

**LOWLAND DERBYSHIRE
LOCAL BIODIVERSITY ACTION PLAN**

**WATER VOLE
SPECIES ACTION PLAN
2005 – 2010**



Picture courtesy of Frank Bell

Prepared by the Lowland Derbyshire Biodiversity Partnership.



Finalised in January 2006, following consultation
(targets revised June 2007, following UK target revision)

WATER VOLE HABITAT ACTION PLAN

TREND IN LOWLAND DERBYSHIRE:

Declining overall. On the verge of extinction in the Trent catchment and rare in the Dove, Lower Derwent and Mease catchments. Key areas are now in the north and east of the county, for example in the Rother, Doe Lea and Erewash valleys, but declines at some sites in these areas have been noted in recent years.

NATIONAL BAP SPECIES: Water Vole.

ASSOCIATED BAP PRIORITY HABITATS:

Rivers and streams, Standing Open Waters, Lowland Swamps, Mires, Fens and Reedbeds, and Floodplain Grazing Marsh.

A vision for the future of water voles in Lowland Derbyshire

Once common throughout the area, the water vole is no longer to be seen along many watercourses in Lowland Derbyshire and is an increasingly uncommon sight on others. Efforts already being taken to reduce the many threats facing the water vole and its habitat must be intensified if we are to protect the remaining populations and achieve our vision of a Lowland Derbyshire that supports viable breeding populations of the water vole in every river catchment. If we fail, the water vole could become a mere memory. If we succeed, the sight of this endearing and harmless mammal along the banks of our rivers, streams, canals, ditches and ponds, will be enjoyed and appreciated by future generations of local people and visitors.

1. INTRODUCTION

Background information on water voles and their known distribution in lowland Derbyshire can be found in the document ' Water voles in Lowland Derbyshire' .

2. FACTORS WHICH HAVE AN ADVERSE IMPACT ON WATER VOLES.

An impact ✓ *A significant impact* ✓ ✓

	Historic	Current
Land Management		
Direct loss of habitat through drainage, development adjacent to watercourses, modification of natural river and stream channels, hard engineering of banks of watercourses and agricultural intensification (particularly livestock damage to vegetation and bank structure).	✓✓	✓
Reduction in habitat quality. Overgrazing and regular 'blanket' mowing of bankside vegetation reduces food sources and also cover, making water voles increasingly vulnerable to predators. Wholesale de-silting of ditches can damage burrow systems and remove food sources and cover. High levels of tree shade can reduce grasses, sedges and other plants that provide cover and food along banks.	✓✓	✓✓
Fragmentation		
Colonies of water voles must be within dispersal distance of neighbouring colonies if they are to be viable in the long term. The loss of individual colonies, which increases distance between remaining populations, can put whole 'metapopulations' (clusters of colonies) at risk.	✓✓	✓✓
Predation		
American mink. Introduced for fur farming in 1929, American mink are well established in the wild throughout the UK. This semi-aquatic carnivore has filled a niche along the riverbank that was previously unoccupied by other carnivores. Mink can predate water voles in the water and females are slender enough to enter water vole burrow holes. Water voles have little chance of evading predation where mink are present and evidence suggest that water vole and mink populations rarely co exist in the long term.	✓✓	✓✓
Brown Rats. Brown rats are known to prey on water voles, but the relationship between the two has not been studied in detail. It has been suggested however, that where rat numbers are high water voles may change their behaviour or decline	✓	✓
Poisoning and persecution		
Poisoning by rodenticides. Water vole colonies have been lost as a result of poisoning by rodenticides. Water voles and rats often occur at the same sites and confusion between the two species puts water voles at risk from some pest control operations.	✓	✓
Persecution. A number of incidents in recent years have demonstrated that water voles are an occasional target of shooting and trapping.	✓	✓
Climate change		
Fluctuating water levels. Monitoring of a sample of sites in Derbyshire has revealed that high rainfall events can have a devastating impact on water vole habitat. Low water levels as a result of dry conditions can expose water voles to predation by terrestrial carnivores such as stoats and foxes.	✓	✓✓
Disturbance		
High levels of disturbance. Human recreational activities or dogs entering the water disturb water vole activity at some sites.	✓	✓

