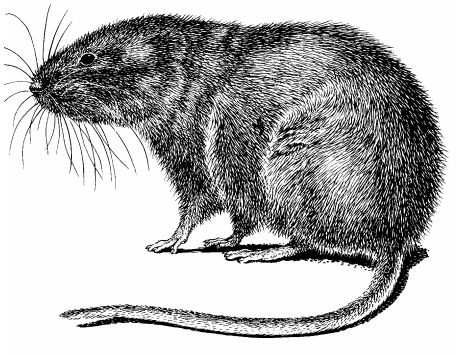
WATER VOLE (*Arvicola terrestris*)

DESCRIPTION



General ecology

The water vole is Britain's largest vole, measuring about 20cm long (head and body) with a tail of up to two thirds of this length. It is easily recognised by its rounded face and body, and short ears that extend just beyond the fur. Water voles feed mainly on waterside vegetation of grasses, sedges, rushes and reeds. In the winter months roots, rhizomes bulbs and bark from trees and shrubs form an important part of their diet. Water voles usually live in a series of burrows dug into waterside banks, often comprising numerous chambers, tunnels and entrances. Occasionally they will weave a nest into the base of waterside vegetation. Breeding occurs between March and October and a female water vole may have as many as five litters a year, each with approximately five young. Early born young may breed later that summer or autumn, but most reach sexual maturity after their first winter. Animals surviving their first winter undergo a spring moult but the few surviving a second winter develop thin and greyish fur. Water voles are usually detected by their field signs which include latrines (often used to define territories during the breeding season), feeding remains and burrows.

Key habitats

Water voles require a good fringe of waterside vegetation that provides food and cover. Slow-moving rivers, streams, ditches, ponds and lakes are favoured sites. In Greater Manchester, canals are also thought to be an important habitat. Work by Scottish Wildlife Trust suggests that American mink (*Mustela vison*), the water vole's major predator, do not like too much human disturbance and therefore move away from towns. The water vole on the other hand is better able to cope with human disturbance and can often be found around towns. Recent work has also shown them to be more numerous in upland and peatland habitats than formerly thought.

CURRENT STATUS AND IMPORTANCE

The water vole was once common and found throughout much of Britain near water. However the species has suffered a catastrophic decline in recent years. A national survey was undertaken between 1989 and 1990 looking at current numbers of water voles in the UK and the historical distribution of the species. It found that water voles had gone from over two thirds of sites occupied in 1939, indicating a steady, long-term decline. In 1997/98 the survey was repeated estimating an 89% loss since 1939, with a projected 94% loss by 2000 making it Britain's fastest declining mammal.

The current status of the water vole in Greater Manchester is not known though it is thought to occur in all ten districts.

The water vole receives limited protection by its inclusion on Schedule 5 of the Wildlife and Countryside Act 1981 which protects its places of shelter but not the animals themselves - unless the animal is in its place of shelter. The water vole is on the list of priority species in the UK Biodiversity Action Plan.

WATER VOLE

CURRENT FACTORS AFFECTING THE SPECIES

Those factors listed below are particularly relevant to the Greater Manchester area. The negative factors are those that are thought to contribute to the decline of bat populations. The positive factors are those measures that may already be assisting in the conservation of the species:

Positive factors	Negative factors
Impacts on water vole habitats are a material consideration within the planning process and applications which affect water courses and ponds should be considered in relation to their potential impact on water vole populations.	*Loss, deterioration and fragmentation of habitats and existing water vole population.* This may be attributed to urban and rural development, land drainage, inappropriate river "improvement" works such as over-widening and over-deepening river channels, bank reinforcement and canalisation, clearance and over-grazing of waterside vegetation, intensive agriculture adjacent to riparian habitat and over-shading of water vole habitat by trees. Water vole dispersal between sites appears to be important to their ecology and isolated populations have a higher probability of extinction.
Known water vole populations in Greater Manchester are being mapped which will assist in considering impacts on water vole when considering planning applications.	*Predation.* Increased predation by the American mink is believed to have a severe impact on water vole population levels where mink occur. There is also some recent evidence that predation by rats may also be a factor in some areas.
Adoption of Bolton BAP as Supplementary Planning Guidance in which there is an action plan for water vole.	*Poor water quality.* Pollution of water is not thought to a major factor although poor water quality may affect water voles indirectly through eutrophication via run-off from agricultural, domestic and industrial sources. Eutrophication can lead to a build-up of nitrogen levels in water that in turn leads to algal blooms suppressing the plants of water voles.
	Direct poisoning of water voles. Rodenticides intended for other rodents such as the brown rat may be a factor causing decline. *Extreme fluctuations in water levels.* This can lead to increased vulnerability to predators.

