

Water Vole



Scientific Name:
Arvicola terrestris

Current factors causing loss or decline

The water vole is under threat from many sources. These include:

- *Insensitive river engineering, bank protection and maintenance works.*
- *Urbanisation of floodplains leading to direct habitat loss through containment of the river channel.*
- *Heavy livestock pressure that may make sites untenable for Water Voles by poaching and trampling the banks.*
- *Reduction or cutting of waterside vegetation.*
- *Population fragmentation .*
- *Fluctuations in water levels affecting food, cover and burrows.*
- *Predation by American Mink (Mustela vison) appears to be accelerated by poor riparian habitat.*
- *Poisoning by rodenticides either directly or indirectly when used for Brown Rat control.*
- *The risk proposed by rats either acting as a competitor or even as a predator to young voles.*

Current action

The Water Vole is included in Schedule 5 of the Wildlife and Countryside Act. It is an offence to damage, destroy or obstruct access to any place which Water Voles use for shelter or protection and to disturb them while they are using such a place.

National surveys have been carried out by the Vincent Wildlife Trust. In the Glasgow area the SWT and GCC-LS are currently carrying out surveys, and SNH and BW are co-funding a survey of the Forth & Clyde Canal.

Current status

The **Water Vole** was formerly common along the banks of rivers, streams, canals, ditches, dykes, lakes and ponds throughout mainland Britain. However during the 1980's there has been an accelerated loss of sites and this appears to have continued into the 90's.

Water Voles are the largest British vole species, frequently mistaken for a rat. They are predominantly herbivorous (needing to consume up to 80% of their body weight daily) primarily feeding on lush waterside vegetation of grasses, sedges, rushes and reeds. In the winter months roots and bark of shrubs and trees form an important part of the diet together with rhizomes, bulbs and roots of herbaceous species.

Water Voles are found in most freshwater habitats in Scotland, ranging from slow flowing lowland ditches to headstreams at up to 620m in altitude. Recent work has shown them to be more numerous in upland and peatland habitats than formerly thought. Water Voles show no morphological adaptation for aquatic life and some communities may live a terrestrial life, burrowing in the soil, as occurs over much of their range in Europe and Russia.

In waterside populations each vole utilises a series of burrows dug into the riverbank where the soil permits; sites excessively shaded by shrubs or trees are less favoured. The burrows include nest chambers, inter-connecting tunnels with many entrances, and boltholes consisting of short tunnels ending in a single chamber.

Occasionally the animal will weave a nest into the bases of sedges and reeds. Sites that suffer total submersion during protracted winter flooding are untenable but populations are capable of migration.

Breeding occurs from April to October, and the females produce 2-5 litters annually, each of 5-8 young. Early-born young may breed that autumn, but most reach sexual maturity after their first winter. Exceptionally, Water Voles may survive three winters but mortality is thought to be very high among dispersing juveniles.

Main Locations of Water Vole in Glasgow



Location	Comments
1. Cleddans Burn	Population of 56 estimated
2. Garscadden Burn	Population of 91 estimated
3. Kenmure Marsh	Field record
4. Early Braes	14 latrines recorded (15/06/2000)
5. Millerston Pool	11 latrines
6. Stand Burn	7 latrines recorded, area affected by housing development
7. Frankfield Loch	Sighting fresh latrines recorded (09/04/2001)
8. Hogganfield LNR	Sighting
9. Cardowan Moss/Drain	Survey (03/07/200 recorded 84 latrines
10. Garnkirk Moss South	-
11. Gartloch Pool	-
12. Brock Burn	Sighting
13. Lochwood Wetlands	-
14. Knightswood	Population of 72 estimated

Objectives and targets

The UK Action Plan has the following objectives:

- *To arrest the decline and maintain the current distribution and status of the Water Vole in Britain.*
- *To restore Water Voles to their former widespread distribution (pre 1970s) by the year 2010.*
- *To ensure management of water courses and wetland habitats which will maintain the restored populations.*

Sympathetic management at existing sites and restoration of extensive areas of riparian vegetation are suggested as the best mechanisms for arresting the water vole's decline and allowing recovery.