3. CURRENT ACTION

3.1 Designated Sites

Water voles are known to occur currently at two SSSIs in the plan area: Ogston Reservoir and Cromford Canal. Water voles have been recorded at five other SSSIs since 1997 (Moss Valley, Creswell Crags, Breadsall Railway Cutting, Cawdor Quarry, Mercaston Marsh & Mugginton Bottoms), but their current status at these sites is unclear. Using criteria laid down by JNCC in 2001¹, SSSIs can now be designated for water voles.

At least 51 Wildlife Sites currently support water voles. New sites may be considered for designation if they support viable breeding populations of water voles.

3.2 Current Initiatives

British Waterways

All BW maintenance processes are subject to environmental appraisals. British Waterways is also producing Biodiversity Action Plans for each waterway. In Lowland Derbyshire, BW manage the Erewash and Trent and Mersey canals, as well as parts of the Cromford Canal, Butterley and Codnor Reservoirs and the Upper Trent navigation from Sawley to Shardlow. Several water vole populations are known on the above canals and this is taken into account when planning works. For example, BW arranged for BTCV to carry out sensitive manual clearance of reeds from a section of the disused Cromford at Lower Hartshay to protect water vole habitat. The water vole was targeted as a species for recording during BW's new wildlife survey initiative, which was launched in summer 2004. Further details can be found at www.waterscape.com/wildlife.

Chesterfield Borough Council

Actions for water voles are incorporated into the Chesterfield Greenprint. Best practice guidelines have been produced for Borough Pest Control Officers and DWT's Water Vole Recovery Project Officer provided training for the Borough's Pest Control Officers in 2004. The Borough commissioned a water vole survey of council owned land and Chesterfield Canal in 2005. A report plus site action plans were produced. In liaison with DWT, implementation of actions, including monitoring for mink presence at two sites, commenced in 2005.

Derby City Council

The Land Drainage and Flood Defence team at the City Council have undertaken sympathetic management of bankside vegetation. A Search and mapping exercise is currently being undertaken by WildDerby and Friends of Markeaton Brook in order to assess the potential for protection of any remaining water vole populations, habitat management and reintroduction. An extensive ecological survey of Markeaton Brook and Mackworth Brook has been undertaken. A management plan subsequently produced includes recommendations for water vole habitat management. Monitoring of water vole populations in Chaddesden Park and on the Lees Brook is ongoing and the potential for habitat management through partnership arrangements being explored for these areas. A pond survey was undertaken in 2005 and a river and stream survey will commence in 2006. The City Council also promotes opportunities for training and raising awareness in relation to local groups and members of the public about water voles and their habitat requirements.

Derbyshire County Council

Derbyshire County Council is undertaking a number of projects which have positive implications for water voles. The Chesterfield Canal has been surveyed for water voles and an action plan has been produced. County Council Rangers have commenced implementation of the plan in 2005 with support from the Derbyshire Wildlife Trust Water Vole Recovery Project. Derbyshire County Council's development control team have been involved in schemes that would have an implication for water vole populations. Water voles have been a major consideration in the detailed mitigation proposals for the Awworth Link Road Scheme, to ensure their protection with no net loss of suitable habitat. Other developments where mitigation is being draw up with water voles in mind include the Markham Employment Growth Zone, Staveley Relief Road and extensions to the Chesterfield Canal. The

¹ Mitchell-Jones, A.J. (2001) Proposal to add selection criteria for the water vole to the guidelines for the selection of Biological SSSI. (JNCC unpublished paper).

County Council own and manage a very public part of the Cromford Canal and other sites in the county which have good water vole populations. They are working with the Water Vole Recovery Project to manage these sensitively.

