

Berkshire
Buckinghamshire
Oxfordshire



Berks, Bucks and Oxon Water Vole Recovery Project

2015 Report



Water vole at BBOWT Chimney Meadows Nature Reserve, Jeremy Dexter, May 2015



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1 Introduction

The water vole *Arvicola amphibius* is Britain's fastest declining mammal which has been lost from approximately 89% of its former range since 1900. In the 1950s-60s changes in river engineering practices and agricultural intensification caused the water vole population to decline. These changes resulted in habitat loss and degradation which caused fragmentation and isolation of water vole populations. Since the 1980s an introduced predator, the American mink *Neovison vison* has decimated water vole populations as its range has expanded throughout England, Scotland and Wales. Mink are able to counter the water voles' anti-predatory behaviours since they swim well, hunt efficiently and female mink are small enough to enter water voles' burrows.

The Berks, Bucks and Oxon Wildlife Trust launched its Water Vole Recovery Project in 1998. The aim of the project was to arrest the decline of water voles within the three counties and to work to stabilise and increase the water vole population. A three year baseline survey was conducted 1998-2001 during which the project established the location of many breeding colonies of water voles. These sites were designated Local Key Areas for water voles. Local Key Areas are monitored on a regular basis through a rolling survey programme. The areas are revised following annual survey results in line with criterion in use by the National Water Vole Mapping Project. This criterion designates Local Key Area boundaries based on the past five year's survey results. Map 1 shows the Local Key Areas in 2015.

2 Water Vole Surveys

Survey Methodology

Surveys were completed using the standard methodology outlined in the Water Vole Conservation Handbook¹. Survey stretches were approximately 500m in length, where possible located between visible landmarks to ease location of the start and end points of each section.

All surveys were completed using a standard form which included information on the following points:

- Habitat type
- Shore/ bank substrate
- Channel morphology
- Management including grazing and level of disturbance
- Bankside vegetation (using the DAFORN scale)
- Adjacent land use
- Water vole field signs tally chart
- Otter, mink, brown rat field signs presence or absence
- Detailed sketch map indicating the locations of any water vole, otter, mink and brown rat activity

All surveyors attended a training day where they were taught to identify field signs of water voles and other riparian mammals and to complete the survey form. Each surveyor received a copy of the survey methodology guidelines and a risk assessment for surveying. Surveys were conducted from the bankside only unless water levels were below wellington boot height when wading in channel was permitted. Only volunteers who had received specific training and equipment were permitted to use waders to complete surveys. Most surveys were completed between 1st April and 31st July 2015 to allow time for collation of results. Surveyors were asked to make every effort to ensure that they surveyed the entire section in order to accurately report on the status of the water vole at their allocated sites. However where vegetation was dense or banks were steep with limited access some field signs may inevitably have been overlooked.

¹Strachan, R and Moorhouse, T (2006) Water Vole Conservation Handbook: Second Edition. Wildlife and Conservation Research Unit, Oxford University

Survey Participants

Prior to the survey the landowner was contacted by either the Project Officer or the volunteer surveyor to request access permission. Surveys were not completed on land where access was denied. A summary of the number of surveys completed by the Water Vole Recovery Project in 2015 is contained in Table 1.

Table 1: Summary of participants in the 2015 water vole survey

	Number of Surveys
Project Officer	38
Project Assistant	90
Volunteer Surveyors	131
BBOWT's Conservation Trainee Team	70
Total	329

A total of 329 sections of watercourse were surveyed. 39 Water Vole Recovery Project surveyors participated along with a further 9 volunteers from the River Chess Association and 6 from the Hertfordshire and Middlesex Wildlife Trust.

In addition the project worked with Action for the River Kennet, training volunteers to undertake water vole surveys. 7 ARK volunteers subsequently completed 6 surveys on the River Kennet through Wiltshire (figures not included above). This data will be sent to the Wiltshire & Swindon Biological Records Centre and the Environment Agency and will be used to ensure water voles are protected during planned habitat works.

Survey Results

Each survey section was classified as positive or negative depending on whether or not reliable water vole field signs were recorded. An overview of the location and results of these surveys are shown in Map 2 and a summary of the number of surveys completed on each watercourse is contained in Table 2 along with an indication of when the most recent comprehensive survey of the watercourse was undertaken prior to 2015.

Trends in water vole activity over the short-term and long-term were also assessed. Trends were derived by comparing the number and extent of positive and negative surveys conducted. To assess the short-term trend surveys conducted were compared with the most recent survey previously conducted on the watercourse. If water voles were identified on stretches where they had not been recorded during the previous survey, voles were considered to have expanded their range. Consequently if voles were not identified on a stretch where they were previously recorded, this was considered to be a decline. A population was considered stable when no change in the number or extent of positive and negative surveys was observed. Where water voles were not found to be present the trend was recorded as 'None' and where insufficient data was available to make an assessment the trend was recorded as 'Unknown'. There are limitations to this assessment criterion including the fact that trend will reflect surveying effort. Map 3 illustrates the short-term status of the Local Key Areas in 2015. Care should be exercised in interpreting this data since water vole populations will experience natural fluctuations in numbers.

