

Water Vole (*Arvicola terrestris*) Species Action Plan

1. Introduction

Water voles are rodents that are widely distributed across mainland Europe and Asia. There are two recognised species, *Arvicola terrestris* and *A.sapidus*, the latter only occurring in Spain and SW France. *A.terrestris* has been recorded from all areas of Britain except the Scottish Islands. Neither species is found in Ireland. Water voles mostly inhabit river and stream sides where they burrow into banks and feed on grasses and herbs and occasionally invertebrates. In Britain they are usually found within a few metres of water, but on the continent they are often found further away in, for example, fields where they can be agricultural pests. Despite their more aquatic habits it has been concluded that the British animals are not a separate species, although there is some debate as to whether they could be a sub-species of *A.terrestris*. If this were true it would strengthen the case for conservation of British animals even though the species is still common on the continent. This plan is complementary to the **Rivers and Burns HAP** and to the SAPs for **crayfish** and **freshwater pearl mussel**.

2. Current Status

2.1 National

The water vole was once considered common in most parts of Britain, but has undergone massive national declines since the 1960s. This decline has been determined from a national survey which investigated previously occupied and other randomly chosen sites across the country in 1989/90 and again in 1996/98. For Britain as a whole, occupied sites declined by 67.5 % over the seven years between surveys (Strachan *et al*, 2000). The species can however still be locally frequent in some areas of Britain e.g. southeast England. The water vole has been selected as a national Priority BAP species. It was included on Schedule 5 of the Wildlife and Countryside Act (1981) in the 1998 quinquennial review making it illegal to damage, destroy or obstruct the animal's place of shelter or disturb the animal itself when it is residing in its place of shelter. No licences can be given to destroy burrows for development or maintenance.

2.2 Local

The species has been included in the Northumberland Red Data Book (Kerslake, 1998) which states that the species has disappeared from many former sites within the county. It has been targeted in the Northumberland BAP under the Rivers and Streams Action Plan. The national survey in 1989/90 investigated 146 sites in the Northumbrian region, of these 54.1% were occupied by water voles. These included sites within the NNP on the rivers South Tyne, North Tyne, Warksburn, Rede, Tarsset, Chirdon, Coquet, Aln and Tweed tributaries (Strachan & Jefferies, 1993). The survey was repeated in 1996/98 when only 8.75% of sites were occupied in the region - a decline in occupancy of 93%. The exact locations of these sites are not available to the NNPA at present. The only known site (by National Park staff) within the NNP has been revealed as a result of a recent NWT survey (Hethpool Lake). Another site at Elilaw pond did support water voles (recorded 1996) but a recent visit showed no signs. There are also old records for Sundaysight Cleugh (no date) and Redesdale Experimental Husbandry Farm (1988-90) on the database. There are other unconfirmed records in and around the NNP without specific grid references e.g. Broomlee Lough.

3. Factors Causing Loss or Decline

3.1 Habitat degradation/unsympathetic bank management. As water voles depend heavily on the area adjacent to the watercourse edge for feeding and shelter, any unsympathetic management such as overgrazing, stock poaching, canalisation or bank reinforcement can have a profound effect on local water vole populations. Tree planting close to the water edge can also have a detrimental effect on water vole populations as grasses and herbs (used for food and shelter) are eliminated due to shade.

3.2 Predation. It has been proven that the non-native American mink (*Mustela vison*) has had a dramatic effect on water vole populations in many areas of Britain (see Strachan & Jefferies, 1993 for review of published data and data from the 1989/90 national survey). Since the mink is not a native predator of the water vole, the voles' natural defence mechanisms are not effective against this species. Mink have very catholic diets and are therefore able to stay in an area and eradicate whole populations of water voles even if this prey is present at very low densities. The first confirmed records of mink in the region were on the River Blyth in 1966 and by the late 1970s they were established on most river systems in the area (Strachan & Jefferies, 1993). All catchments surveyed within the Northumbrian region and in the NNP supported mink in 1989.

3.3 Water level fluctuation. Water voles construct their burrows so there are entrances above, below, and at the water level of the river or stream. If the water level drops substantially (and perhaps more importantly, quickly) water vole holes can be exposed. This can lead to higher predation by mink **and** native predators such as stoats and weasels. Floods, that push voles out of their holes and out of artificially narrow riparian zones into areas of poor cover, can also increase predation levels.

4. Current/Recent Action

- 4.1 National surveys investigating 146 sites in the Northumbrian region for water voles and mink were carried out in June and July 1989 and in 1996/98.
- 4.2 NWT has carried out systematic surveys on some catchments in Northumberland, but they have not been comprehensive and only 55 sites within the NNP have been investigated - in the Cheviot area, from the Breamish north (July - Sept 2000).
- 4.3 Work on general river improvements, fencing and wetland creation may have helped water voles, for example work carried out under the NRP, Tweed Project, WES and CSS to prevent bank erosion and to promote bankside vegetation.
- 4.4 Mink control by local farmers, gamekeepers, fishing interests etc. has taken place but has been sporadic, therefore it is hard to determine where and how many mink have been taken in recent years.