Derbyshire Wildlife Trust

Water Vole Recovery Project 2004-2007

Funded primarily by the Tubney Charitable Trust, the project is working to maintain the current distribution of water voles in Derbyshire and to reverse the trend of decline, ensuring that achievements can be sustained in future years. Targets include: protection of water vole sites through designation as Wildlife Sites or SSSIs as appropriate, implementation of sympathetic management at known sites and in adjacent areas to encourage expansion, survey and annual monitoring of a sample of sites, provision of data, advice and training on water vole and mink issues and awareness raising through media releases, talks and events.

Nature Reserves

Six DWT nature reserves in the plan area support water voles. Habitat creation for water voles was undertaken at North Wingfield Nature Reserve in 2003-2004. A habitat creation scheme at a proposed new nature reserve (part of the former Avenue Coking Works) in the Rother catchment will provide a series of ditches and reedbeds in an area where water voles are present. Habitat enhancement works are planned at the Erewash Meadows Nature Reserve, primarily for ground nesting birds, will also provide benefits for water voles, e.g. through ditch management and creation of additional areas of open water.

Greenprints

Water voles are highlighted in published Greenprints (district or Borough wide BAPs) for Chesterfield and Derby City.

Groundwork Erewash

Groundwork Erewash Valley distribute water vole information and advice leaflets through their Community Wildspaces Project. They manage Local Nature Reserves on behalf of Amber Valley and Erewash Borough Council for the benefit of water voles, for example Pennytown Ponds, nr Somercotes has recently had some bankside trees coppiced in order to reduce shade levels and encourage favourable bankside vegetation.

National Trust

The National Trust has produced a Regional Nature Conservation Strategy (2004-10) that identifies the need for conservation plans for priority species, of which the water vole is one. In lowland Derbyshire the NT owns and manages three key sites, Hardwick Park, Kedleston Park and Calke Park NNR. The ponds and lakes at Calke Park once supported water voles but they have not been recorded here since the early 1990s. In 2005, a survey is planned to establish the presence or absence of water voles with a view to maintaining and enhancing the population if they are still present. At Kedleston Park water voles have not been recorded for the past three or four years, probably due to predation by mink. In collaboration with Derby City Council, via the Mercaston & Markeaton Brooks project, it is hoped through survey to establish in 2005 whether or not water voles remain and if so how feasible would a mink control programme be if this is identified as the cause of local declines. At Hardwick Park water voles remain at three locations, the strongest population being on Great Pond where the Trust is undertaking habitat enhancement and monitoring. The Trust has a fishing management plan with the local angling club that aims to protect the voles at another location and there are plans for habitat enhancement measure to be implemented in due course on the Stainsby Mill Pond. The Trust is in discussions with the Highways Agency over the potential impact on Hardwick's water voles of the proposed M1 motorway widening scheme.

National Forest

The water vole is highlighted as a priority species for action in the 2nd edition of the National Forest Biodiversity Action Plan, which has a target to restore water voles to eight sites by 2010. Grant aid from the National Forest Company through the Tender Scheme and small grants funds are enabling management works in known water vole areas in the area, such as the Hooborough Brook and Hartshorne. These include creating margins along streams and pollarding bankside trees. A copy of the National Forest water vole SAP can be viewed via the National Forest's website: www.nationalforest.org.

Natural England

Natural England delivers the Countryside Stewardship and Environmentally Sensitive Area Schemes, which are now closed. The new land based England Rural Development Programme scheme, Environmental Stewardship, was launched in March 2005. Environmental Stewardship has three main elements: Entry Level Stewardship (ELS) is a 'whole farm' scheme open to all farmers and land managers who farm their land conventionally. Acceptance will be guaranteed provided scheme requirements are met. For those with a mix of conventionally and organically farmed land, or whose land is all farmed organically, there is the Organic Entry Level Stewardship (OELS) scheme. This is a 'whole farm' scheme similar to ELS, open to farmers who manage all or part of their land organically and who are not receiving aid under the Organic Aid Scheme (OAS) or the Organic Farming Scheme (OFS). Higher Level Stewardship (HLS), which will be combined with ELS or OELS options, aims to deliver significant environmental benefits in high priority situations and areas.