LONG TERM TRENDS AND POTENTIAL THREATS

The national surveys undertaken by the Vincent Wildlife Trust suggest that the status of the water vole will continue to decline unless action is taken. In the longer term, water voles may be affected by climate change.

CURRENT ACTION

National

- A national survey was carried out by the Vincent Wildlife Trust in 1989-1990 and repeated in 1996-1998
- Research and development by the Environment Agency including water vole/mink interaction, mink control, reintroduction, population surveys, guidance for planning authorities and landowners and the publication of the Water Vole Conservation Handbook
- Water Vole Watch, a national survey by members of the general public has been carried out by the Wildlife Trusts
- An action plan for the water vole has been produced by the UK Biodiversity Steering Group
- The Farming and Rural Conservation Agency have recently changed the way they award Countryside Stewardship for pond restoration. Ponds targeted for restoration by farmers must now be surveyed first.

Greater Manchester

In addition to the above factors affecting water voles, those listed below are particularly relevant to the Greater Manchester area:

- Research by Manchester Metropolitan University on the status of the water vole in the River Goyt to the River Mersey at Didsbury
- Survey of Merseyside by The Wildlife Trust for Lancashire, Manchester and North Merseyside and the Environment Agency was begun in 1999
- Survey of the River Tame and Medlock organised by the Mersey Basin Campaign
- Surveys and incidental records have recently been collated in Wigan, Salford and Bolton, and through the Tame/Medlock River Valley Initiative covering Oldham and Tameside
- Surveys in relation to proposed development have located water voles e.g. Transco's survey of the route of the Mawdesley to Warrington gas pipeline

OBJECTIVES AND TARGETS

National

- Maintain the current distribution in order to arrest the decline of the species in Britain.
- Maintain the current abundance in order to arrest the decline of the species in Britain.
- Restore water voles to their former widespread distribution, using the Vincent Wildlife Trust survey of 1989/90 as a baseline, by the year 2010.

WATER VOLE

Greater Manchester

In Greater Manchester, national targets and local aspirations have been translated into the following broad objectives:

Objective	Targets
Determine the current distribution and abundance of water voles in Greater Manchester	Collect and collate records of water vole populations and produce distribution map by 2004. Establish up-to-date baseline through survey.
Maintain the distribution and abundance of water voles and habitats in Greater Manchester and prevent further losses and fragmentation	No further loss of water vole populations or habitat from the level indicated by survey
Increase the distribution and abundance of water voles in Greater Manchester without reducing the area of other valuable habitats and species	Identify the potential range for expansion by the end of 2006.

PROPOSED ACTION

Action	Lead Body	Timetable for Action
1. Policy		
Ensure the importance of water vole and their associated habitats is recognised and protection policies are included in appropriate plans and strategies. Eg: UDP, supplementary planning guidance, nature conservation/wildlife strategies.	**EN/EA/ GMEU/LA's**	**2006**
Ensure all planning applications are adequately assessed in relation to their impact on water vole habitat: that loss or damage is avoided and that opportunities are taken for enhancement or re-establishment.	**LA's/GMEU/ WTs**	**Ongoing**
Ensure that UDPs take full account of the UK Biodiversity Action Plan, Action For Biodiversity in North West England and the Greater Manchester Biodiversity Action Plan.	**LAs**	**2006**
Ensure that Unitary Development Plans provide for the retention and creation of riparian and wetland habitat, corridors and stepping stones to prevent further habitat fragmentation.	**LAs**	**2006**
Promote habitat enhancement and creation where any form of development is to affect potential water vole habitat.	**LA's/GMEU, EN/EA/WTs**	**Ongoing**

