

Helping water voles on your land



people's
trust for
endangered
species

This guide is endorsed by the UK Water Vole Steering Group. This group includes representatives of the following organisations: Environment Agency, Natural England, Natural Resources Wales, Scottish Natural Heritage, People's Trust for Endangered Species, Royal Society for the Protection of Birds and The Wildlife Trusts.



Water voles

Once a common sight along our waterways, water voles have rapidly disappeared from much of the landscape, experiencing one of the most serious declines of any British mammal over the last century. The shocking drop in numbers has been caused by many factors. Changes in land use and management led to the loss and fragmentation of suitable habitat along many of our waterways. More recently, water voles were decimated by a non-native predator, the American mink. Mink were brought over to the UK for fur farms in the 1920s but quickly started escaping or were released and by the 1950s they were breeding in the wild.

However, simple improvements to land management practices can enhance the suitability of habitat for water voles, helping to connect colonies across the landscape. These changes are ones that farmers and landowners can easily undertake and the actions recommended in this guide could strengthen grant applications.

About water voles

Immortalised as Ratty in *The Wind in the Willows*, water voles are a key part of our natural heritage. They have been in Britain since the last Ice Age and play an important ecological role along our waterways. They are indicative of a healthy environment, are a food source for a range of native predators and they can even improve bankside plant diversity through the creation of their burrow networks. Although they can be confused with rats, they are distinctly different. They're the largest of our British voles, about the size of a guinea pig, with a round, chubby body, blunt nose and small ears hidden in thick fur. Usually they are dark brown, but black water voles do occur - especially in Scotland.

Why they're declining

Water voles thrive in many different types of wetland habitat but certain practices can make waterways unsuitable for them. Agricultural intensification, draining of wetlands, unsympathetic bankside and channel management, and building development all led to the loss of water vole habitats over the last century. Heavy grazing by livestock not only causes the loss of riparian vegetation but also the poaching and trampling of banks, making them unsuitable for water voles.

Water voles are particularly vulnerable to predation by American mink as their usual defences of diving underwater and kicking up a screen of dirt, or retreating to their burrow, sadly aren't effective. A female mink can fit into a water vole burrow and wipe out entire colonies along waterways.

Survival of water vole populations can be improved by restoring bankside vegetation to a healthy state and improving connectivity between colonies to allow dispersal and bolster populations. The way to achieve this is through habitat restoration and enhancement.

Legal protection

England and Wales

Water voles are fully protected under section 9 of the Wildlife and Countryside Act 1981 (as amended). Schedule 5 of this Act makes it an offence to intentionally damage or obstruct access to water vole burrows.

Scotland

Water voles are listed on Schedule 5 of the Wildlife and Countryside Act 1981 but currently only in respect of Section 9(4). This makes it an offence to intentionally or recklessly damage or obstruct access to any structure or place that water voles use for shelter or protection. It is also an offence to disturb a water vole when it's using any such place of shelter or protection.

Beneficial waterway and wetland management

Simple changes to management practices can enhance habitat for water voles. For them to thrive they need waterways with wide margins of dense vegetation (both on the bankside and in the water), soft penetrable banks to burrow into, slow-moving, relatively deep water and unshaded banks.

Many farmers and landowners already take a sustainable approach to management, but if water voles are to thrive again in our countryside they need a sustained effort from all of us.

This guide highlights management actions that are water vole friendly, including:

- 1. Livestock management beside water courses**
- 2. Buffer strips**
- 3. Sympathetic watercourse and ditch management**
- 4. Restoring, recreating and managing wetland habitats**



1. Livestock management beside water courses

Action

Reduce grazing along waterways.

Benefit for water voles

Heavily trampled or grazed banks are unsuitable for water voles, as livestock can damage vegetation, crush burrows and make the bank unsuitable for digging by compacting the earth. Water voles need dense vegetation to provide food and shelter from predators and soil that they can easily dig into to create burrows. Preventing grazing up to the waters' edge allows waterside vegetation to recover and prevents the banks being trampled and poached.

Permanent fencing 2m or more from the water's edge. Control trees or scrub if they start to dominate the strip.

Fencing creates a buffer strip along the waterway, preventing livestock from damaging water vole habitat through grazing and poaching. Ideally use line wire fencing as it's less likely to trap too much debris during times of high flow. Install a gate in the fence to provide access to the site for management. Carry out management in small stages and patches, making scalloped indents along the field or riparian edge.

Some trees are fine but too many trees along a waterway shades out ground vegetation which water voles rely on both to feed on and for secure cover from predators. Ensure that trees and scrub are managed so that they don't dominate the waterway.

Temporary fencing 2m or more from the water's edge. Seasonal exclusion of livestock.

As previous, fencing creates a buffer strip, preventing livestock from damaging water vole habitat. Temporarily fenced areas provide corridors allowing water voles to colonise new areas, whilst enabling grazing to take place once the fencing is removed.

Water voles are particularly affected by overgrazing of banksides in winter when vegetation is scarce. Seasonal exclusion of livestock from core areas benefits water voles over the winter.