Countryside Stewardship Agreements are already in place on a number of sites managed by LBAP partners that are known to support water voles. Water voles are included in all of the Derbyshire Targeting Statements for HLS except the Mease/ Sence Lowlands. The ELS scheme has the potential to address large scale issues through basic land management options, whereas the HLS scheme is a competitive highly targeted scheme, which will be able to fund more complicated land management and offer funding for capital work programmes. Under HLS there will be potential to fence off river habitats, create margins, create wetland habitats and pond complexes and set land management appropriate to protect water vole populations.

Severn Trent Water

The water vole is included as a target species in Severn Trent Water's Biodiversity Action Plan, which was launched in 1999. The species action plan for the water vole aims to:

- Safeguard any existing water vole populations inhabiting STW property by appropriate management of bankside vegetation
- Carry out an internal information and advisory campaign using the company's IT system and internal publications
- Ensure that the feasibility, design and implementation of engineering projects takes the principles of avoidance, mitigation or habitat creation into account
- Ensure that the company continues with its work in improving water quality
- Take opportunities where they arise to create new habitat, for example at the Witches Oak Waters abstraction scheme in Derbyshire.

In recent years STW has provided support for a number of important projects, for example: development of new radio tracking technology, anti mink fencing and water vole release cages by Wildwood, study by Creswell Associates on the impact of pipeline schemes and mitigation methods on water voles and their habitat and a survey of the River Erewash to identify suitable sites for mink control. At one of the company's Sewage Treatment Works in Kirkby in Ashfield, just over the Derbyshire border in Nottinghamshire, a scheme to extend suitable water vole habitat and supplement the existing water vole population with 50 captive bred animals was undertaken in 2003-2004.

In the Lowland Derbyshire BAP area, water voles are present at Ogston and Carsington Reservoirs. Habitat creation schemes at both sites have extended areas of available habitat, with water voles quickly colonising new sites. At Carsington in particular, where water voles occupy some of the inlets, the creation of ditches and ponds around the reservoir edge provides important refugia for water voles at times when reservoir water levels are low. A new reedbed area in the north east corner of Carsington Reservoir and the creation of a new wetland area on the west bank of Ogston Reservoir have considerably increased the extent of water vole habitat. Monitoring for mink presence is ongoing at both sites, with no evidence of presence at the current time. Severn Trent Water's water vole SAP can be viewed via the company's website: www.stwater.co.uk

3.3 Known water vole sites owned and/or managed by key LBAP partners

The following LBAP partners are believed to own/manage the known water vole sites listed below:

Amber Valley Borough Council: Bailey Brook

British Waterways: Erewash Canal, Cromford Canal (Lower Hartshay), Cromford Canal & Codnor Park Reservoir, ditch at Butterley Reservoir

Chesterfield Borough Council: Pools Brook Country Park, Barlow Brook, Ringwood Lake

Derby City Council: Chaddesden Park

Derbyshire County Council: Chesterfield Canal, Cromford Canal (Cromford-Ambergate and Ironville), Grassmoor Country Park, Peter Fidler NR, Williamthorpe Country Park, Normanton Brook, Pinxton Wharf

Derbyshire Dales District Council: River Derwent (Matlock Parks)

Derbyshire Wildlife Trust: Carr Vale, Cromford Canal, Erewash Meadows, Golden Brook Storage Lagoon, North Wingfield, Oakerthorpe.

National Trust: Hardwick Park, Stainsby Mill Pond

Severn Trent Water: Carsington Water, Ogston Reservoir

4 ACTION PLAN OBJECTIVES AND TARGETS

4.1 National Targets

Current (2007) targets in the UK Water Vole Action Plan are as follows:

- Maintain the current range (730 occupied 10km squares) of water vole in UK
- Achieve an increase in range by 50 new occupied 10km squares in the UK by 2010.

