

London
Wildlife Trust



London
Water
Vole
Project



Protecting **wildlife** for the future

London water vole project

"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

preface

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 with a short, blunt muzzle, small ears and plump, rounded body.



EH Shepard's Mole and Ratty

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 had 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. Since the 1980s, this decline has accelerated, due to

predation by feral American mink (established as escapes from fur farms). The decline 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. The national surveys also noted regional differences in distribution and a report by London Mammal Group found the water vole to have disappeared from over 72% of the sites it occupied in Greater London before 1997. This matched the decline observed throughout Britain.



factors affecting water vole survival

Water voles are protected under the Wildlife and Countryside Act 1981 Schedule 5, section 9(4) (as amended 1998). It is an offence to intentionally:

- * Damage or 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.

persecution

Water voles are similar in size and appearance to brown rats and can sometimes be found together. Where voles are mistaken for rats, pest control measures can have devastating effects on the vole population. Sensitive control of rats where both species occur may actually benefit water voles.

habitat quality

Water voles can be found in most wetland habitats such as rivers, ditches, ponds, canals and reedbeds. They require soft banks in which to burrow and suitable vegetation on

which to feed.

Intense management or reinforcement of river banks has caused local losses. The urbanisation of waterways in London has led to fragmentation and isolation of populations leaving them vulnerable to other forces.

predation

Feral American mink are the single most serious predator of the water vole in Britain. Although predation by this species has caused river catchment-wide extinction in rural locations, it seems that London's water vole populations have, to some extent, avoided this onslaught. This is perhaps due to the fact that mink have not yet become fully established in our urban environment. Mink are, however, having an impact on water voles on the river Colne and in the upper Lea Valley.



brown rat



bottom: ditch before grazing. top left: effects of grazing
top right: re-enforced banks are not good for water voles



American mink

the London water vole project

Begun in 2001, this project has become the focus for the conservation of water voles in London.

delivering the actions

The project has been funded through a partnership of Environment Agency, London Development Agency, Lee Valley Park Authority, British Waterways London and London Wildlife Trust. Employing a project officer, based at London Wildlife Trust, the project's chief aim has been to:

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

Various actions were identified in order to achieve this:

survey and monitoring

Where are the water voles in London? What is their status? How is this changing?

raising awareness

To inform people about water vole decline, species biology and conservation and the work of the project and its partners.

providing advice

On the conservation of water voles through management of habitat and other activities affecting existing water vole populations.

promoting local projects

Working with landowners and local authorities to create and enhance habitat to aid in the recovery of water voles.

survey and monitoring

When the project began, there were just 55 records for water voles in Greater London highlighting the need for a new survey of this species.

As with most mammal surveys, it is the water vole's field signs that are used to confirm their presence. Searches for these were undertaken along watercourses. In addition, a series of training days were held for local groups and interested people, keen to find out more about the skills needed for surveys.

The training covered the correct identification of droppings and feeding remains, as well as biology and conservation of the species. To date, nearly 200 people have attended training sessions and a number of records have been received as a result. There is a great opportunity to develop this volunteer network to continue the survey around London and monitor existing populations.

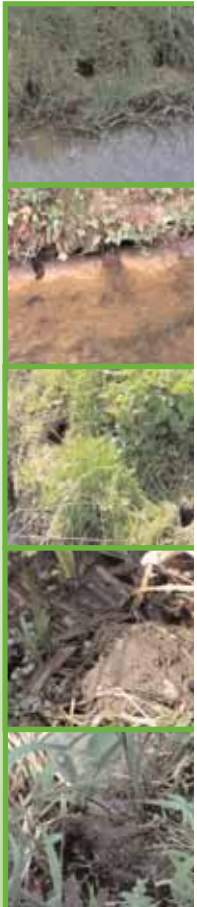
Our current database now holds 500 records, showing definite trends in the distribution of water voles in the region. A count of field signs at each site is also recorded and this will help with future monitoring of the health of these populations.

