

Last Chance for Water voles in Derbyshire?

The water vole is Britain's most rapidly declining mammal. Where once this beautiful little mammal was a common sight along Derbyshire's rivers and streams, its populations are now greatly reduced in size, fragmented and still declining.



Why are they rare?

The long-term decline of the water vole has been caused by the loss of their wetland habitat. Drainage of marshes and ponds, engineering works on river banks, agricultural intensification and building development have all contributed to the dramatic loss of water vole habitat during the last one hundred or more years. Remaining populations are fragmented, leaving them more vulnerable to predation by American mink, flooding events and excessive disturbance. Water voles are legally protected and highlighted as a priority species for conservation in Biodiversity Action Plans at national and local level.

Habits and habitat

Water voles are seldom found far from water, so if you have a river, stream, ditch or pond on your land, you may already be providing homes for water voles. Water voles are active during the day and are relatively easy to spot. If numbers are low, you may need to search for their field signs to detect their presence. They are best looked for during their breeding season, between February and October, when they are maintaining their territories. During the winter months, they are much less active and spend more time in their burrow systems underground.

What's being done?

Derbyshire Wildlife Trust has been monitoring water vole numbers and running successful conservation projects for Water Vole for the last 12 years. With the help of landowners and managers we have co-ordinated strategic mink control to aid water vole recovery. We can offer expert advice on how to manage your land for water voles and may be able to assist with funding for habitat restoration work.

What can you do?

Thankfully, water voles respond quickly to habitat improvements and will readily colonise newly created wetland habitats. Concentrate actions on slower moving water with good bank structure to promote bankside vegetation growth, protecting banks from excessive erosion by livestock and providing buffer strips are just some of the ways you can help water voles. If you would like more information please contact Derbyshire Wildlife Trust.



River Derwent Catchment. A Special Place for Wildlife
The River Derwent is home to some of our rarest plants and animals. Some including the Water vole, Otter, White-clawed crayfish, Atlantic salmon, Brown trout, European eel and Lamprey are Biodiversity Action Plan (BAP) Species. Once the birthplace of industry the rivers are now recovering from years of industrial pollution and are once again a wildlife haven. We need your help to continue this recovery.

Riverbank Tree Management

Riverside tree management should be targeted toward specific aims. For example water voles can require good marginal aquatic vegetation. In many of our smaller streams dense shading has resulted in a loss of good marginal and submerged plant flora. This habitat is very important for aquatic invertebrates and forms a cornerstone of aquatic ecosystems. Equally wet woodlands are one of our most valued riverside habitats providing homes to many species of invertebrate, birds and mammals. It is important to strike the right balance and determine the best approach for your site. Advice is available on a site by site basis and schemes like Environmental Stewardship can help you to achieve the right outcome with the highest gains for biodiversity.

Help and Advice

There is lots of support to help manage our rivers and streams. Help to gain consents, capital grants, deal with the paperwork and provide advice. It's all out there and often free. Phone or search online.

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| <p>Derbyshire Wildlife Trust
01773 881188 enquiries@derbyshiresirewt.co.uk</p> <p>Environment Agency
08708 506 506 enquiries@environment-agency.gov.uk</p> <p>Natural England
0300 0601 115 enquiries@naturalengland.org.uk</p> | <p>Catchment Sensitive Farming Initiative 0300 0601 115
enquiries@naturalengland.org.uk</p> <p>Forestry Commission 01623 822447 enquiries@forestry.gsi.gov.uk</p> <p>Peak District National Park Authority 01629 816200
customer.service@peakdistrict.gov.uk</p> <p>Trent Rivers Trust richard.silson@trentriverstrust.org.uk</p> |
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What's in it for the farm?

- Increased capital value of holding.
- Significant improvements in water quality - reduced risk of pollution and prosecution.
- Savings in reduced fertiliser applications and losses to the river.
- Cleaner animals, reduced lameness and infection.
- Improved stock handling.
- Improved fisheries benefit the local economy.
- Promotes good relationships with neighbours.
- Improved wildlife and recreational value.

Keeping it legal

- Before undertaking any works consult the relevant authorities!
- Will the work be on, or affect a designated site? e.g. Site of Special Scientific Interest (SSSI), Special Area of Conservation (SAC), Local Wildlife Site, Scheduled Ancient Monument (SAM) etc.
 - Will the work affect protected species? eg otters, bats, water vole etc. Seek advice, as a Natural England licence may be required.
 - Consult the Environment Agency before:
 - undertaking works on main river or a designated floodplain
 - impeding flow on a non-main river
 - undertaking in-stream or bank profiling
 - spraying herbicide near to or on any watercourse
 - Consult with the Forestry Commission:
 - A felling licence is required if more than 5m³ of timber is coppiced in a calendar quarter.
 - Prevent the spread invasive species: clean and dry or disinfect clothing and equipment before moving on and off site.

