



Bedfordshire and Luton Species Action Plan: Water Vole

Last updated September 2009





Water vole
Arvicola terrestris

National lead organisation(s):
Environment Agency, Wildlife Trusts

County lead organisation(s):
Bedfordshire Rural Communities Charity
Wildlife Trust for Bedfordshire, Cambridgeshire,
Northamptonshire and Peterborough

The water vole is the largest British vole. It is herbivorous, feeding mainly on waterside plants. Water voles can live in colonies, making burrows in the banks of watercourses and ponds. They are excellent swimmers and divers and are active during the day.

Current status

National status

The water vole is found throughout Britain but is confined mainly to lowland areas near water. Once common and widespread, the species has suffered a significant decline in numbers and distribution. A national survey in 1989-90 failed to find signs of voles in 67% of sites where they had been previously recorded.

Local status

Between 1990 and 1998 the National Survey recorded a loss of 58.79% of water voles in the Anglian Region. The National Survey covers 19 sites in Bedfordshire of which 12 (63%) were positive for the species in 1989/90 and none were positive in 1996/98.

In 1998 a survey was carried out by the Wildlife Trust for Bedfordshire in partnership with the Environment Agency, Forest of Marston Vale and the Ivel Valley Countryside Project. Of the 248 sites in Bedfordshire, Northamptonshire and on the county boundary with Cambridgeshire a total of 34 had positive evidence of water vole activity.

A detailed survey of the river Ivel catchment was undertaken in 2002/3 by volunteers as part of the Ivel Otters and Rivers Project and found water voles at 33 sample sites. Further survey work in 2005, 2006 and 2007 by the Bedfordshire Otters and Rivers Project has confirmed an extensive metapopulation in the Ivel catchment north of Biggleswade, small populations along the Potton Brook, Renhold Brook and river Lea and isolated populations in the Flit Valley and at Yeldon in the north of the county (Figure 1).





Current factors affecting the water vole

- Predation by mink. Recent studies indicate that the presence of mink is the single greatest factor currently influencing water vole populations in Britain. Female mink are small enough to enter water vole burrows and may specialise on water voles as prey particularly when raising young. Predation levels are lower in good quality habitat like reedbeds and extensive wetlands where predators may be more easily avoided and alternative prey is available.
- Heavy grazing and trampling of river banks by livestock, causing poaching which collapses water vole burrows, alters the river bank profile and strips the banks of vegetation
- Repeated close mowing and strimming of vegetation on ditch banks, which removes cover from predators, prey and human disturbance, facilitates access to the stream channel by people and dogs, and increases rubbish dumping
- Large scale straightening and over-deepening of watercourses, which increase the magnitude and frequency of water level fluctuation, exacerbates low flows in summer, alters floral and faunal communities and reduces length of potential water vole habitat and may damage burrows. Some rivers, canals and ditches may require de-silting or dredging for flood defence requirements and to maintain navigation. Vegetation is kept in check to allow unimpeded water flow and navigation. These operations are often carried out using heavy machinery and unless carried out with extreme care can be destructive to water vole habitats. Watercourse maintenance operations should follow best practice guidelines (as set out in Environment Agency Flood Defence Conservation Requirements for Watercourse Maintenance Works. See also the Water vole Conservation Manual).

Extensive bank reinforcement involving sheet steel piling or concrete, will destroy water vole habitat by removing emergent fringe habitats and soft banks.

- Population fragmentation, which reduces exchange of individuals and recruitment from neighbouring colonies. Fragmentation of populations and habitat can result from bank reinforcement, maintenance or development works and the presence of mink. Water voles are restricted to a narrow strip of habitat along watercourses. The continuity of this habitat is crucial to dispersal and population survival.
- Changing water levels due to flood defence engineering, periods of drought or heavy rainfall, de-watering during engineering works and water abstraction, all of which can affect access to burrow entrances, food and cover
- Persecution: water voles are easily confused with brown rats and are susceptible to deliberate or unintentional poisoning with rodenticides.





Current action

Legal

The water vole is protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended).

In summary, the Act makes it an offence to:

- i. Intentionally or deliberately kill, injure or capture a water vole;
- ii. Intentionally or recklessly damage, destroy or obstruct access to water vole places of shelter or protection, or to disturb a water vole whilst it is using such a place;
- iii. Possess a live or dead water vole or any part of a water vole, unless acquired legally;
- iv. Sell, barter or exchange a water vole, or parts of a water vole.

Management, research and guidance

The Water Vole Steering Group, consistent with the UK Biodiversity Action Plan has prepared a UK Species Action Plan for water voles.

In 1996/98 the Vincent Wildlife Trust repeated the 1989/90 national water vole survey.

English Nature/Natural England has produced an advice leaflet informing developers of the implications of the legal protection of the water vole.

Almost a decade of conservation research on water voles and mink has been compiled and published by Oxford University's WildCRU and the Environment Agency.