5. Broad Objectives and Targets

- 5.1 Locate populations of water voles within the park.
- 5.2 Protect and maintain any populations found.
- 5.3 Endeavour to expand any populations found in, or on the edge of, the NNP.
- 5.4 Increase awareness of this nationally declining species and use it to highlight the importance of rivers and burns in the NNP.

6. Proposed Action

The initial work towards the plan will come from the following 2 sections as there is currently little knowledge of populations in the NNP. See also **Rivers and Burns HAP** for general riverine improvement works.

6.1 Future survey and monitoring

Action	Target	Partners	Achieving Objective
6.1.1 Locate historical records of water vole sites in NNP, including those from the two national surveys.	2002	VWT, NWT, H Museum, EA, Mammal grp, NHS	1
6.1.2 Train staff and volunteers in identifying water vole and mink signs and how to search for them.	training day 2002	NWT, EA	1,4
6.1.3 Survey known historical sites within the NNP.	by 2004	NWT, EA,	1

		volunteers	
6.1.4 Continue to survey other river catchments in NNP not included in the NWT survey. Also survey other water features such as streams, ditches and ponds.	All catchments surveyed by 2010	NWT, EA, volunteers	1
6.1.5 Monitor the current known site (Hethpool Lake) annually	2001 onwards	landowner	1,2
6.1.6 Encourage research on habitat requirements of WV found in the NNP (especially upland sites). Add water vole research to portfolio of research topics sent annually to Universities.	1 study initiated by 2005	Local colleges & universities, NWT	2,3
6.1.7 Record WV and mink records on HabPro and/or in regional records centre or central database when they are set up.	Ongoing when received	NWT, EA, EN, mammal grp museums	1,2,4

6.2 Communications and Publicity

Action	Target	Partners	Achieving Objective
6.2.1 Use the water vole when promoting the importance of rivers and burns in the NNP during the Celebrating Biodiversity dedicated year.	2004	Schools, NWT, EA, EN, local media.	4
6.2.2 Use the local media, appropriate magazines etc. to inform about the species, their habitat requirements and their distribution in the county and the NNP. Encourage members of the public to report possible sightings.	3 articles by 2010.	NWT, EA, EN, local media, mammal grp	4,1
6.2.3 Mention the water vole and its habits and use it to explain the importance to wildlife of corridors such as rivers (together with other species such as the otter) when giving appropriate talks and leading guided walks.	At least 2 by 2010.	EA, NWT	3
6.2.4 Display copies of the NWT leaflet in NNP centres and ensure any data gained is passed back to put on NNP/NWT databases and/or central records system.	When reprint available	NWT, EA	1,4

The following actions may be considered if viable populations of water voles are found in the NNP. These actions may be subject to change and it is likely that the Action Plan will be revised in the light of new findings. The timing of these actions will be reactionary.

6.3 Policy and Legislation

Action	Target	Partners	Achieving
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			Objective
6.3.1 Consider the needs of the species when assessing planning applications and other consultations.	ongoing if found	EA, NCC, EN, FC	2

6.3 Site Safeguard and Management

Action	Target	Partners	Achieving Objective
6.3.1 Manage any known sites for water voles within the NNP. Encourage good bankside management on the catchment adjacent to the sites using grant aid from suitable schemes.	ongoing if found	Landowners, EA, EN, FE, NWT, DEFRA	2,3
6.3.2 Plan planting schemes carefully on or near stretches with water vole populations.	ongoing if found	FE, FC, EA, NWT, EN	2,3

6.4 Species Management and Protection

Action	Target	Partners	Achieving Objective
6.4.1 Assess the need for, and carry out mink control (if none already and appropriate) on the catchments around known sites.	ongoing if found	Landowners, gamekeepers EA	2

6.5 Advisory

Action	Target	Partners	Achieving Objective
6.5.1 Advise landowners with water voles on sympathetic bankside management (e.g. fencing away stock) and advise on where to obtain grant aid to carry this out - NRP/Tweed project/CSS/OARP etc.	Contact within 6 mths of finding site	EA, EN, DEFRA, NWT, FE, landowners	2,4
6.5.2 Pass any water vole records to NNP, NWT, EA and EN (or central records centre).	Within 6 months	NWT, EA, EN, FE	2,4

7. References

Flinn, T. & Frisby, S. (2000) *The Northumberland Wildlife Trust 2000 Water Vole Survey*.

Kerslake, L. (1998) Ed. *Red Data Book for Northumberland*. Transactions of the Natural History Society of Northumbria. **Vol 58**, Part2.

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