

Species Action Plan

Water Vole



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“A brown little face with whiskers. A grave round face, with the same twinkle in its eye that had first attracted his notice. Small neat ears and thick silky hair. It was the water rat !” (Kenneth Grahame, *The Wind in the Willows*, 1908)

1. Aim

- To conserve London's water vole population and increase their range and numbers for the benefit of current and future generations.

2. Introduction

The former widespread distribution and abundance of the water vole (*Arvicola terrestris*) has meant that it has attracted little or no previous conservation interest. However, its accelerating decline in numbers and the resulting fragmentation of its population is of great concern.

As one of the main characters in the Children's classic *The Wind in the Willows*, the water rat, or water vole as it is properly called, is a well-liked and familiar animal amongst the general public – with their short, blunt muzzle, small hairy ears and plump, rounded body. Water voles are not overly sensitive to the presence of people and may be easily seen during the day in areas where they still survive. This high profile presents opportunities to bring the species' plight to the attention of London's public, publicise the progress of the Action Plan and involve people in its conservation.

The water vole is potentially an excellent flagship species, whose presence reflects healthy waterside habitats and their associated plant communities.

3. Current Status

The changing fortunes of the British water vole population through the 20th century has only recently come to light, following the pioneering national surveys conducted by the Vincent Wildlife Trust in 1989-90 and 1996-98. These surveys confirmed that the species has become progressively scarcer along our waterways since the 1930s, as the result of habitat loss and land-use changes associated with the intensification of agriculture in the wider countryside. Since the 1980s, this decline has accelerated due to predation by feral American Mink (established as escapes from fur farms). The decline has now developed into a serious population crash with a further 88% loss to the remaining populations in only seven years (1991-1998). This makes the water vole the most rapidly declining mammal in Britain.

In Greater London the water vole has disappeared from over 72% of the sites it occupied before 1997 (LMG Greater London Water Vole Survey 1997). Although the species still retains a widespread distribution around much of London's periphery (especially in the Boroughs of Barking and Dagenham, Barnet, Bexley, Ealing, Enfield, Greenwich, Hackney, Havering, Hillingdon, Hounslow, Redbridge, Richmond, Waltham Forest), populations are highly localised and fragmented.

4. Specific Factors Affecting the Species

The many factors that influence the survival of this species are outlined below. They are listed in order of priority, but each may have a greater or lesser local effect depending on the robustness of the individual populations and their habitat.

4.1 Fragmentation and isolation of habitats and populations

This is viewed as being a major factor of concern. Loss of wetland habitats has reduced populations and left them more vulnerable to other threats such as predation. Development, land drainage, low water levels, river engineering and changes in waterside management have all destroyed habitat. Intensive grazing and trampling by livestock along watercourses also contributes greatly to habitat loss in some of the more rural boroughs.

4.2 Predation by mink

The arrival and spread of mink along a waterway has been found to have serious consequences for water voles and rapid extinction of some water vole colonies has been recorded. Mink predation is influenced and exacerbated by other threats such as habitat loss. The current distribution of mink in London is restricted to the Lea river corridor and Colne valley. Mink have been trapped also in the Roding valley in Essex.

4.3 Disturbance of riparian habitats

In the past, channelisation and subsequent dredging operations as part of flood defence management caused the most significant form of disturbance. These modifications have had a drastic effect on water vole habitat causing the destruction of burrows, loss of emergent and in-stream vegetation and the re-profiling or hard engineering of the banks. Mechanical cutting and removal of bankside vegetation may also be highly disturbing to water voles.

Water voles are relatively tolerant of human recreational activities (dog walking, angling and boating) along waterways as long as they have vegetation cover in which to hide.

4.4 Deterioration of riparian habitats and reduction of flow

Water voles appear to be relatively tolerant of low water quality but the full impacts of different types of pollution such as industrial effluent are unknown. Low flows and droughts such as those caused by over-abstraction of groundwater can lead to localised loss of water voles. By contrast, prolonged flooding can also be detrimental.

4.5 Rodenticides and rat control

Poisoned grain or similar rodenticides placed for rats or mice may be taken by water voles if placed along a watercourse. The proliferation of rats along a waterway, attracted by litter and human refuse, may be detrimental to water voles which may be out-competed or even fall prey to their larger cousins. Carried out carefully, rat control has been shown to be beneficial to water voles.

4.6 Climate change

Warmer, drier summers and milder, stormier, wetter winters will have an impact on river habitats. The projected rise in temperatures, sea level and weather extremes through climate change could affect the magnitude and frequency of extreme flows along water courses, causing unpredictable losses or gains of certain habitats and species. There would be inevitable changes to the composition of vegetation, with certain communities becoming vulnerable to extreme hydrological conditions. The resulting fluctuations of water levels and change in vegetation structure would be a major factor affecting water voles.

5. Current Action

5.1 Legal status

The water vole has been given legal protection under the Wild Mammals (protection) Act 1996 and Schedule 5 of the Wildlife & Countryside Act 1981 (as amended).

The Wildlife and Countryside Act protection makes it an offence intentionally to;

- Damage, destroy, or obstruct access to any structure or place which water voles use for shelter or protection
- Disturb water voles while they are using such a place

This species will receive full protection under the Wildlife and Countryside Act (1981) making it an offence to take, possess or intentionally kill a water vole. Proposed date of this change set for spring/summer 2008.