The *Water Vole Conservation Handbook* prepared by WildCRU in collaboration with the Environment Agency and Natural England and has been revised. This is wide-ranging and includes the current understanding of water vole populations and best practice procedures that should be followed whenever water vole populations are at risk.

Agri-environment schemes administered by Natural England can help to improve the management of water side habitat for water voles.

Management advice for and information on water voles is available from Natural England, the Wildlife Trust and Bedfordshire Rural Communities Charity (BRCC). The Bedfordshire Otters and Rivers Project (BORP, part of BRCC) grant aids and provides support for habitat conservation and enhancement schemes. BORP and the Wildlife Trust provide advice to and raise awareness among the general public and landowners by organising training days, talks and other events. The Biodiversity Recording and Monitoring Centre maintains the central database of water vole records for the county. The Environment Agency takes account of the requirements of the water vole in its routine riverside capital and maintenance works.

The most important water vole sites in the county have been identified as 'key areas' for water voles (Figures 2 and 3). These may be designated as statutory or non-statutory wildlife sites. They have been chosen for two reasons: they are either large, intact populations, potentially viable in the long-term, or they are small populations which will be important for future water vole range re-expansion, should the current adverse conditions improve.





Action plan objectives and targets

Objective

Maintain and expand the range and population of the water vole in Bedfordshire

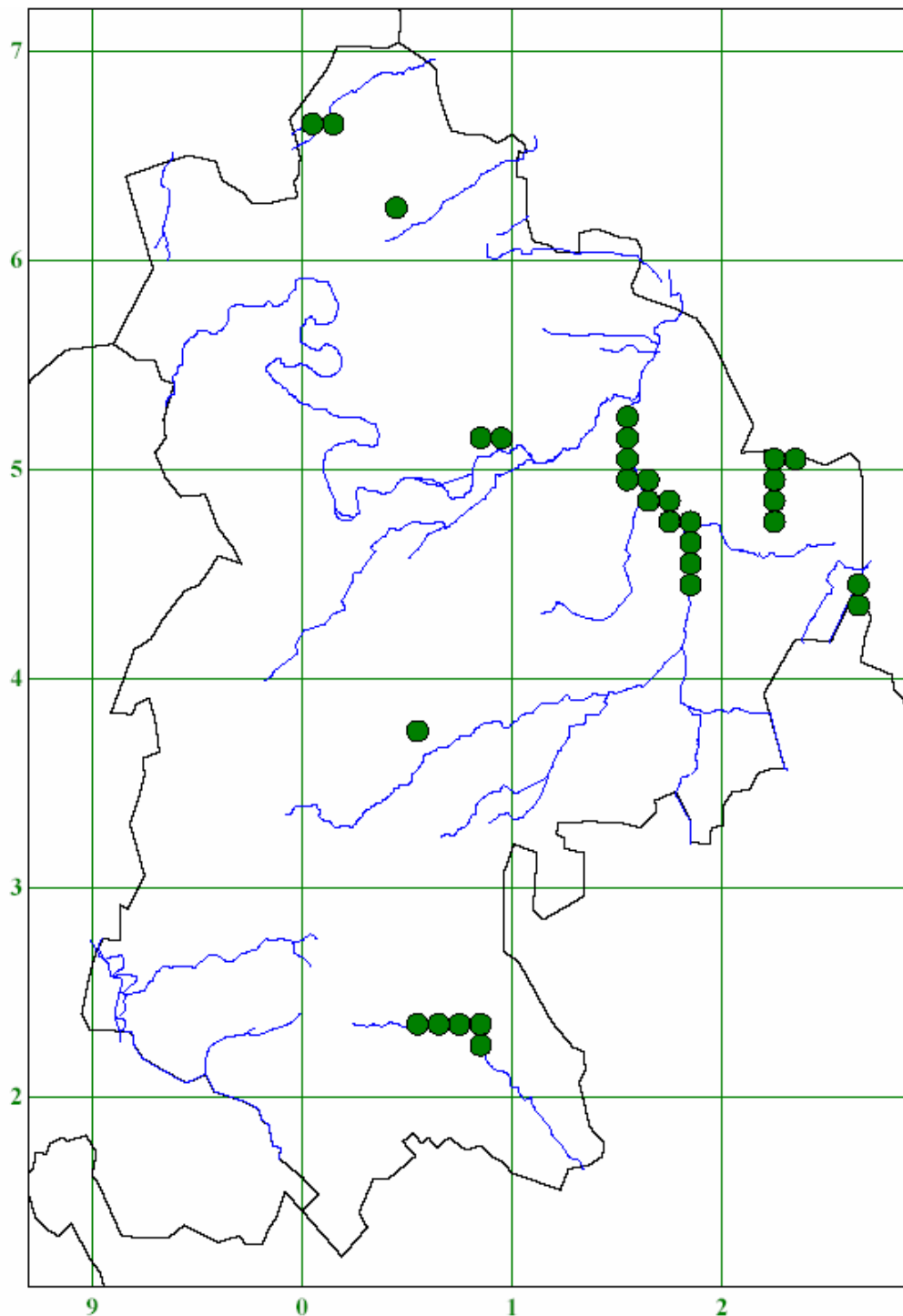
Targets

- A. Maintain the range of the Bedfordshire water vole population as defined in the 2005 and 2006 water vole survey reports (present in 30 1km squares as shown in Figure 1)
- B. Expand the range of water voles to 33 1km squares by 2012





