



## 11 Water Vole species action plan

### 11.1 Introduction

The former widespread distribution and numbers of the Water Vole *Arvicola terrestris* has meant that until recently it has attracted little or no conservation interest, but its accelerating decline in numbers and resulting fragmentation of its populations is now of great concern. The species has been little studied and little is known of its conservation management requirements.

However, the Water Vole is potentially an excellent indicator species whose presence reflects both healthy riverine habitats and plant communities. It is a well liked and familiar animal amongst the general public, and watercourse users in particular, as it is not overly sensitive to the presence of people and is easily seen during the day. This public profile presents opportunities to bring its plight to the attention of the public, to publicise the progress of its conservation, and to develop public participation.

### 11.2 Current status

The Water Vole was once an abundant inhabitant of riparian (river corridor) habitats throughout Britain. Anecdotal reports suggesting that the Water Vole had undergone a considerable decline in both population numbers and distribution prompted an inquiry into its status in Britain. This initial investigation conducted by Jefferies *et al.* (1989), concluded that the Water Vole

had suffered long term decline in Britain, probably since at least 1900.

The work of Jefferies prompted a national survey in 1989/90 which failed to find signs of voles in 67% of sites which were previously documented as positive. In addition, Strachan (1993), concludes that the total loss of formerly occupied water vole sites could be as high as 94% by the year 2000, making this the most dramatic population decline of any British mammal this century (Harris *et al.*, 1995).

By 1996 a number of interest groups in Hertfordshire felt that Water Vole populations in the county had suffered further decline since the 1989 national survey. During 1996 Hertfordshire Biological Records Centre forwarded a proposal to conduct a further Water Vole census in Hertfordshire. Louise Molloy revisited stretches of river and the results estimated that the percentage of positive sites has declined by 72.9% since 1989 (Molloy, 1996).

### 11.3 Current factors causing loss or decline

#### 11.3.1 Fragmentation and isolation of habitats and populations

This is viewed as being perhaps the major factor of concern for the County. In counties such as Yorkshire, where the majority of the research in this country has been carried out, there is a great deal more riverside terrestrial habitat than in Hertfordshire, which the Water Vole can utilise for feeding and shelter. This facilitates their dispersal along watercourses (Woodroffe, 1988). Observation would appear to indicate that the level of marginal, emergent and in-stream vegetation has increased significance to Water Vole habitat in Hertfordshire as a consequence of the general paucity of the associated terrestrial wetland habitats.

#### 11.3.2 Predation by Mink

Although it is now accepted that mink predation is a major threat to Water Voles in this country (the colonisation of an area by mink has been shown to have a direct negative impact on Water Vole populations) there is still a great deal that is not

understood about the interaction between the two species. The level of mink predation is difficult to assess for particular sites but it appears certain that the effects of mink predation on a Water Vole population is influenced and exacerbated by other threats.

### **11.3.3 Disturbance of riparian habitats**

In the past the most significant form of disturbance was caused by channelisation and subsequent dredging operations as part of flood defence management. These modifications have had a drastic effect on Water Vole habitat, with the destruction of burrows, emergent and in stream vegetation and the re-profiling of banks leaving them unsuitable for burrow formation. While the environmental standards of river engineering works have improved in recent times, they are still a potential threat if carried out insensitively.

Today, a major cause of habitat disturbance is from intensive livestock grazing, resulting in poaching of river banks and therefore loss of suitable habitat, though ploughing of fields to the edge of the riverbank is also detrimental.

Other forms of disturbance are caused by the moorings of riverboats and by the activities of anglers where vegetation is removed and alterations to banks made.

### **11.3.4 Deterioration of water quality and reduction of flow**

Water Voles are relatively tolerant of low water quality but the full impacts of differing types of pollution such as biocides are unknown. Low flows and droughts such as those caused by over-abstraction of groundwater can lead to the loss of Water Voles from the stretches of watercourses affected. Conversely, high flows, flashy rivers and prolonged flooding can also be detrimental.

### **11.3.5 Rodenticides**

The use of poisoned grain and similar rat and mouse poisons are not specific and will be taken by Water Vole when they are placed within their range.

It should be noted that none of the above factors operate in isolation. Acting together, they present a major threat to the Water Vole.