London's Biodiversity Action Plan (LBAP)

This document, launched in 2001, set a framework for biodiversity conservation in the capital. Through the London Biodiversity Partnership, key organisations are working to protect and enhance London's wildlife habitats and plant and animal species. Within the LBAP the water vole has its own Species Action Plan. The London Water Vole Project has a central role in achieving the Species Action Plan targets and objectives.



learning fieldcraft



water vole field signs

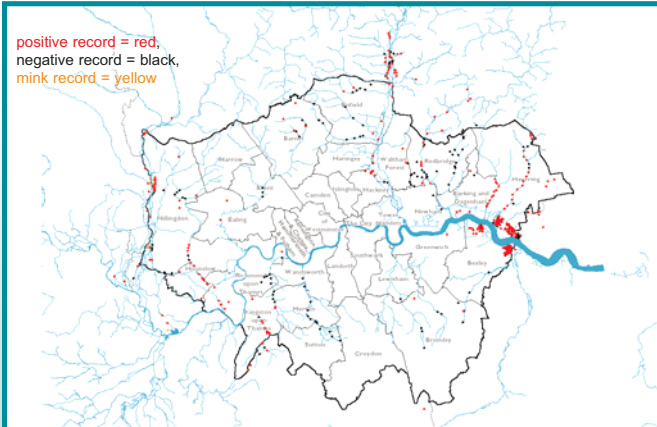
water vole hot spots?

raising awareness

The plight of the water vole, its biology and conservation has been brought to many different groups throughout London.

Hot spots of water vole activity have been recorded in the Thames Gateway, focussing on the grazing marshes at Erith, Crayford and Rainham. These areas form part of a system of marsh and dyke habitat which extends into north Kent and south Essex and is nationally important for water voles.

Other important locations within London include rivers in Havering and Barking and Dagenham (Ingrebourne, Rom and Beam), the river Crane (Hounslow/Richmond) and the Colne valley to the west of the region. Within the Lee Valley Regional Park there are some



water voles in London 2001-2003

significant concentrations of water voles, most notably in the area north of Waltham Abbey and at Walthamstow Marsh.

Surveys have also identified rivers where water voles are currently absent. For example, the Beverley Brook which flows through Richmond Park and Wimbledon Common has banks that are reinforced with wooden 'toe-boarding' which prevents use by water voles. On the river Wandle there are some areas supporting suitable habitat but water voles have not been recorded there since 1962.



toe-boarded banks, Beverley Brook, Wimbledon Common

The project and conservation issues have been publicised using a range of techniques. These include talks and presentations to wildlife interest societies and articles in magazines and newspapers.

The water vole project has been concerned with misidentification of water voles as rats and the impact of pest control. This is not solely an urban issue but it has significant importance to water voles in London. A campaign was run by the project together with the Wildlife Trusts national press office to highlight this problem. This received national coverage in the press,

on television and national and local radio stations.

The project now works with the pest control industry, providing advice and training workshops for London borough pest controllers. Guidelines for conserving water voles have been written into the industry's protocols.



sensitive control of rats can help conserve water voles



providing advice

The statutory protection given to water voles ensures their needs are considered if construction is likely to have an impact on their habitat.

The project has so far worked with 25 developers and ecological consultants to ensure the best solution is found where there is conflict of interest.

The best course of action for the water voles is to retain their habitat and design development around them. This is not always possible however so some form of mitigation is required. Some examples and case studies are included in this booklet

The project works closely with the Environment Agency when ditch and riverbank work affects water voles. Necessary work to improve flood

defence can cause major disruptions to riverbanks. However, if it is undertaken sensitively, it can create rich habitat that benefits wildlife and in particular water voles.



managing waterways in prime water vole habitat. Rainham Marshes during and after work

encouraging local action

During the first three years, the project has worked with 15 London boroughs and 15 NGOs, providing expert knowledge on the management of wetland habitats in order to benefit water voles at a local level.

Enhancements to river bank habitat can improve a vole population's rate of survival and allow dispersal up and down stream. This is particularly important for those habitats that are fragmented or isolated from one another.

On Crayford marshes, ditches that had become overgrown or damaged by grazing animals have been restored to allow spread of water voles from within the marsh.

Habitat improvements have taken place on the rivers Lea, Beam and Crane and at various locations within the Colne valley specifically to help the water voles. Further improvements have been recommended on other rivers throughout London



ditch restoration at Crayford Marshes

reintroducing water voles

Where water voles are absent it is possible to establish populations through a programme of introduction. This has been successfully done at the London Wetland Centre in Barnes where a newly created wetland habitat is now home to around 200 voles

On the river Wandle in south London the project is working with various partners undertaking riverbank restoration and improvements to provide suitable habitat for a water vole re-introduction in the near future.