Objective 1: *To arrest the decline and encourage Water Vole population increases throughout the City.*
Target 1: *Increase the populations by 20% where detailed population counts exist.*

Objective 2: *To improve the management of watercourses and associate wetland habitats.*
Target 2: *Enhance or restore the fringe vegetation of existing or new water courses.*

Proposed Action with Lead Authorities

Action	Lead	Delivery	Objective
Policy and Legislation			
Ensure known water vole localities are protected during planning procedures and developments.	SWT	GCC-DRS, SEPA, SNH	1
Recommend that all wetland areas and watercourses are surveyed before any development or maintenance works to ensure minimisation of damage to habitats.	SWT	GCC-DRS, SEPA, SNH	1
Ensure the habitat needs of Water Voles are recognised in agri-environment schemes.	SWT	FWAG, GCC-LS, SNH	1, 2
Site Safeguard and Management			
Ensure all areas involved in flood alleviation works are surveyed before work starts and management guidelines are followed.	SWT	GCC-DRS, SEPA	1, 2
Ensure canal operations are sensitive to the habitat requirements of Water Voles.	SWT	BW, GCC-LS, SWT	1, 2
Advise owners and seek to secure management agreements at known Water Vole sites.	SWT	BW, GCC-LS, SWT	1, 2
Liaise with neighbouring Councils and landowners at nearby sites to encourage species movement and viable local populations.	SWT	FWAG, GCC-LS, SWT	1
Limit, or avoid the use, of rodenticides and herbicides in potential water vole habitat. Investigate use of live traps at known Water Vole sites.	SWT	GCC-LS	1
Create new habitats at or adjacent to new sites where practical.	SWT	GCC-LS, GfC	1, 2
Advisory			
Produce guidelines for contractors carrying out engineering works.	SWT	GCC-LS, SNH, SWT	1, 2
Provide guidance for staff involved in maintenance works of water courses and associated vegetation.	SWT	GCC-LS(CG), SWT	1, 2
Provide training on Water Vole recognition for Environmental Protection workers and British Waterways staff.	SWT	BW, GCC-LS, GfC, SWT	1
Future Research and Monitoring			
Seek to include data from Vincent Wildlife Trust survey with existing records of distribution in Glasgow.	SWT	SNH, SWT	1
Survey potential sites for the presence of Water Voles.	SWT	BW, GCC-LS, SNH, SWT	1
Establish monitoring plots to assess population changes at 4 key sites.	SWT	SWT	1
Assess feasibility of Mink control on canals.	SWT	BW, SNH	1
Review historical data to assess past distribution or population sizes.	SWT	SWT	1
Co-ordinate with, and monitor, work undertaken by all adjacent local authorities.	SWT	SWT	1
Communication and Publicity			
Raise awareness of Water Voles and their needs through publications and websites.	SWT	ALL	1, 2
Liaise with Lead Agency for national Species Action Plan.	SWT	SWT	1, 2
Review progress of plan and actions by 2006.	SWT	SWT	1, 2

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Glasgow City Council: Development and Regeneration Services(GCC-DRS), Glasgow City Council: Land Services(Conservation Group) (GCC-LS(CG),

Glasgow City Council: Culture and Leisure Services (GCC-CLS), Glasgow City Council: Education Services (GCC-ES), Glasgow City Council: Land Services Countryside Ranger Service (GCC-LS(CRS)),

Scottish Ornithologists' Club (SOC), Greenspace for Communities(GfC), British Waterways (BW), Forestry Commission (FC), Farming Wildlife Advisory Group (FWAG), The WISE Group (TWISE)

Glasgow Natural History Society (GNHS), Royal Society for the Protection of Birds (RSPB), Scottish Environment Protection Agency (SEPA), Scottish Natural Heritage (SNH), Scottish Wildlife Trust (SWT).

Clyde Amphibian and Reptile Group (CARG), Butterfly Conservation (BC), Concern for Swifts (CfS)