Good Agricultural and Environmental Condition (GAEC)
Many of the issues highlighted in this leaflet fall within the remit of cross compliance for the Single Payment Scheme for landowners. Recipients of the scheme are required to meet Statutory Management Requirements (SMRs) in order to achieve GAEC. Failure to meet these requirements could result in the partial or full loss of payments.



The Derwent Catchment
Peak District National Park
Derwent Catchment

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Derwent Rivers WATER FRIENDLY FARMING Good Practice Guide



WATER FRIENDLY FARMING

It is not farming itself, but some intensive farming practices that harms our rivers and streams. Accelerated soil erosion, and fertiliser and pesticide run-off can cause pollution. Water friendly farming can reduce these impacts.

Livestock and rivers

Where stock have free access to the river, water quality can be poor.

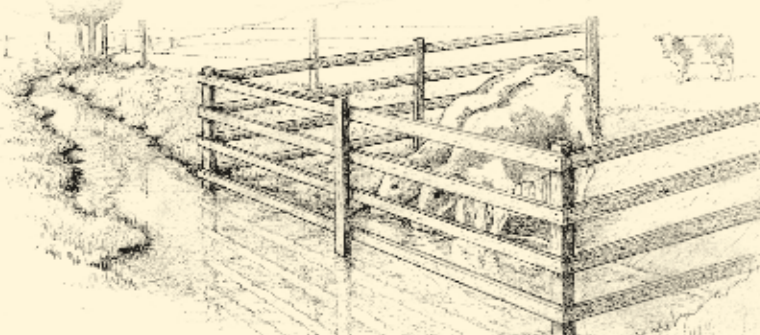
While low level stocking can be beneficial for river bank wildlife, excessive poaching can lead to erosion, over-wide channels and increased siltation. This is compounded by compaction of soil, in turn leading to greater runoff and the deposition of fine silt on the riverbed. Silt robs the riverbed of oxygen by blocking the spaces between the gravels, it can significantly reduce the number of invertebrates, and make gravels unsuitable for fish spawning. High levels of stock access also adds animal wastes to rivers further raising nutrient levels. This encourages algal growth that smothers sensitive aquatic wildlife and generally reduces water quality.

High stocking densities can increase erosion, controlling this can reverse a decline

- By reducing stocking densities riverbank vegetation can be re-established. This in turn allows the river to narrow and deepen, to encourage 'scouring' of the riverbed.
- Establish a buffer strip between the river and farming operations that can intercept runoff from fertilisers and pesticides (minimum 6m).
- Encourage overhanging bankside vegetation, providing valuable cover and food for young fish.
- Sensitive stock management can help to address these problems and bankside fencing should be considered a last resort. An agri-environment grant may be available to help you to address this type of problem (see back panel).

Fencing and Stock Watering Good Practice

- Where fencing is essential ensure that management of the buffer strip is maintained
- Make provision for gated access to maintain management and control of invasive plants like Himalayan balsam through occasional grazing by livestock
- Temporary electric fencing or three lines of wire may be more appropriate than stock netting in areas of high flood risk
- Set fencing at an appropriate distance from the river to maximise a buffer strip (at least 6m), wide buffer strips allow easier management.
- Drinking bays should be placed on the inside of meanders or protected by upstream trees and should not impede flow.
- Access ramps should be surfaced with local stone held in place with untreated timber or similar.
- Consider water troughs in preference to drinking bays
- Provide hard base around troughs to minimise poaching.



Alder Disease

Alder is vital to the health of our rivers, helping to stabilise riverbanks and to provide food and cover for a host of aquatic and riverbank wildlife. During the early 1990s, riverside alders throughout Europe started to die. Symptoms included crown dieback, abnormally small, sparse and yellowing leaves and tarry exudates from the base of the tree.

The culprit was found to be an entirely new species of *Phytophthora*, a fungus related to potato blight. Spread by free-swimming spores, it is now becoming a serious problem in Derbyshire. Eradication of the disease is not possible as the spores survive in the soil and root system of infected trees.

Coppicing is the only method of control as this encourages regeneration of new growth and prevents the tree from becoming unstable. Even severely affected trees respond well to coppicing.

Ditch Management

Ditches often form a direct route between the farmyard and the river and can be a path by which fertilisers or chemicals enter a river. Ditches can act as a buffer to filter silt and pollutants before they reach the river. Frequent clearing can disturb this filter.

