

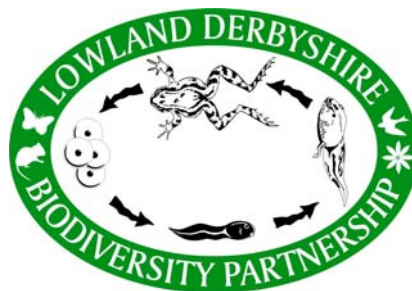
**LOWLAND DERBYSHIRE**  
**LOCAL BIODIVERSITY ACTION PLAN**

**WATER VOLES IN LOWLAND DERBYSHIRE**



Picture courtesy of Frank Bell

Prepared by the Lowland Derbyshire Biodiversity Partnership



Last Updated August 2005

**This document provides the background information for the Water Vole Species Action Plan**

## 1. Introduction

The water vole is the largest British vole, measuring about 20cm long (head and body) with a tail up to two thirds of this length<sup>1</sup>. Optimal habitat consists of slow flowing or static watercourses that are not subject to long periods of flooding in winter, or periods of low flow during summer drought conditions. Tall herbs, grasses or emergent vegetation, such as sedges and rushes, provide cover, sources of food and nesting material. Sections of watercourses with steep or stepped soft banks are preferred as these can accommodate nesting chambers at different levels above the water table. Burrow entrances above and below the water line give water voles easy access to the water. Some holes may however, be within vegetation up to two to three metres, or sometimes further away from water. The hole is usually wider than high, with a diameter of four to eight centimetres. Grazed areas or 'lawns' can be found around some holes. Occasionally, water voles may nest above ground in clumps of rushes and sedges well away from any obvious watercourse.

Water voles are sometimes mistaken for the brown rat, which also swims, but water voles can be distinguished by their blunt muzzle, overall rounded appearance, small eyes, less prominent ears and shorter tail. Water voles leave a number of distinctive field signs that make surveying for this mammal relatively easy. The most distinctive are droppings, which are cylindrical with blunt ends and measure eight to twelve mm long and four to five mm wide. Colour varies from black to pale green or fawn, depending on freshness and the food that has been eaten. Droppings may be found scattered along runways or deposited at latrine sites. Brown rat droppings can be found in similar places but are larger, with more tapered ends and a rancid odour. Feeding remains can be found as piles of chewed lengths of vegetation at favoured feeding stations or platforms; these may show the marks of the water vole's two large incisors.

## 2. National status and distribution

The water vole has suffered a long term and significant decline in numbers and distribution in the UK. A national survey commissioned by the Vincent Wildlife Trust in 1989-90 failed to find signs of the remaining aquatic form of the water vole at 67% of survey sites where it was previously recorded<sup>2</sup>. A second Vincent Wildlife Trust survey in 1996-1998 failed to find water voles at 89% of former sites surveyed<sup>3</sup>. In the report of this second survey, Jefferies suggested that the water vole had been declining for a much longer period than previously thought and that this decline was associated with an increase in livestock numbers over the past 2,000 years. A fossorial form of the water vole appears to have been lost from mainland UK about 100 years ago. Decline of the remaining aquatic populations accelerated in the twentieth century as a result of habitat loss and degradation and predation by the non native American mink *Mustela vison*. The water vole is now on the brink of extinction in some counties in the UK. Distribution of remaining populations is increasingly fragmented, with many remaining sites isolated and vulnerable.

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<sup>1</sup> Strachan, R. (1997). *Water Voles*. London: Whittet Books.

<sup>2</sup> Strachan, R. and Jefferies, D.J. (1993). *The Water Vole Arvicola Terrestris in Britain 1989-1990: its Distribution and Changing Status*. London: Vincent Wildlife Trust.

<sup>3</sup> Jefferies, D.J. (ed) (2003). *The Water Vole and Mink Survey of Britain 1996-1998 with a History of the Long-term Changes in the Status of Both Species and their Causes*. Ledbury: Vincent Wildlife Trust.

### 3. Local status and distribution

Though formerly regarded as common<sup>4</sup>, the water vole was under recorded in the plan area prior to 1997, when a Derbyshire Wildlife Trust survey discovered many new sites<sup>5</sup>. Re surveys of historical sites during this survey estimated a 45% decline in Derbyshire overall.

