

Fossorial Water Voles in Glasgow's East End



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Water vole in traditional wetland habitat



Water vole wetland habitat in Glasgow



Glasgow's Local Biodiversity Action (LBAP)



Water Vole



Scientific Name:
Arvicola terrestris

Current factors causing loss or decline

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

- Intensive 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 unsuitable 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 posed 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 Vagrant Wildlife Trust. In the Glasgow area the BWT and GCC-US are currently carrying out surveys, and SNH and BW are co-funding a survey of the Forth & Clyde Canal.

LOCAL SPECIES ACTION PLAN

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 dicotyledons, 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, hibernating 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 bolt-holes 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.

Water Voles in Glasgow



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 ensure Water Voles in 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

Strategic 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 population by 20% where detailed population counts exist

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

New Discovery 2008- Water vole non aquatic habitat in Glasgow



Masters of Research



The Fossorial Water Vole





Field Signs





Mark-recapture





Grassland Habitat



Water Vole Project Summary

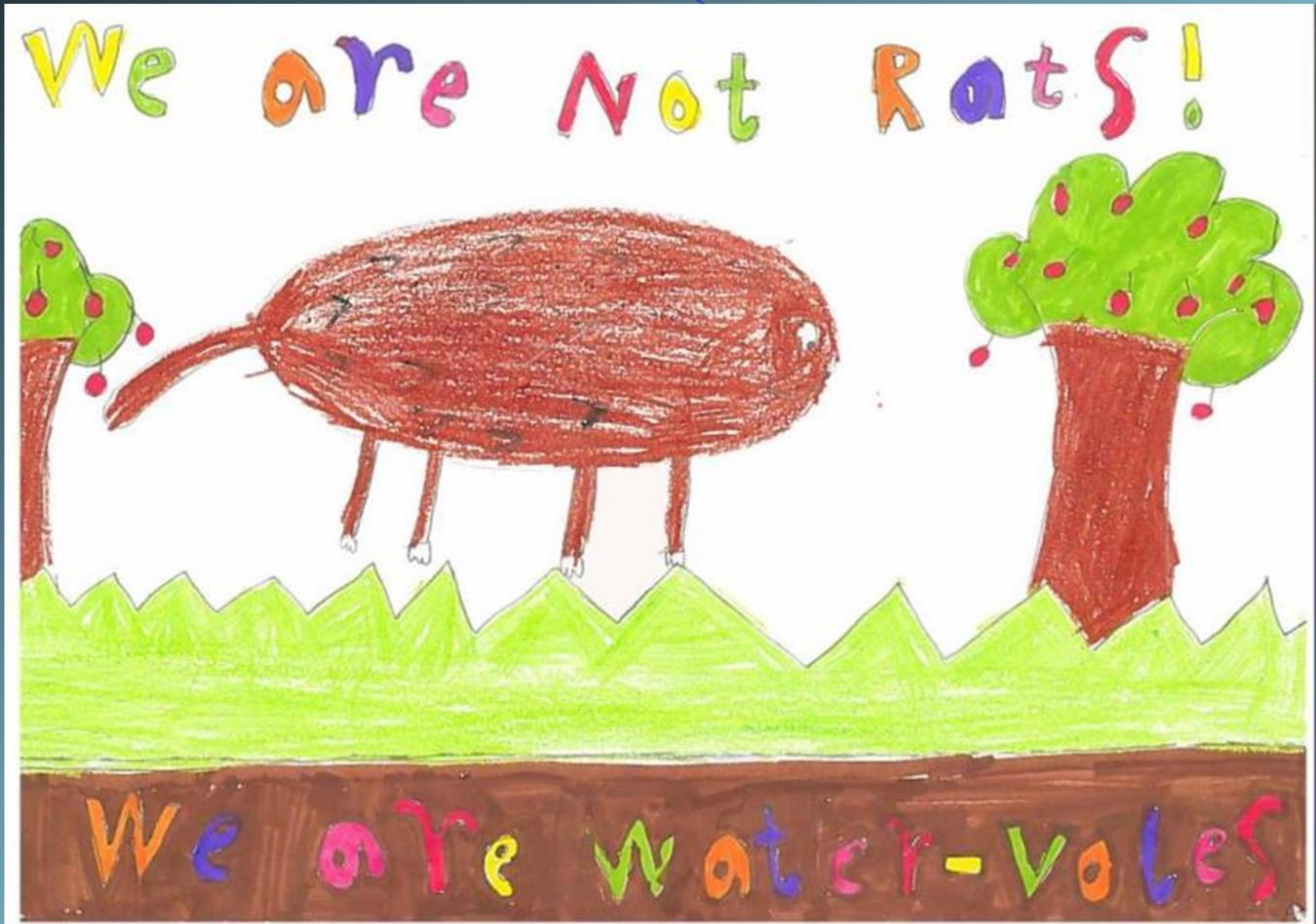
‘This population is exceptional and of national significance’ Policy and Advice Officer (Mammals), SNH



‘Fragmented water vole populations are particularly vulnerable to extinction’
Rushton et. al., 2000



Community Engagement- with local schools



Acknowledgements

Dr Dominic McCafferty, Dr Stewart White,
Dr Simon Babayan, Glasgow
Natural History Society, John Shelton (SNH),
David Marshall (GCC), Chris Bailing (JDC
Ecology), Stef Scott, Stephen Porch, Strathclyde Scottish
Badgers Group, Glasgow Countryside Rangers, Cranhill
Community Centre, Doreen Bell (Scottish Water),
Geraldine O'Donnell (Avenue End Primary School), Ben
Averis, Keith Watson, Roisin Campbell-Palmer, Derek
Gow, Emma Bryce, Dr James Grecian, Craig Brownlie,
Iain Malzer, John Laurie

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