Looking further ahead, there will be a great opportunity to create habitat suitable for voles

and other wildlife as part of large scale development schemes. These include the 'water city' and environmental legacy within the Lower Lea Rivers area proposed for the Olympics.



water vole release pen



the London Wetland Centre



River Wandle

case studies

1. fencing for livestock Silvermeads, Lee Valley Regional Park

background

Management of flood meadows required the use of cattle adjacent to dykes populated by water voles. Evidence exists to show the poaching of banks by livestock has a marked negative affect on the survival of water voles.

objective

Reduce the impact of livestock on water vole habitat.

description of scheme

To part fence the dyke banks protecting strips of marginal vegetation for water voles but also allowing cattle access to water.

assessment

A survey of the fenced area one month after erection of fence found prolific signs of water vole activity including burrows, latrines and feeding stations. Evidence of feeding was found at a few locations outside the fenced area suggesting that this part of the dyke was still included in the water voles territory but not used for core activities.



Silvermeads

2. ditch restoration Crayford Marshes, LB Bexley

background

Traditional grazing marsh in the Inner Thames Marshes area where ditches drain and control water levels on the marsh and beyond. Over time, the ditch channels become choked with weeds and silt reducing their function. Re-profiling of the banks to renew the channel would impact highly on a healthy population of water voles so a method was needed to retain sufficient habitat and vole burrows.

objective

Restore the function of the ditches without detriment to existing water vole population.

description of scheme

The ditches were dredged using a narrow bucket, taking the silt and vegetation from the centre of the channels only. The effect was to leave the banks undisturbed with a margin of reeds and sedges and open water channel.

assessment

The water voles appeared unaffected by the operation, field signs were found during and after the work. Where the ditches had previously been fully silted with signs of drying out, water voles were quickly able to re-colonise these areas, further extending their range within the marsh boundary.



dredging the central channel

3. ditch creation in a development setting Isis Reach, Belvedere, LB Bexley

background

Industrial development on a brownfield site. An existing ditch, supporting a small population of water voles, to be realigned to accommodate the development; the replacement ditch to compensate for the loss of habitat.

objective

To create a new ditch and bank habitat that would quickly be able to support water voles from the existing ditch.

description of scheme

A steep-sided ditch the same length as the existing ditch was excavated and the banks vegetated with turves of grass-rich meadow taken from elsewhere on site. Reeds were transplanted from a wet area on site where they had been allowed to propagate in preparation for the work and these were planted in the channel margins. The ditch, previously isolated from the other ditches on site was then joined to the network of ditches which drain the site. The work was undertaken in June.

assessment

Within one month the new ditch was sufficiently well vegetated to support water voles from the adjacent condemned ditch.



Isis Reach

4. mitigation for water voles Isis Reach, Belvedere ditch

background

Following the creation of a new ditch to compensate for the loss of an existing ditch, water voles were to be moved into the new ditch leaving the condemned ditch vacant so that it could be in-filled. This was a legal requirement since it is an offence to damage or destroy banks containing burrows occupied by water voles.

objective

To encourage the resident water voles to migrate from the existing ditch into the new ditch.

description of scheme

Following establishment of suitable habitat in the new ditch the earth bund separating the two ditches was removed to allow the voles ease of movement. The vegetation on the banks and in the channel of the condemned ditch was removed by close strimming followed by removal of a layer of topsoil. Exposed water vole burrow entrances were monitored over the following week for signs of activity. When it was established that the burrows were no longer in use and there had been colonisation of the new ditch the old ditch was in-filled.

assessment

Water voles were displaced from the old ditch and colonisation was observed in the new ditch. No active burrows were observed in the old ditch, allowing the in-filling work to proceed. The current ditch network and habitat suitable for water voles is comparable to that existing before the work so that there was no net loss of habitat and therefore overall numbers of water voles is likely to be unaltered.

5. re-instatement of natural banks Morden Hall Park, LB Merton

background

Morden Hall Park is a former deer park currently owned by the National Trust. The river Wandle and several man-made channels flow through the park, the banks of which are protected by wooden toe-boarding. Water voles are currently absent on the river and there are future plans to re-introduce them at this site.

objective

To create natural banks that water voles can occupy through the removal of wooden toe-boarding.

description of scheme

Toe-boarding was removed from 500m of bank. Where there was a likelihood of bank collapse, on bends and around small islands, the boards were either left or a sympathetic replacement such as coir matting was used.

assessment

The banks remained fairly stable where the boards had been removed. Any slumping or collapse will be left to allow the formation of natural features. Future planting of emergent vegetation types may be needed to enhance the marginal habitat.