4.2 National Forest

The objectives in the National Forest LBAP are to:

- Arrest the decline of the water vole in the National Forest
- Ensure management of watercourses and wetlands which facilitate the above.

The target is to restore water voles to 8 targeted sites in the National Forest.

4.3 Lowland Derbyshire objectives and targets (These were revised in June 2007 in line with UK BAP targets)

Targets

1. Maintain the 2005 range of the water vole in Lowland Derbyshire (194 occupied squares)
2. Achieve an increase in range by 7% (13 1km squares) by 2010
3. Maintain or increase existing water vole populations at 25 sample monitoring sites

4.4 Main factors likely to affect achievement of targets

Land management

Many sites are in private ownership and this may constrain the delivery of habitat enhancement and creation measures.

Resources

Lack of resources may hinder the development of co-ordinated and strategic mink control programmes.

Lack of resources may hinder development of significant habitat enhancement and creation schemes.

Local Authority Policies

In some Local Authorities, current policies do not permit mink control on Local Authority landholdings. This could constrain the development and success of strategic mink control in the future.

Lack of knowledge

Lack of knowledge about the current status and distribution of water voles in some sub catchments may lead to inadvertent damage and/or constrain the success of habitat management, enhancement and creation schemes.

Climate change

Severe flooding or drought events may constrain the long-term success of habitat management, enhancement and creation schemes.

5. ACTIONS

Partners: Amber Valley Borough Council (AVBC), British Waterways (BW), Chesterfield Borough Council (CBC), Derby City Council, (DC) Derbyshire County Council (DCC), Derbyshire Dales District Council (DDDC), Derbyshire Farming and Wildlife Advisory Group (FWAG), Derbyshire Mammal Group (DMG), Derbyshire Wildlife Trust (DWT), NE (Natural England), Environment Agency (EA), Erewash Borough Council (EBC), Groundwork Erewash (GE), Leicestershire Wildlife Trust (LWT), National Forest (NF), North East Derbyshire District Council (NEDDC), Nottinghamshire Wildlife Trust (NWT), South Derbyshire District Council (SDDC), Severn Trent Water (STW), Staffordshire Wildlife Trust (SWT).

Other abbreviations: LAs = Local Authorities

ACTION	Timescale	Key Partners	Meets target number
POLICY			
<i>Agri-environment schemes</i>			
WV1 Include water voles in targeting statements for the Higher Level Scheme of Environmental Stewardship Scheme for all Joint Character Areas in which water voles are either present or are within dispersal distance of.	2005-2006	NE	1.1, 1.2, 1.3, 1.8, 2.1
<i>Planning and development</i>			
WV2 Include specific reference to water voles in protected species policies in Local Plans/Local Development Frameworks.	Ongoing	LAs	1.1
WV3 Update Local Plans/Development Frameworks to reflect any changes in legislation protecting water voles.	Ongoing	LAs, NE, DWT	1.1, 1.2, 1.3
WV4 Ensure that Local Authority plan policies and planning decisions adhere to the principles of PPS9 in relation to the water vole as a legally protected species and a species of principal importance.	Ongoing	LAs	1.1, 1.2, 1.3, 1.8, 2.1
WV5 Ensure that Local Authority plan policies and planning decisions have regard to relevant river basin management plans as required by the Water Framework Directive (2003)	Ongoing	LAs	
WV6 Include actions for water voles based on actions in this plan in all future Lowland Derbyshire District Council Greenprints.	Ongoing	LAs/DWT	All
WV7 Include a presumption to use Sustainable Drainage Systems (SUDS) for new developments in Local Plans/Local Development Frameworks and promote retrospective SUDS in order to reduce the impacts of fluctuating water levels on water voles.	Ongoing	LAs, EA	1.1, 1.2, 1.3, 2.1
<i>River Basin Management Plans</i>			
WV8 Ensure that the relevant Environment Agency River Basin Management Plan, the River Basin Biodiversity Plan and the plans' Programmes of Measures include information from Lowland Derbyshire on the status and range of water voles and mink, actions to protect water voles and encourage their expansion, and actions to reduce the impact of mink predation.	2008 onwards	EA	All