5.2 Mechanisms targeting the species

5.2.1 Advice

Practical advice about water vole conservation and habitat management has been summarised in The Water Vole Conservation Handbook (Strachan 1998) and (Moorhouse and Strachan, 2000). Educational resources include the *Focus on Water Voles* slide pack produced by The Wildlife Trusts.

5.2.2 Waterway management

Flood defence management of waterways is being carried out in accordance with best practice guidelines to maintain water vole populations. Local Environment Agency Plans (LEAPS) and now Water Level Management Plans now consider the requirements of water voles and implement actions when appropriate. Many Local Authorities and organisations are already promoting water vole conservation through habitat enhancement projects, surveys and publicity campaigns.

5.2.3 Research

National Research is currently underway investigating translocation and reintroduction as methods to aid the species recovery.

6. Objectives, Actions and Targets

Most of these actions are specific to this species. However, there are other, broader actions that apply generically to a number of habitats and species. These are located in a separate 'Generic Action' section which should be read in conjunction with this document. There are generic actions for Site Management, Habitat Protection, Species Protection, Ecological Monitoring, Biological Records, Communications and Funding.

Please note that the partners identified in the tables are those that have been involved in the process of forming the plan. It is not an exclusive list and new partners are both welcomed and needed. The leads identified are responsible for co-ordinating the actions – but are not necessarily implementers.

Target 1 Establish the status and key populations of water vole by 2012

Action	Target Date	Lead	Other Partners
Create a water vole project officer post to actively promote water vole conservation in the London area	achieved	EA	LA, LWT, LVRPA
Collate existing records of water voles and mink in London	achieved	LWT	EA, LA, LNHS, GLA, RSPB
Identify key populations and areas where new survey and monitoring should be focused	achieved	LWT	EA, LA, LVRPA,
Secure funding to continue London Water Vole Project to actively promote water vole conservation in London	2012	Steering and Working group	LA, LWT, LVRPA EA, LWT BWL
Produce report of up to date survey results and identify areas of strategic importance for water vole populations	2008	Working group	EA, LA, LNHS, GLA LBRC, LWT,
Establish programme of future monitoring of existing populations and update knowledge of species range in London	2009	Working group	EA, LA, LVRPA, LWT

Target 2 No Significant change to water vole distribution and abundance at their March 2001 levels by 2012.

Action	Target Date	Lead	Other Partners
Safeguard water vole sites where land is grazed and encourage the protection of water courses by fencing	reviewed annually	EA	EN, LWT, LA, Landowners
Initiate the humane control of mink as a conservation tool where they threaten water vole populations	reviewed annually	EA	LWT, Landowners, LVRPA
Ensure the use of rodenticides in areas supporting water voles is avoided by providing leaflets and advice	reviewed annually	LBBF	LA, LWT
Ensure that reviews of Environment Agency's projects and plans take account of strategic habitat enhancement projects focused on expanding water vole populations	As reviewed	EA	LA, EN, LWT
Distribute existing and produce updated best practice guidelines tailored to the following priority audiences: landowners, developers, graziers, planners, angling clubs and pest control	2012	Working group	GLA, LA, EA, EN

Target 3 Carry out the reintroduction of the species in at least three suitable sites by 2012

Action	Target Date	Lead	Other Partners
Identify historic sites in addition to current sites	achieved	LWT	EA, LA, LNHS, GLA
Identify at least 3 sites suitable for reintroduction	achieved	LWT	EA, LA, TEP
Continue to identify locations suitable for reintroduction of water voles as need arises	annually	Working group	EA, LA, GLA
Ensure sympathetic land management is in practice on suitable sites	2010	NE	EA, LWT, GLA, LA
Enhance 500m of riparian habitat for water voles	Annually	LWT and Working Group	NE, LWT, EA
Carry out reintroduction on at least 3 sites with suitable publicity	2012	NE	, LWT, LA, The Wandle Forum
Evaluate 5 reintroduction sites on all sites in London	2012	LWT	EA, NE, LA WWT

Relevant Action Plans

London Plans

Tidal Thames; Canals;; Marshland; Reedbed; ; Rivers and Streams

National Plans

Water Vole; Chalk Rivers; Rivers and Streams Habitat Statement; Canals Habitat Statement; Fens, Carr, Marsh, Swamp and Reedbed Habitat Statement.

Key References

London Mammal Group (1998). *Greater London Water Vole (Arvicola terrestris) Survey*. London.

Strachan, C, Strachan R & Jefferies, DJ (2000). *Preliminary Report on the changes in the water vole population of Britain as shown by the National Surveys of 1989-90 and 1996-98*. VWT, London.

Strachan R (1998). *Water Vole Conservation Handbook*. EA, WildCRU, EN Oxford.

UK Water Vole Steering Group (1997). *Species Action Plan for the UK: Water Vole, Arvicola terrestris* EA.

Abbreviations

EA – Environment Agency
EN – English Nature
GLA – Greater London Authority
LA – Local Authorities
LBBF – London Borough Biodiversity Forum
LNHS – London Natural History Society

LVRPA – Lee Valley Regional Park Authority
LWT - London Wildlife Trust
RSPB – Royal Society for the Protection of Birds
TEP – Thames Estuary Partnership
WWT - Wildfowl and Wetland Trust
BWL – British Waterways London
LBRC – London Biological Records Centre

Contact

The Lead for this species is London Wildlife Trust

London Water Vole Project
London Wildlife Trust
Ground Floor
Skyline House
200, Union Street
London SE1 0LX

Tel 020 7921 5474
email: lwells@wildlondon.org.uk
web: www.wildlondon.org.uk