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## **11.4 Current action**

The Water Vole has been added to Schedule 5 of the Wildlife and Countryside Act (1981). This qualifies the species for consideration in Recovery Programs limited to other Scheduled species; and, ensure the consideration of the species before habitat is destroyed, e.g. when planning permission is sought.

A national species action plan for Water Vole has been produced.

Research funded by Oxford University and the Environment Agency, is now underway on the relationship between mink and Water Vole, on movements, winter activity and on the management of habitats for Water Vole.

The Vincent Wildlife Trust is resurveying the 2970 sites that comprise the Water Vole Survey of Britain, over 1997-98.

The Wildlife Trusts have launched Water Vole Watch, a national public participation survey.

The Hertfordshire Mammal Group are carrying out ongoing investigations into the status, habits and requirements of the Water Vole in the county. Key Sites are being identified for a constant effort monitoring to be implemented. Data is passed to HBRC and will enable future standardised monitoring to be implemented.

A Water Vole habitat management and conservation handbook providing practical advice has been commissioned by EN/EA and should be available by January 1998.

## 11.5 Water Vole Action Plan

### Objectives, actions and targets

**Objective 1:** Maintain range of Water Voles in Hertfordshire (measure by 5 km squares)

**Target:** Set up a countywide survey and monitoring programme by 2005 and promote measures to protect existing colonies

Action code	Action	Target start date	Target end date	Lead partner	Other partners
WV/A/1.1	Maintain funding of the Hertfordshire Water Vole Project, including project officer costs and grants for capital works	January 2006	Annual report	HMWT	EA, LVRPA, BW, TW
WV/A/1.2	Collate all current survey information and map onto GIS. Display range by 5 km squares. Compare with historic distribution. Publish results	July 2004	October 2005	HWVP	HBRC, EA, HMWT
WV/A/1.3	Develop and implement a three-year monitoring programme, prioritising areas under threat. Publish results	July 2004	October 2007	HWVP	HBRC, HNHS, EA, LVRPA
WV/A/1.4	Train 30 volunteers per year to carry out water vole surveys	July 2004	July 2007	HWVP	CMS, HBRC, HNHS, EA
WV/A/1.5	Identify 'key areas' for water voles in Hertfordshire. Publish results on a map to all key partners	July 2004	December 2005	HWVP	HBRC
WV/A/1.6	Ensure Water Vole County Wildlife Sites and other existing sites are protected through local plans and development control processes	July 2004	March 2007, Annual reports	WSP, HBRC, EA	HMWT
WV/A/1.7	Identify and contact landowners of all known existing sites to offer habitat management advice	March 2005	July 2007, with Annual reports	HWVP	CMS
WV/A/1.8	Develop and implement a Mink control strategy for Hertfordshire to promote Mink-free refuges in key areas	July 2004	July 2009, with Annual reports	HWVP	EA, BW, RSPB

**Objective 2:** Expand range of Water Voles in Hertfordshire (measure by 5 km squares)**Target:** Encourage re-establishment of Water Voles at restored sites within former range

Action code	Action	Target start date	Target end date	Lead partner	Other partners
WV/A/2.1	Identify potential areas for expansion of current population within former range based on 'key areas'	July 2005	July 2006	HWVP	HBRC, EA, WSP, BW, LVRPA, TW, RSPB, TVW, Lafarge
WV/A/2.2	Ensure Mink control is supported in potential expansion areas	July 2005	July 2009, Annual report	HWVP	All wetland managers
WV/A/2.3	Identify and contact land managers in potential expansion areas to provide advice on restoration of habitat	July 2005	July 2007, Annual report	HWVP	CMS, EA, BW
WV/A/2.4	Establish a minimum of one demonstration site per year to illustrate best practice habitat management for Water Voles	January 2005	Annual report	HWVP	CMS, HMWT, LVRPA, TW, RSPB, TVW, Lafarge
WV/A/2.5	Establish six Water Vole refuges across Hertfordshire	July 2005	July 2007, Annual report	HMWT	LVRPA, landowners

**Objective 3:** Maintain population size**Target:** Ensure numbers of Water Voles at existing colonies does not decrease by conserving and enhancing their habitats