Action

Create a livestock drinking bay.
Use an off-stream watering trough or pasture pump.

Benefit for water voles

Allows livestock access to water but reduces grazing pressure and trampling along the rest of the bank, benefiting water voles.

An off-stream pasture pump enables livestock to access water from the water course without needing to access the waterway directly.

In upland areas with good quality water vole habitat, reduce grazing levels through stock reduction where necessary.

Areas of dense vegetation adjacent to slow-flowing, shallow streams in upland areas may be vulnerable to excessive grazing and poaching by deer and sheep. Reducing grazing levels will maintain good quality water vole habitat, providing food and shelter from predators, as well as links between suitable patches of habitat and other populations.

These actions also benefit:



amphibians



small mammals



invertebrates



bats





2. Buffer strips

Action

Create grassy buffer strips along watercourses, ditches and in-field ponds. 4-6m in intensive grassland and cultivated land.

Benefit for water voles

Provides important foraging habitat for water voles throughout the year and refuge from predators. Buffer strips also allow water voles to disperse and they provide links between suitable patches of habitat and other water vole populations. This increases the population stability in the wider landscape.

Exclude livestock from buffer strips in grazed fields.

Allows waterside vegetation to recover and thrive, and also prevents the banks being trampled and poached which can damage burrows and make the bank unsuitable for digging.

Avoid spraying with chemicals.

In arable areas, avoid spraying chemicals on the buffer strip as this will damage the vegetation.

Cut to control spread of woody growth every 3-5 years on rotation. Carry out vegetation cutting in late summer (from late September).

The removal of dense over-shading scrub and trees encourages good, thick bankside grass cover for water voles. However, small patches of scrub can be left since plants such as bramble can provide water voles with food and are also beneficial to other species such as farmland birds.

When carrying out heather burning* ('muirburn') ensure riparian habitat next to small upland waterways is protected from burning.

Water voles need dense vegetation to provide food and shelter from predators. Protecting a buffer strip along upland waterways will also allow water voles to disperse and they provide links between suitable patches of habitat and other water vole populations. This increases the population stability in the wider landscape.

These actions also benefit:



* Please refer to the relevant statutory agency for guidance/ code of practice on carrying out heather burning.

3. Sympathetic watercourse and ditch management *

Action

Cut vegetation on a two-year rotation (or longer), leaving one bank uncut each year. Maintain 15cm of vegetation when cutting and leave gaps of 10-20m as untouched refuge areas. Remove vegetation in late summer.

Benefit for water voles

Only cutting one bank a year means there is always refuge for water voles to escape to. Cutting the vegetation too short will cause slower regrowth meaning water voles lose cover for longer. Carrying out cutting late in the summer reduces the disturbance to water voles during the breeding season.

Deposit spoil as far from the water's edge as possible.

Prevents water vole burrow entrances being blocked and bankside vegetation being smothered.

De-silt ditches on a five-year rotation. Carry out work between mid-September and late January. Keep machinery to just one side of the waterway and away from the edge of the bank. Avoid de-silting more than half a ditch in any winter.

Where ditches have filled in or overgrown, management is necessary to make them suitable for water voles and also to manage water flow. Try to avoid scraping the bank edges as this can destroy burrows. Keeping machinery on one side of the ditch ensures one bank is kept intact for water voles.

Selectively coppice bankside trees and manage hedgerows adjacent to water courses. Carry out work during winter.

Increases light levels, encourages the growth of marginal and in-channel vegetation and reduces leaf fall into the channel, all of which increases suitability of the waterway for water voles.

Maintain or raise water levels.

Long-term stability of water levels is important for water voles, as both flooding and drought leaves them exposed to predators.

These actions also benefit:



freshwater
invertebrates



bats



birds



amphibians

* These activities may require an environmental permit from the Environment Agency for works in a main river or a bylaw consent from the local Risk Management Authority (RMA) for ordinary watercourses. Please visit www.gov.uk/guidance/flood-risk-activities-environmental-permits or contact your local RMA to check if you need a permit or consent.





4. Restoring, recreating and managing wetland habitats *

Action

Restore or create ponds, scrapes, ditches and backwaters.

Benefit for water voles

Offers important safe havens for water voles, especially during periods of flooding or drought. They also add complexity to wetland landscapes, provide refuge from predators and create links between habitats allowing water voles to move through the landscape and migrate between colonies.

Ponds created for water voles should have a minimum of 50m good quality bankside habitat.

Dry ditches can be re-wetted by installing timber boards or bunds at regular intervals.

Action

Benefit for water voles

Maintain high water levels in areas of wet grassland.

Encourage areas of wetland plants to develop which provide important habitat for water voles, as well as wading birds.

Create reedbeds and areas of fen.
Maintain water levels at depths of at least 0.3m and, if lowered, do so between November and March.
Create and maintain islands and high banks within the reedbed.

Reedbeds are considered a priority habitat for water voles as they provide refuge from predation by American mink.

Maintain water levels to deter terrestrial predators entering the reedbed. High banks or islands allow refuge during times of flooding.

Remove redundant artificial bank revetments.