Figure 1 Distribution of water vole (*Arvicola terrestris*) in Bedfordshire 2006-2007. Circles denote 1km squares where the species has been recorded



Source: Bedfordshire Otters and Rivers Project, www.ottersandrivers.org.uk





Figure 2 Luton key area for water voles



Source: Environment Agency www.environment-agency.gov.uk. Used with permission





Figure 3 Mid Bedfordshire key areas for water voles



© Crown Copyright. All rights reserved. (Licence 100017358) (2006)

Source: Environment Agency www.environment-agency.gov.uk. Used with permission



Proposed action

Abbreviations

BLWWG	Bedfordshire & Luton Wildlife Working Group	LAC	Luton Angling Club
BRCC	Bedfordshire Rural Communities Charity	LBC	Luton Borough Council
EA	Environment Agency	WT	The Wildlife Trust
GST	The Greensand Trust		

Action	Implemented by
Policy and legislation	
1. By 2009 inform the five Bedfordshire local authorities of their statutory obligations concerning water voles.	
Site safeguard and management	
2. Identify three areas per year of riparian habitat in need of habitat enhancement or management regime to benefit water voles	EA (1 per year)
3. Secure appropriate management and/or habitat enhancement of two areas of riverine habitat per year that will benefit known water vole populations and aid their expansion into and/or reduce fragmentation of suitable habitat	EA (1 per year)
4. Ensure that development schemes do not affect the integrity of water vole populations by using appropriate scheme design and enforcement through planning conditions	Local authorities
5. Ensure all flood defence work and routine river management are compatible with water vole habitat requirements	EA (main rivers), IDB/local authorities (other watercourses)
Species management and protection	
6. Employ by 2010 appropriate mink control (such as the Game Conservancy Trust mink rafts) as a conservation tool to protect water vole populations on the Rivers Ivel, Ouzel and Rhee, Potton and Renhold Brooks and any future water vole locations	



Advisory

7. Inform all landowners of the location of known water vole colonies, the water vole's legal protection and best practice for management of the sites within a month of discovery	
8. Inform all five Bedfordshire local authorities, pest control personnel, the Environment Agency and Internal Drainage Board of the location of important breeding populations of water vole, by 2009, within a month of discovery and annually thereafter	
9. Ensure that guidelines for the control of rats in the vicinity of water vole populations which avoid adverse impacts on water voles, are made available to pest control controllers and relevant organisations by 2010	

Future research and monitoring

10. Monitor known and any new water vole colonies annually on a catchment basis to determine their relative status, distribution, the extent and level of fragmentation and the effectiveness of any conservation measures and/or mitigation techniques	
11. Ensure that when otter or water vole surveys are conducted that information on mink is also collected	

Communication and publicity

12. Provide annual training in identifying water voles and their signs	
13. Publicise surveys and local involvement in water vole conservation to stimulate further public and business sector interest annually	





Monitoring the Action Plan

BedsLife will review this action plan every five years.

Complementary plans

There is an UK national action plan for water vole by the UK Biodiversity Steering Group.

Buckinghamshire and Milton Keynes, Cambridgeshire, Northamptonshire and Hertfordshire have also written action plans for the water vole.

This action plan should be read in conjunction with the habitat action plans written for reedbed, floodplain grazing marsh and rivers and streams in Bedfordshire and Luton.

Acknowledgements

This species action plan has been written by staff of the Bedfordshire Otters and Rivers Project.

Figures 2 and 3 are used courtesy of the Environment Agency.

References

Anon. 1995. *Biodiversity: The UK Steering Group Report. Volume 2 Action Plan* HMSO London

English Nature. 1999. *Water vole guidance for planners & developers*. English Nature, Peterborough, 6 pp.

Jeffries DJ. 2003. *The water voles and mink survey of Britain 1996-1998 with a history of the long-term changes in the status of both species and their causes*. Vincent Wildlife Trust, Ledbury.

Macdonald D, Strachan R. 1999. *The mink and the water vole: analyses for conservation*. Wildlife Conservation Research Unit and Environment Agency, Oxford.

Strachan R. 1998. *Water vole conservation handbook*. Environment Agency, English Nature, Wildlife Conservation Research Unit, Oxford

Strachan R, Moorhouse T. 2006. *Water vole conservation handbook*. 2nd edition. Wildlife Conservation Research Unit, Oxford. 133 pp.

Water Vole Steering Group. 1997. Species action plan for the United Kingdom: Water vole *Arvicola terrestris*.