Action	Lead Body	Timetable for Action
Promote good watercourse and wetland management for water voles through initiatives such as Local Environment Agency Plans (LEAPs) and River Valley Initiatives (RVI's).	**EA**	**2006**
Ensure water vole protection measures under the Wildlife & Countryside Act 1981 (as amended) are adhered to.	**All BAP Partners**	**Ongoing**
2. Site and Species Safeguard		
Promote the designation of important water vole areas as statutory and non-statutory wildlife sites, their inclusion within the boundaries of LNRs and Environmentally Sensitive Areas, and their protection as part of a wildlife corridor and as a stepping stone.	**Relevant GMBAP Working Group/EN/ GMEU**	**2007**
Identify and secure areas for potential expansion of water vole habitat (to reduce isolation and fragmentation of sites).	**All BAP Partners**	**2006**
Contribute to the implementation of relevant species and habitat action plans associated with water vole.	**All BAP partners**	**Ongoing**
Encourage landowners/managers to participate in agri-environment and other schemes to fund management and habitat creation.	**DEFRA/EN/ EA/LAs/WTs**	**Ongoing**
Ensure that existing and new information on the location of known water vole areas is made available to local planning authorities.	**GMEU**	**2004**
3. Land management		
Promote and encourage positive management of water vole habitat where the species is known to occur with landowners, occupiers and voluntary conservation bodies through long-term conservation management plans or agreements.	**All BAP Partners**	**Ongoing**
Complete or update existing conservation management plans to promote long-term positive management of water vole and associated habitats with land owners/occupiers and voluntary conservation bodies.	**All BAP Partners**	**Ongoing**
Ensure that all relevant management and maintenance plans/programmes e.g. British Waterways, Environment Agency and local authority plans consider the requirements of water voles where appropriate.	**All BAP Partners**	**2004**
Maintain and expand at least 10 key population areas with appropriate management and monitoring e.g. Countryside Stewardship.	**All BAP Partners**	**2005**
Encourage the expansion of at least 10 additional water vole populations through sympathetic riparian management.	**All BAP Partners**	**2007**

Action	Lead Body	Timetable for Action
4. Species Management		
None proposed		
5. Advisory		
Develop and promote best practice for water vole habitat management, particularly the integration of conservation management into agricultural practice. Ensure guidelines widely available and accessible to interested parties.	**BW/EA/LAs /GM Biodiversity Project**	**2006**
Establish demonstration sites to show good conservation and management practice of water vole habitats.	**EA/BW/LA's/ WTs /Identified by GM Biodiversity Project**	**2008**
Provide advice to landowners/occupiers where water vole occurs on appropriate management regimes sympathetic to the conservation of riparian habitat.	**All BAP partners**	**Ongoing**
Provide protected species training to local authority officers, particularly development control, environmental health and land management.	**EN/GMEU**	**2004**
Produce and distribute a set of water vole fact sheets.	**Relevant GMBAP Working Group**	**2004**
6. Research and monitoring		
1. Collate existing records from national, regional and local water vole and mink surveys and incidental records and identify gaps in knowledge of water vole. Produce distribution map. 2. If necessary undertake survey of water vole using standardised and repeatable methodology.	**Relevant GMBAP Working Group** **All BAP Partners**	**2004** **Start 2004**
Establish and maintain a central register of all water vole sites including details of the condition of associated habitats and potential expansion areas. Make this information available to key partners.	**GMEU/ Bolton Museum/ Oldham Museum**	**2004**
Develop standard and repeatable methods of establishing the condition of water vole habitats and consider the effectiveness of conservation management. Use knowledge to supplement register, management plans, etc.	**Relevant GMBAP Working Group**	**2005**