LEGISLATION			
WV9 Notify the police of offences against the legislation protecting water voles.	Ongoing	All	1.1
WV10 Prosecute offences against the legislation protecting water voles.	Ongoing	Derbyshire Constabulary	1.1
DATA			
Data collection			
WV11 Disseminate DWT's water vole leaflet and recording form to all public outlets.	Annually (by April)	DWT/All	1.4, 1.8
WV12 Disseminate DWT's water vole leaflet and recording form at appropriate public events.	Ongoing	DWT/All	
WV13 Encourage public recording of water voles and mink via a minimum of one local press release p/a.	Annually	DWT	1.4, 1.8
WV14 Encourage public recording of water voles and mink via in-house newspapers/magazines and websites maintained by LBAP partners.	Ongoing	All	1.4
WV15 Submit all water vole and mink data to DWT and the Local Records Centre.	Annually (by November)	All	1.4
WV16 Collate all existing water vole and mink data, input to water vole database and GIS and copy to Local Records Centre.	Annually (by January)	DWT	1.4
Data dissemination			
WV17 Disseminate existing water vole data to all LBAP partners in the plan area.	Feb 2006	DWT	1.4
WV18 Provide annual updates to the Local Record Centre and all LBAP partners in the plan area.	Annually (by February)	DWT	1.4
Data use			
WV19 Promote appropriate use of water vole data to key Local Authority staff (planning officers, engineers, highways staff, pest control officers) as well as other key partners through provision of training and advice.	2006-2007	DWT, LAs	1.4, 1.8
SURVEY AND MONITORING			
WV20 Deliver at least one training course p/a on water vole survey and monitoring methodologies for new and existing volunteers.	Annually (by May)	DWT	1.4, 1.8
WV21 With the help of trained volunteers, target the following sites for full re-survey: <ul style="list-style-type: none"> ▪ Chesterfield Canal, Pools Brook CP, potential new sites in Chesterfield Borough, Cromford Canal (Cromford Wharf-Ambergate), 	2005	DWT	1.4, 1.8, 2.1

<ul style="list-style-type: none"> ▪ Erewash Canal, Chesterfield Canal, Breadsall Railway Cutting SSSI, Henmore Brook, Hooborough Brook, Moss Valley SSSI, Creswell Crags SSSI ▪ River Derwent Derby-Trent confluence and sidestreams, All DWT NRs, Chesterfield Canal ▪ River Amber, Bottle Brook system, Lower Dove catchment, Lower Trent catchment, Chesterfield Canal. 	2006	DWT	
	2007	DWT	
	2008-2010	DWT	
WV22 With the help of trained volunteers, follow up public records with checks and surveys where appropriate.	Ongoing	DWT	1.4
WV23 With the help of trained volunteers, monitor the relative status and distribution of the water vole through annual re-surveys of a minimum of 25 sites from different catchments, areas and habitat types as listed in Appendix 1.	Annually	DWT	1.4, 1.8
WV24 With the help of trained volunteers, spot-check a minimum of 20 historical sites every year.	Annually	DWT	1.4, 1.8
SITE SAFEGUARD AND MANAGEMENT			
Site designation			
WV25 Identify and consider designation for water vole sites that meet criteria for SSSI or Wildlife Site designation.	Ongoing	DWT, NE	1.1, 1.2
Site management			
WV26 Produce site action plans for all relevant: <ul style="list-style-type: none"> ▪ Local Authority owned/managed sites ▪ Derbyshire Wildlife Trust owned/managed Nature Reserves ▪ National Trust Estates ▪ British Waterways owned/managed sites ▪ Water company landholdings 	2007	LAs, GE	1.1, 1.2, 1.5, 1.6, 1.8
	2006	DWT	
	2006	NT	
	2006	BW	
	2006	STW, YW	
WV27 Ensure that water vole presence at Ogston Reservoir and Cromford Canal SSSIs and any other SSSIs where water vole presence may be detected in the plan period is a factor in determining management activities.	Ongoing	NE	
WV28 Ensure that the FWAG Scheme Planner Service maximises the potential of DEFRAS Entry Level Stewardship Scheme for water voles (e.g. by promoting use of buffer strips) and avoids any potentially negative impacts (e.g. by ensuring ditch management options do not damage water vole habitats or contravene legislation protecting water voles).	Ongoing	FWAG	1.1, 1.3, 2.1

