover.

They prefer a steep earth bank profile into which they can create a series of burrows comprising many entrances and interconnecting tunnels, food storage and nest chambers. Breeding takes place from March to October, with females producing between 2 and 5 litters annually of 5 to 8 young. Water voles can survive three winters but this is the exception as mortality rates may be very high among dispersing juveniles. Above ground activity is largely confined to runs in dense vegetation within two metres of the waters edge.

They are primarily herbivores, feeding on the aerial stems and leaves of waterside vegetation; grasses, sedges, rushes and reeds. During the winter the roots and bark of woody shrubs and trees form an important part of their diet, together with the rhizomes, bulbs and roots of herbaceous plants. They will occasionally eat fruit from shrubs and trees, invertebrates and even dead fish.

Current Extent in Northumberland

A map of water vole distribution in Northumberland is currently being developed by the Northumberland Biodiversity Partnership



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The water vole was formerly a common sight to anglers and passers by on many inland waterways across the country. Populations have declined by almost 70% nationally since the 1960's. The principal reasons for the decline in the water vole populations are inappropriate wetland management and the introduction of the North American Mink, *Mustela vison*, which as a semi-aquatic mammal is able to follow its prey overland, under water and into burrows.

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Populations have declined locally by over 95%, leaving very few sites left in Northumberland with water vole presence. As regional populations have contracted, colonies have become extremely fragmented and local surveys show that these isolated pockets survive at very low densities, making them extremely vulnerable and facing a real possibility of extinction from the county. Surviving colonies in Northumberland are mainly found in upland burns, coastal streams and drains and urban watercourses.

The future of the water vole in Northumberland as anywhere in the country is dependent on the relative presence or absence of the mink. Evidence from Northumberland has shown that the increase in the region's otter population has succeeded in reducing the overall presence of mink in the county. However, there is little hope of a total eradication of mink but some form of targeted control in key water vole areas would be beneficial.

Current Factors Causing Loss or Decline

- Predation by mink
- River engineering, bank protection and maintenance work
- Riverside vegetation cover removal by mowing and livestock grazing
- Compaction of soil and damage to burrows from livestock trampling
- Fluctuations in water levels from flooding, drought and abstraction
- Pollution
- Loss of habitat from culverting
- Poisoning by rodenticides from mistaken identity as rats
- Removal of habitat from changes in agricultural practices

Associated Action Plans

Reedbeds

Fen, Marsh and Swamp

Ponds, Lakes and Reservoirs

Rivers and Streams

Further Information

This water vole action plan links to the water vole UK BAP action plan, whose lead partner is the Environment Agency.

Kerslake, L. (1998) Ed. Red Data Book for Northumberland, Transactions of the Natural History Society of Northumbria. Vol. 58, Part 2.

Strachan, R. & Jefferies, D. J. (1993) The Water Vole (*Arvicola terrestris*) in Britain 1989/90: its changing status. The Vincent Wildlife Trust.

Strachan, C., Strachan, R. & Jefferies, D. J. (2000) Preliminary Report on the Changes in the Water Vole Population of Britain as Shown by the National Surveys of 1989-1990 & 1996-1998. The Vincent Wildlife Trust.

Targets

Maintain the current range of the water vole in Northumberland by 2010

Increase the current range of the water vole in Northumberland by 2015

Code	Priority Actions	Date
WV A01	Carry out a baseline survey of water voles	2006
WV A02	Collate all other existing survey data on water vole sightings	2008
WV A03	Quantify the maintain and increase current range targets based on the distribution data	2008
WV A04	Ensure that existing populations are protected, and their habitat enhanced and extended through development control and flood risk management operations	ongoing
WV A05	Promote awareness of the threats to the water vole and publicise their legal protection, habitat requirements and the importance of their conservation, particularly to development control and planning departments and residents near urban populations	ongoing
WV A06	Ensure all land managers/owners of sites containing, or adjacent to water vole populations are aware of their presence. Encourage sympathetic management and enhancement of habitat.	2008
WV A07	Carry out riparian habitat improvements for water vole, particularly up and down stream of known sites in order to prevent isolation.	ongoing
WV A08	Seek to strengthen the case for the North Pennines population to be recognised as a national key site, through the AONB project.	2008
WV A09	Establish an effective perimeter network of mink control around key water vole areas with appropriate parties. Initiate training where necessary.	2009
WV A10	Investigate the feasibility of re-introduction of the water vole to appropriate previously occupied sites.	2008