Action	Lead Body	Timetable for Action
Contribute to increasing information on UK water vole by submitting information from GM register to National Biodiversity Network web based catalogue of survey information. Such information should also be widely available locally.	**Biodiversity Project Officer**	**When established**
Submit details of relevant conservation achievements to the national biodiversity reporting system, BARS, to meet requested deadlines.	**Biodiversity Project Officer**	**2003 onwards**
Develop and implement appropriate surveillance and monitoring programmes to assess progress towards action plan targets.	**Biodiversity Steering Group**	**2004**
Produce distribution map of water vole populations	**GMEU/EN/ WTs**	**2004**
Develop links with universities and encourage research on water vole and associated flora and fauna	**Relevant GMBAP Working Group/ Academic Institutions**	**2003 onwards**
Encourage local recorders and natural history groups to send in all water vole and mink records.	**Relevant GMBAP Working Group/ WTs**	**2003 onwards**
Seek funding for, and organise, systematic survey of areas identified above and identify key population areas.	**Relevant GMBAP Working Group**	**2004**
Maintain a Local Biodiversity Action Plan Group to co-ordinate the implementation and monitoring of the water vole action plan.	**Relevant GMBAP Working Group**	**Ongoing**
Keep informed of, and disseminate, national policy guidance and relevant research.	**Relevant GMBAP Working Group**	**Ongoing**
7. Communications and publicity		
Seek opportunities to raise the profile of water vole in the media and improve public awareness of its wildlife and conservation value.	**All BAP partners**	**Ongoing**
Encourage public involvement in conservation initiatives and promote access to demonstration sites.	**All BAP partners**	**Ongoing**
Publicise existing sites demonstrating good practice in the management and conservation of water vole and their habitats ensuring information widely available to landowners/managers.	**All BAP partners**	**Ongoing**

Action	Lead Body	Timetable for Action
Produce water vole and mink recording form and involve local people in the collection of water vole sightings.	**Relevant GMBAP Working Group**	**2004**
Ensure the importance of water voles is referred to in relevant interpretive material.	**All BAP Partners**	**Ongoing**
Develop a communications and publicity programme based on 2004 survey results.	**Relevant GMBAP Working Group**	**2005**

Abbreviations

BW	British Waterways
DEFRA	Department for Environment, Food & Rural Affairs
EA	The Environment Agency
EN	English Nature
GMEU	Greater Manchester Ecology Unit
LAs	Local Authorities
LNR	Local Nature Reserve
SBI	Site of Biological Importance
WTs	The Wildlife Trusts

RESOURCE IMPLICATIONS

Greater Manchester

Funding is urgently needed to implement the water vole action plan as part of a Greater Manchester Watercourses and Wetlands Project.

The cost of managing riparian habitat to benefit water voles may be offset by a range of habitat improvement and agri-environment schemes.

Possible sources of funding

Landfill Tax
Countryside Stewardship
Environment Agency
Heritage Lottery Fund
Local Authorities
Local business

RELATED ACTION PLANS

UK BAP

Otter, water vole, canals, rivers

Greater Manchester BAP

Ponds, canals, marsh/marshy grassland, great crested newt, floating water plantain

Other BAPs

Bolton BAP:	Water Vole, Rivers and floodplains, Canals, Ponds, Lodges
British Waterways Local Waterway BAPs:	Water Vole, Huddersfield Narrow East, Rochdale Canal East,
Cheshire BAP:	Water Vole and Ponds
Lancashire BAP:	Water Vole and Rivers
North Merseyside BAP:	Water Vole and Rivers and Canals
Oldham BAP:	Water Vole

CONFLICTS WITH OTHER ACTION PLANS

No conflicts identified.

CONTACTS FOR WATER VOLE BAP GROUP:

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The Wildlife Trust	Martyn Walker	01204 361847
Mersey Basin Campaign	Mark Evans	0161 303 1336

PROPOSED REVIEW OF PLAN

The Biodiversity Action Plan for Water Vole will be reviewed in 2008, and thereafter every five years.

REFERENCES / SOURCES OF FURTHER INFORMATION

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