Morden Hall Park

6. translocation Ruxley Gravel Pits, LB Bromley

background

Water voles were found in a ditch system which it was proposed to in-fill as part of a major road construction scheme in north Kent. The water voles were trapped out on the condition that they would be bred in captivity over one season, the offspring to be released at an agreed site where the species was currently absent.

objective

To re-establish a population of water voles derived from the individuals removed from the condemned site.

description of scheme

Ruxley gravel pits is managed by Kent Wildlife Trust and was chosen as a receptor for the voles because there was suitable habitat available (reed beds, ditches and ponds), a sympathetic management plan and an opportunity to enhance this wetland habitat. A set of release pens were set out and individual water voles placed in each. Over a matter of days the voles burrowed out of the pens and began to set up territories within the reed beds and ponds. Habitat enhancement and removal of scrub to improve bank side vegetation was undertaken over the following winter.

assessment

The site was surveyed for signs of water vole activity during the summer following the release. Latrines and feeding remains were found confirming their survival and suggesting establishment of breeding territories. Further enhancements to the habitat are likely to increase dispersal and numbers on site. Future monitoring of the adjacent river Cray will confirm dispersal outside the site.

continuing the process a strategy for water vole conservation in London

future funding needs working with partners

future work priorities

We now have the most comprehensive record to date of water vole populations in London. A range of factors can affect their distribution. Loss or perhaps expansion of water voles on our water courses can happen in a relatively short space of time. It is essential, therefore, that surveys for water voles are continued and this will include developing our volunteer network. Surveys would need to be repeated every 3-4 years in order to monitor changes and help us to target action when and where it is needed most.

Links with industry and statutory agencies will be cultivated. There are plans to strengthen the



Water voles present in suitable habitat – **green**
 Water voles present, priority conservation work needed – **yellow**
 Some suitable habitat but water voles absent – **pink**
 Currently unsuitable for water voles – **grey**
 Future potential for re-introduction – **red**

legal protection for this species. Greater awareness will need to be raised among landowners, land managers and developers to ensure conservation action is appropriate, effective and co-ordinated.



captive breeding pens

To ensure the work of this project is sustained, it is essential that core funding through a partnership continues. There is always opportunity to extend this partnership. In some cases, targeted surveys, perhaps for a particular river or borough, may be required for detailed assessment and monitoring. There will also be the need for funds to enable local projects. These will include habitat creation and enhancement which will benefit existing water voles or make way for new populations.

"The Lee Valley Regional Park Authority is delighted to be a funding partner of this project which is actively leading the conservation of Water Voles and their habitats throughout London".

Tim Hill, Lee Valley Regional Park Authority

"The LDA is glad to support the London Water Vole Project and the important work being carried out to ensure development recognises and conserves water voles"

Claire Luck, London Development Agency

"As the lead contact for water voles, the Agency fully endorses and supports the substantial role this Project has played in furthering the protection and enhancement of

this wonderful species, especially the enthusiasm, commitment and creativity shown in response to achieving goals within such a challenging and dynamic urban environment."
 Environment Agency



water vole fitted with radio collar

Further Reading

Strachan R. (1998) *Water Vole Conservation Handbook*. Environment Agency, English Nature and the Wildlife and Conservation Research Unit. Oxford.

Strachan R. (1997) *Water Voles*. Whittet Books, London.

English Nature (2001) *Water Vole, Guidance for Planners*. English Nature, Peterborough.

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Auk Design 020 8778 2155, mwaugh@dsl.pipex.com

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The London Water Vole Project

*Through a successful
partnership of NGOs,
statutory agencies
and industry we have
been able to
undertake successful
conservation action
for one of Britain's
most endangered
mammals. Working
with developers and
local authorities at a
local and borough
level, water vole
populations have
been protected and
their habitat
enhanced.*

*It is important that
this work can
continue, maintaining
and forging new links
with industry,
safeguarding water
voles for future
generations to enjoy.*

*Chris Strachan,
London Water Vole
Project Officer*

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London Wildlife Trust

Skyline House

200 Union Street

London SE1 0LW

020 7803 4284

www.wildlondon.org.uk

email: enquiries@wildlondon.org.uk

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