In the Trent catchment, water voles were not re-found at 91% of historical sites and there were few remaining sites in the Lower Dove and Lower Derwent catchments. Since 1999, annual monitoring of a sample of sites by DWT has shown that declines are continuing. Water voles are on the verge of extinction in the Trent catchment and there are no known sites remaining on the River Dove in the plan area, though small populations remain on a sidestream, Henmore Brook, and there has been an apparent expansion of populations at Carsington Reservoir.

Mink have been well established in the Trent, Lower Derwent and Lower Dove catchments since the 1960s-1970s and many water vole extinctions and declines in these areas are likely to be attributable to mink predation. A small number of water vole sites remain in the Lower Derwent, though populations at most of these are small. North of Derby, scattered populations are present on the main River Derwent and on the Amber and Bottle Brook sub-catchments, though there have been few recent surveys of these areas. Losses have been recorded on some Derwent sidestreams north of Derby, for example along the Ecclesbourne. Water voles remain at Cromford Canal, formerly one of the best-known sites for water voles in the area, though populations have declined significantly in the last 2-3 years. One known site remains in the Mease catchment, at Hooborough Brook, though detailed information about the population is lacking.

Key areas that support several viable breeding populations within dispersal distance of each other remain in the north and east of the plan area, for example in the Rother, Doe Lea and Erewash Valleys, but recent evidence suggests that water voles are declining at some sites in these areas. Encouragingly, surveys undertaken by DWT and others, and records submitted by members of the public continue to reveal new sites, and there is ample evidence that recent or newly created watercourses and wetlands that provide suitable habitat are quickly colonised if they are within dispersal distance of existing populations.

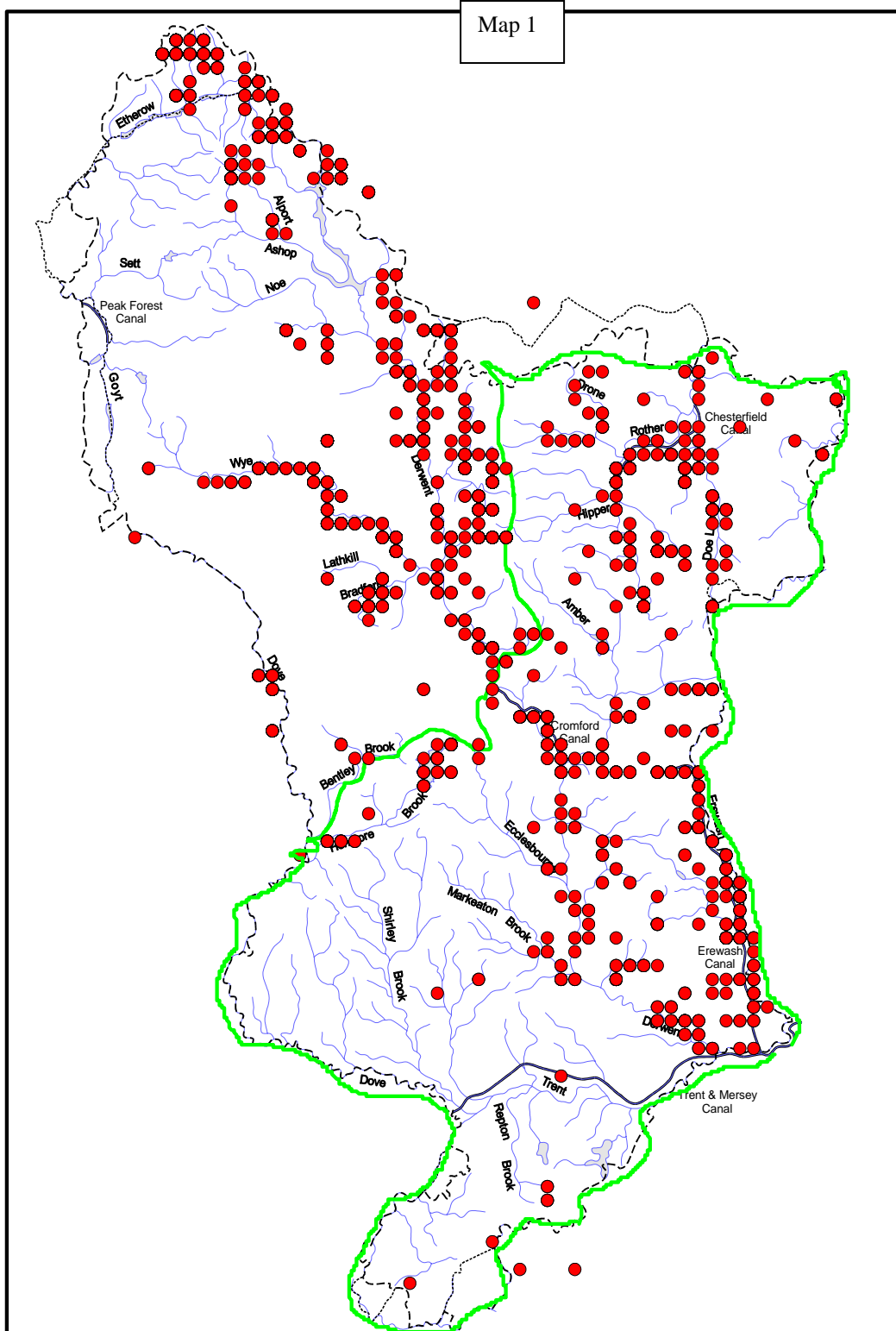
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<sup>4</sup> Jourdain, F.C.R. (1905). Mammals. In: Page, W. (Ed). *The Victoria History of the Counties of England. Derbyshire Vol. 1*. pp 150-158. London: Constable.