WV29 Liaise with key partners, local landowners, fisheries and angling societies to produce action plans to encourage range expansion in the following areas and begin implementation of measures: <ul style="list-style-type: none"> ▪ Henmore Brook system ▪ Stanley Brook system ▪ Nut Brook system ▪ Markeaton Brook system ▪ Lower River Derwent sidestreams (downstream of Derby City Centre) 	2005-2007 2005-2007 2005-2007 2005-2007 2005-2007	DWT DWT DWT DWT, DC DWT	2.1
WV30 Enforce speed limits on navigable waterways	Ongoing	BW	1.1, 1.2
WV31 Screen relevant planning applications for potential impacts on water voles and their habitats. Where potential impacts exist, request water vole surveys and any appropriate mitigation proposals prior to applications being determined.	Ongoing	LAs, DWT, EA	1.1
WV32 Ensure that development, engineering and habitat creation schemes do not affect the integrity of existing and potential water vole habitat. Ensure there is no net loss of existing or potential water vole habitat in such schemes. Ensure that all possible opportunities for enhancing habitat and creating new water vole habitat to encourage expansion through such schemes are taken.	Ongoing	LAs, EA, DWT, NE, FWAG	1.1, 1.2, 1.3, 2.1
SPECIES MANAGEMENT AND PROTECTION			
WV33 Deliver training on water voles, current policies, legislation and conservation measures to local planning officers, engineering, highways and other relevant staff in Local Authorities in the plan area.	2005-2007	LAs, DWT	All
WV34 Deliver training on water voles, current policies, legislation and conservation measures to key LBAP partners and others as requested.	Ongoing	DWT	All
WV35 Where appropriate and necessary, work with landowners, land managers and fisheries managers to establish strategic and humane mink control as a conservation tool to protect water vole populations.	Ongoing	All	1.5
WV36 Ensure that rat control methods do not threaten water voles by providing written and verbal advice to all Pest Control Officers and Pest Control companies operating in the area.	2005-2006	DWT, LAs	1.6
WV37 Ensure that training on water voles and rat issues is provided to all Local Authority Pest Control Officers.	Ongoing	DWT, LAs	1.6
WV38 Seek funding to develop, promote and deliver an education programme and supporting resources for school children targeted specifically at areas where there is evidence of human disturbance to water voles and their habitats or where water vole habitat abuts or is close to schools. Make any resources produced available to other LBAP partners at least locally and potentially nationally.	By end 2006	DWT	1.7, 1.8
WV39 Identify sites vulnerable to disturbance by people and/or dogs.	By 2006	All	
WV40 Develop site specific measures to reduce disturbance by people and/or dogs at identified sites.	By 2007	All	