Action code	Action	Target start date	Target end date	Lead partner	Other partners
WV/A/3.1	Promote good riparian and wetland habitat management sympathetic to water voles in 'key areas' by producing a leaflet guide to distribute to land managers and organisations with responsibility for watercourse management	July 2004	July 2007, Annual report	HWVP	CMS, EA, BW
WV/A/3.2	Ensure that habitat at existing sites is not degraded by inappropriate developments	July 2004	Annual report by wetland managers	HBRC, WSP	HMWT, EA, BW
WV/A/3.3	Produce guidance notes to highlight problems with translocation schemes and the ecological requirements of meta-populations, for use by local planning officers, etc	July 2005	July 2006	HBRC	EA, HMWT

**Objective 4:** Increase population size**Target:** Increase the number of individuals at existing and new sites by enhancing habitats

Action code	Action	Target start date	Target end date	Lead partner	Other partners
WV/A/4.1	Restore or create 500 metres of stream, ditch or lake banks annually to provide habitats for water voles	July 2004	Annual report on progress	HWVP	HMWT, EA, CMS, RSPB, LVRPA, Lafarge, TW, TVW
WV/A/4.2	Restore or create 5 ponds per year in 'key areas'	July 2005	Annual report on progress	HWVP	CMS, WSP, TVW
WV/A/4.3	Assess feasibility of water vole re-introduction schemes in Hertfordshire Produce a report	January 2008	January 2009	HWVP	HMWT, EA, BW, LVRPA, HBRC, RSPB, Lafarge, TW, TVW

**Objective 5:** Raise awareness of Water Voles**Target:** Inform the public and land managers of the need to conserve Water Voles in Hertfordshire

Action code	Action	Target start date	Target end date	Lead partner	Other partners
WV/A/5.1	Hold a minimum of one public event on Water Voles annually	July 2004	Annual report	HWVP	HMWT, LVRPA, HNHS, CMS
WV/A/5.2	Hold one Water Vole conservation workshop for land managers annually	July 2004	Annual report	HWVP	HMWT, HEF
WV/A/5.3	Achieve two articles on Water Voles in Hertfordshire media annually	July 2004	Annual report	HWVP	All partners
WV/A/5.4	Achieve one article in local annually to target house-owners with gardens on river margins	July 2005	Annual report	HWVP	CMS, EA, BW
WV/A/5.5	Encourage members of the public to report sightings of Water Voles by production and distribution of leaflet with recording form	July 2004	July 2007	HWVP	HBRC, EA, LVRPA, BW
WV/A/5.6	Identify pest control officers in Herts and promote Water Vole friendly control methods in key areas	July 2004	July 2007, Annual reports	HWVP	EA, LA's, CMS, BW
WV/A/5.7	Establish sections on Water Vole conservation on websites of Hertfordshire conservation organisations	July 2005	July 2006	HWVP	HBRC, LVRPA, HEF, TVW, HNHS
WV/A/5.8	Establish a Water Vole discovery trail	April 2005	March 2007	HWVP	LVRPA

WV/A/5.9	Establish Water Vole interpretation on all key sites with one site achieved annually	July 2004	Annual report	HWVP	HMWT, LVRPA, CMS, RSPB
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**Relevant Action Plans:***Hertfordshire Plans*

Wetlands

*National Plans*

Water Vole; Reedbeds; Chalk Rivers; Coastal and Floodplain Grazing Marsh

**Abbreviations (Partners)****BW** – British Waterways**CAONB** – Chilterns AONB**CMS** – Countryside Management Service**EA** – Environment Agency**EN** – English Nature**HBRC** – Hertfordshire Biological Records Centre**HEF** – Hertfordshire Environmental Forum**HMS** – Herts Mammal Society**HMWT** – Herts & Middlesex Wildlife Trust**HNHS** – Hertfordshire Natural History Society**HWVP** – Hertfordshire Water Vole Project**LVRPA** – Lee Valley Regional Park Authority**RSPB** – Royal Society for the Protection of Birds**TVW** – Three Valleys Water**TW** – Thames Water**WSP** – Wildlife Sites Partnership (HMWT, HBRC, CMS, FWAG, EA, EN, DEFRA, Chilterns AONB)**Contact:**

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