<sup>5</sup> Perkins, H.M. and Mallon, D.P. (1999). *The Water Vole in Derbyshire: a Report on the Current Status and Distribution of Arvicola terrestris 1997-1999*. Derby: Derbyshire Wildlife Trust.

Map 1 shows the 1km square water vole distribution in Derbyshire 2005

(Green line shows Lowland Derbyshire LBAP boundary)



#### 4. Strategic background & legal protection

The water vole was listed as a priority species for action in the UK Biodiversity Action Plan<sup>6</sup> and a species action plan was produced in 1997<sup>7</sup>. A national water vole steering group guides the implementation of the UK BAP's national water vole action plan.

In 1998 the water vole was given limited legal protection under the Wildlife and Countryside Act 1981 in respect of Section 9(4). It is an offence to intentionally or recklessly:

- 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.

A full explanation and guidelines on the legal protection of water voles is available in *The Water Vole: Guidance for Planners and Developers*<sup>8</sup>. In 2005 the UK government proposed full protection for the water vole under all parts of Section 9 of the Wildlife and Countryside Act. If this proposal (currently out for public consultation) becomes law, water voles themselves, as well as their habitat, will be legally protected.

As a protected species, the water vole is also covered by the requirements of the government's Planning Policy Statement 9: Biodiversity and Geological Conservation (PPS9). This requires that the presence of a protected species is a material consideration in the determination of a planning application and suggests that planning authorities should attach appropriate planning conditions to secure the protection of the species. Under PPS9 local authorities should also, through their planning function, take steps to maintain, enhance, restore or add to biodiversity interests, furthering the conservation of habitats and species that Defra consider to be of 'principal importance'. These should be protected from the adverse effects of development and permission for development should be refused where harm to such species or habitats would result, unless the need for, and benefits of the development clearly outweigh that harm. Water voles are listed as a species of principal importance by Defra. Other relevant guidance from PPS9 is referred to in the actions in this plan.

The UK Water Vole Steering Group and The Wildlife Trusts have produced position statements on mink control for water vole conservation. *The Mink and the Water Vole: Analyses for Conservation*<sup>9</sup> outlines current research on the relationship between the two species. *The Water Vole Conservation Handbook*<sup>10</sup> provides best practice guidance, with a revised edition due to be published in 2005.

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<sup>6</sup> Department of the Environment (1995). *Biodiversity: the UK Steering Group Report Volume 2: Action Plans*. London: HMSO.

<sup>7</sup> Water Vole Steering Group (1997). *Species Action Plan for the United Kingdom- Water Vole *Arvicola Terrestris**. Bristol: Environment Agency.

<sup>8</sup> English Nature (1999). *The Water Vole: Guidance for Planners and Developers*. Peterborough: English Nature.

<sup>9</sup> Macdonald, D.W. and Strachan, R. (1999). *The Mink and the Water Vole: Analyses for Conservation*. Oxford: WildCRU.

<sup>10</sup> Strachan, R. (1998). *Water Vole Conservation Handbook*. Oxford: Wildlife Conservation Research Unit, University of Oxford.