ADVISORY			
WV41 Ensure that all key partners have information about and access to the latest edition of the Water Vole Conservation Handbook and information about the legal protection afforded to water voles.	2005-2006	EN, DWT	All
WV42 Disseminate DWT's leaflet on managing land for water voles to all relevant landowners and managers and LBAP partners providing advice to landowners. Update the leaflet as and when necessary.	2005 onwards	All	1.2, 1.3, 1.5, 2.1
WV43 Liaise with landowners to promote the potential for habitat management, enhancement and creation schemes for water voles in the Environmental Stewardship Scheme and other relevant agri-environment schemes through provision of relevant data, written and verbal information and advice.	Ongoing	NE, FWAG, DWT	1.1, 1.2, 1.3
WV44 Provide information and advice on water voles to planning authorities and others as requested.	Ongoing	NE, DWT, EA	All
RESEARCH, COMMUNICATIONS AND PUBLICITY			
WV45 Disseminate a minimum of one media release on water vole issues in Lowland Derbyshire p/a	Annually	LBAP co ordinator, DWT, LBAP Action Group (see WV47)	1.8
WV46 Compile a list of potential research projects suitable for undergraduate and postgraduate students and submit to local universities.	Annually, by March	LBAP co ordinator	1.8, 1.9
PLAN DELIVERY			
WV47 Determine the need for and feasibility of a Lowland Derbyshire Water Vole Action Group to co ordinate delivery of the action plan.	End 2005	LBAP co ordinator, DWT	All

6. RESOURCES

Additional resources will be required to:

- Implement the following specific actions beyond March 2007 (end of current DWT Water Vole Project): WV13 (public recording), WV16, WV17, WV18, WV19 (data), WV20, WV21, WV22, WV23, WV24 (survey & monitoring), WV29 (implementation of action plans for range expansion), WV33 & WV34 (training), WV35 (mink control), WV37 & WV44 (advice).
- Develop the proposed new education programme and resources (WV38)
- Provide financial incentives for the conservation, enhancement and restoration of watercourses
- Enhance management of sites in the ownership of conservation organisations
- Produce leaflets and guidance
- Carry out habitat management, creation and extension work

Appendix 1

Proposed Water Vole Monitoring Sites
2005-2010

	Length	Catchment	Watercourse	Grid Reference
01	500m	Derwent	Oakerthorpe Brook and pools	SK390553-SK395550
02	850m	Derwent	Ecclesbourne	SK344434-SK350432
03	1km	Derwent	Derwent, Whatstandwell	SK337537-SK338528
04	600m	Rother	Hipper Sick	SK308687-SK304687
05	2km	Derwent	Cromford Canal, Cromford	SK299570-SK315561
06	3km	Derwent	Cromford Canal, Whatstandwell	SK332543-SK348519
07	1.25km	Erewash	Erewash Canal, Gallows Inn-Hallams Fields	SK476406-SK479396
08	1.5km	Erewash	Erewash Canal, Shipley Gate-Bridge St	SK463454-SK468440
09	750m	Rother	Rother, North Wingfield NR	SK405640-SK407636
10	600m	Erewash	Stanley Brook	SK412403-SK419401
11	300m 300m	Dove	Carsington Reservoir (3 sites): NE corner reedbed Fishtail Creek Wildlife Centre Pond	SK262531 SK262514 SK241519
12	1.25km	Erewash	Cromford Canal, Erewash Meadows	SK441517-SK445505
13	600m	Erewash	Erewash, Erewash Meadows	SK446506-SK447499
14	300m	Derwent	Henmore_Brook	SK178464-SK175462
15	600m	Derwent	Cromford Canal, Lower Hartshay	SK381513-SK387515
16	900m	Erewash	Cromford Canal & Codnor Reservoir	SK423512-SK434516
17	1km	Rother	Chesterfield Canal, Tapton Lock-Station Rd	SK388729-SK393736
18	500m	Rother	Chesterfield Canal, Staveley	SK430747-SK425714
19				
20	800m	Rother	Pools Brook & Pool	SK435729-SK435729
21	750m	Rother	Row Ponds & duck decoy, Hardwick Park	SK456638-SK461639
22	600m	Rother	Grassmoor Ponds	SK411679-SK412677
23	750m	Trent	Draycott Ditch	SK442339-SK434337
24	1.2km	Erewash	Nutbrook Canal	SK466395-SK462403
25	700m	Rother	Doe Lea & Peter Fidler NR ponds	SK459703-SK460708