Water voles need soft penetrable banks to burrow into. By removing redundant bank revetments, the banks will be more suitable for water voles and waterside vegetation can recover and thrive.

In upland areas create habitat refuges away from streams that regularly flood.

Water voles become vulnerable to predation during times of flooding. Creating habitat refuges (e.g. creating pool systems where riparian vegetation is encouraged to colonise) will provide them with shelter from predators during these periods, as well as acting as 'stepping stones' aiding dispersal to other populations.

Manage water courses, ditches and wetland areas sympathetically.

See action 3.

These actions also benefit:



wading birds



amphibians



invertebrates



bats

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Control of American mink

Non-native American mink have had a devastating impact on water vole populations across the UK in recent decades. Mink control can be carried out to reduce their numbers and minimise their impact on native wildlife. Mink rafts designed by the Game and Wildlife Conservation Trust (GWCT) are the most efficient way to both monitor (using a clay tracking plate) and trap (using a live trap) mink.

To be effective, mink control should be carried out as part of a well-planned, sustained and coordinated approach, ideally in cooperation with other landowners across the wider landscape/catchment area.

A programme of mink control should be viewed as a long-term commitment and sufficient resources should be available to ensure that once started it can be sustained.

Legislation

No licences are needed to control mink in England, Scotland and Wales. The Animal Welfare Act (AWA) 2006 gives legislative protection to animals caught in traps and stipulates that the landowner has responsibility for ensuring no unnecessary suffering is caused as a result of trapping. Rafts with traps in place must be checked at least once every 24 hours. Remote monitoring systems, such as Remoti and 'Mink Police' can be lawfully used, instead of physically checking the traps daily, provided the user ensures they are working properly and messages are responded to promptly. Use of such devices is at the landowners' discretion.

In England and Wales consent is required from the Environment Agency or Natural Resources Wales respectively to place mink rafts on designated main rivers.

The key periods to carry out control are from February to April when females are setting up breeding territories and August to October when juveniles are dispersing.

To find out if you live in an area with an existing mink control scheme in place, which you could become involved with, please contact your local Wildlife Trust www.wildlifetrusts.org/find-wildlife-trust or your local fisheries trust.

Agri-environment schemes

Agri-environment schemes provide funding to farmers and land managers to protect and enhance the environment on their land. Management prescriptions that help water voles also strengthen applications.

Each of the devolved nations has its own programme of agri-environment schemes. These schemes are open to all eligible farmers and land managers and are:

- ▶ suitable for many types of land use (for example conventional and organic farmland, coastal areas and uplands)
- ▶ competitive
- ▶ scored against local priority targets to maximise environmental benefits

An overview of the relevant schemes for each nation can be found on our website www.ptes.org/watervoles

For further information and how to apply visit:

England – www.gov.uk/environment/farming-food-grants-payments-rural-grants-payments

Wales – www.gov.wales/farming-countryside

Scotland – www.ruralpayments.org/publicsite/futures/topics/all-schemes/agri-environment-climate-scheme

The RSPB, your local Wildlife Trust, FWAG (Farming and Wildlife Advisory Group) and BASC (British Association for Shooting and Conservation) have advisors across many parts of the country who are well placed to offer advice. You can find details on their websites.





How to find out if you have water voles on your land

As with many mammals, it's not always possible to see water voles, even if they're present. The best way of looking for them is to keep an eye out for signs they've left behind.

These include their droppings (usually left in piles called latrines), feeding remains and burrows in the bankside (or in certain habitats nests). Latrines, feeding remains and actual sightings of the animals are all accurate ways of telling that water voles are living in the area. Burrows can persist for a number of years, however, so cannot be used as evidence of current occupation.

Please get in touch at **watervoles@ptes.org** if you would like to be sent a copy of our guide to looking for water vole field signs.

To find out about water voles in your local area, please contact your local Wildlife Trust or Local Environmental Records Centre.

A note on fossorial water voles

Grassland-dwelling (fossorial) populations of water voles came to light in Glasgow in 2008. These amazing populations have adapted to living in urban grassland habitats like parks, gardens, road verges and vacant and derelict land. Typically water voles in Britain are found living within a few metres of water or in wetland habitat such as fens or reedbeds, which makes these Glaswegian voles pretty unique. However, there's a chance that there are more populations across the country that favour a drier lifestyle but go undetected. If you think you might have water voles living on your land but away from any waterway, please do get in touch at **watervoles@ptes.org**

How PTES is helping water voles

Since 1997, we've funded over 45 water vole projects. We've investigated what helps water voles to seek refuge from American mink. We discovered the best ways of restoring good habitat. We supported a large scale programme in northern Scotland working with members of the public to control mink and we have recently studied the effects of waterway maintenance on local populations of water voles.

We manage the National Water Vole Monitoring Programme (NWVMP), which we launched in 2015, and collate survey information collected by our tireless volunteers and hundreds of others across England, Wales and Scotland. The NWVMP is helping us find out where the remaining water voles are and this information guides our conservation efforts.

Find out more www.ptes.org/watervoles

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