The same criteria was used to assess the long-term trend except survey results were compared with all full surveys conducted by the project over the years. Map 4 illustrates the long-term status of the Local Key Areas in 2015.

Further details of the 2015 water vole survey results on each watercourse and a comparison of survey results in previous years can be found in the project updates.

Table 2: Summary of the 2015 water vole survey results and population trends

- + denotes an increase in water vole population
- denotes a decline in water vole population
- = denotes no change in water vole population
- o denotes no water voles present or insufficient data to assess trend

Watercourse	No of Surveys	Positive Surveys	Negative Surveys	Previous Survey	Short- term	Long-term
Ewelme Stream	3	0	3	2014	o	-
Ginge Brook	35	8	27	2012	-	-
Holy Brook	8	2	6	2014	-	-
Hurst Ditches	3	0	3	2013	o	-
Kennet and Avon Canal	39	20	19	2014	-	=
Oxford Canal	21	8	13	2014	=	+
Pumney Ditch	10	1	9	2012	+	-
River Chess	38	21	17	2013	-	-
River Kennet	61	36	25	2012	=	=
River Lambourn	18	3	15	2012	-	-
River Misbourne	18	9	9	2012	+	=
River Pang	4	1	3	2012	+	-
River Thames (Oxford to Abingdon)	15	2	13	2012	+	=
Middle Windrush	44	37	7	2012	=	+
Radley Brook	4	2	2	2012	-	=
Sandford Brook	1	1	0	2014	=	=
Wendover Canal	7	0	7	2012	o	-
Total	329	151	178			

3 Mink Control

Background Information

The Water Vole Recovery Project recognises the need for monitoring and control of American mink to protect water vole populations from predation and advocates the humane control of mink in line with the Wildlife Trust's Mink Control Policy. The project promotes the use of mink rafts devised by the Game and Wildlife Conservation Trust (formerly the Game Conservancy Trust) installed at 1km intervals along a watercourse as this strategy has proven extremely effective at detecting and trapping mink enabling them to be removed from entire sub-catchments. The use of mink rafts ensures that traps are only set when mink have been positively identified in an area. They therefore reduce the effort required in checking routinely set live-capture traps and also minimise the risk of trapping non-target species. Since 2004 BBOWT's Water Vole Recovery Project has been developing mink raft schemes along watercourses in the three counties in order to protect known water vole colonies from predation.

Mink Control Results

The results of mink control undertaken July 2014 to June 2015 have been collated in Table 3. Further details of the mink control scheme on each watercourse and details of mink capture records submitted to the project for 2014- 2015 can be found in the project updates.

A total 30 mink were trapped and dispatched between July 2014 and June 2015 consisting of 5 female, 6 males and 19 of unknown gender. Map 5 shows an overview of mink control and mink captures for this period in relation to water vole Local Key Areas.

4 Alert Maps and Local Key Areas 2015

Updated water vole alert maps and Local Key Area maps have been produced based on 2015 survey results and in line with criterion in use by the National Water Vole Mapping Project. Alert maps may be used by Local Authorities so that planners can identify the location of water voles vulnerable to development pressures. Map 6 shows the updated Local Key Areas designated for 2015. The Water Vole Recovery Project will focus its activities including surveying and monitoring of water voles, development and co-ordination of mink control and the provision of habitat management and enhancement advice within and around these areas.

Table 3: Summary of mink control schemes co-ordinated by the Water Vole Recovery Project, Partner Organisations and Landowners July 2014- June 2015

	River Chess	River Cole	River Colne	Ewelme Stream	River Glyme	Great Brook and Shill Brook	Great Ouse	Holy Brook	River Kennet	River Lambourn	River Loddon	River Misbourne	Oxford Canal	River Pang	River Ray	Upper Thames	River Windrush	Wendover Canal	Wilts & Berks Canal	College Lake	Total
Number of landowners	12	1	3	1	6	2	3	1	4	2	2	2	1	3	1	4	4	1	1	1	55
Landowners providing data	12	1	3	1	5	2	3	1	4	2	2	2	1	1	1	4	4	1	1	1	52
Number of bankside traps	0	2	0	0	0	0	0	0	7	2	4	0	0	0	2	0	1	0	0	0	18
Number of mink rafts	17	7	4	1	7	2	8	3	5	4	2	2	7	5	3	6	12	5	1	2	103
Total mink trapped	0	0	0	0	0	0	3	0	9	0	10	0	0	0	1	2	2	0	0	3	30
Female mink	0	0	0	0	0	0	1	0	1	0	1	0	0	0	0	1	1	0	0	0	5
Male mink	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	0	0	2	6
Gender unknown	0	0	0	0	0	0	2	0	7	0	8	0	0	0	1	0	0	0	0	1	19
Adult mink	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2	1	0	0	2	9
Juvenile mink	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Age unknown	0	0	0	0	0	0	2	0	7	0	8	0	0	0	1	0	1	0	0	1	20