Good Practice

- To reduce the need for frequent dredging promote wide buffer strips to help intercept runoff, control stock access and enable management
- To reduce the need for frequent dredging control stock access and promote buffer strips to help intercept runoff.
- Try to slow the rate of water transit by creating online ponds or filter-beds to encourage settlement of silt
- Phase dredging operations over several years rather than clearing the entire length.
- Avoid the spreading of fertilisers and pesticides near ditches - use a minimum 6m buffer.
- Implement a water vole friendly vegetation management regime by cutting short 20 metre sections in a rotation.



Large Woody Debris

Large woody debris - the branches, trunks and root boles that collect in a watercourse are often removed because they are unsightly or perceived to increase flood or erosion risk.

Whilst this is sometimes true, large woody debris is in fact a valuable asset to the river. It is home to lots of wildlife, with almost 150 insect species associated. In small streams the pools created by large woody debris can provide up to half of the salmonid spawning and rearing habitat.

The benefits of Large Woody Debris

- Creates diverse flow conditions.
- Creates niche habitats and cover valuable to fish.
- Valuable as resting sites for otter and nesting sites for grey wagtail and dippers.
- Increases the range of stream temperatures.
- Can help stabilise eroding riverbanks.
- Helps improve water quality - increases in stream oxygen levels.
- Collects leaf litter - a valuable food source for aquatic insects.



Controlling Riverbank Erosion

Riverbank erosion is largely a natural process. However erosion can be accelerated through the loss of riverbank trees and high density stocking.

Determining effective solutions is essential before embarking on riverbank protection works. In extreme cases it may be necessary to consider revetment.

Revetment - Good Practice

- Environment Agency consent is required before commencing any works - seek advice beforehand.
- Use soft revetment eg willow spilling, brush, coir matting
- Aim to maintain wildlife features; opportunity for burrowing water voles or sand martens
- Follow the natural line of the river



Issues

- Poorly maintained yard and buildings - no rainwater goods, uncovered stock gathering areas resulting in clean and dirty water mixing.
- Silage clamp located next to ditch increases potential for leachate to drain to river.
- Poorly maintained farm/cattle tracks and gateways encourage runoff to ditches and river.
- Dense tree canopy causing heavy shading
- Poorly sited livestock feeder - poached and prone to runoff to river.
- Excessive poaching introducing high sediment levels.
- Arable field on steep slope - no buffer between field and river to help intercept runoff.

Solutions

- Well maintained yard and buildings - rainwater storage and covered stock gathering areas.
- Covered slurry store located away from watercourse.
- Well maintained tracks - limited pathway to river.
- Well managed river corridor - vegetated riverbank with good balance of light and shade.
- Livestock feeder located on hard-standing and away from river.
- Encourage vegetated buffer strip.
- Livestock watering - surfaced drinking bay or trough on hard-standing.
- Well vegetated banks help intercept runoff.
- Beneficial in-stream woody debris - located to limit erosion.
- Gateway located away from river.
- Arable field with wide margins to intercept runoff.

Good Practice Guide

Controlling Runoff at Source

Clean and Dirty Water Separation

- Ensure guttering, downspouts and underground pipe work are in good order - consider storage of this clean water as an alternative to more expensive sources.
- Ensure that rainwater from rooftops is kept away from stock gathering areas trackways and manure stores.
- Consider roofing stock gathering areas to minimise the production of dirty water.

Livestock and Vehicle Movement

- Minimise poaching through the provision of 'cow tracks'.
- Site feeders on hard-standing areas on higher ground away from watercourses and move regularly to avoid poaching.
- Identify erosion pinch points to reduce poaching - install cross drains in tracks, move or resurface erosion prone gateways, resurface farm tracks, install watercourse crossings.

Managing Soils

- Avoid ploughing at right angles to water courses
- Implement soil, crop and nutrient plans for the farm - identifying areas of erosion and runoff risk will help safeguard the most valuable resource on the farm.
- Consider regular soil nutrient testing to help reduce fertiliser costs.
- Capping and compaction encourage rapid runoff - check soils regularly.
- Avoid cultivation when soil is too moist.
- Avoid vehicle movements/wheel ruts on wet soil.
- Utilise a cropping sequence to ensure ground coverage throughout the year.
- Where erosion is severe consider alternative uses for the land.
- Consider permanent vegetation (hedges, woodland, buffer strips) on steep slopes, natural drainage-ways at risk from gully erosion, long unbroken slopes, wet soils in difficult corners and alongside watercourses.