

DURHAM WILDLIFE TRUST

Water vole Survey Pack

Naturally Native





Water vole Survey Volunteer Pack

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Welcome to Naturally Native



Naturally Native is a three-year partnership project funded by the National Lottery's Heritage Fund. It brings together staff from Durham, Northumberland and Tees Valley Wildlife Trust. Working with local people, stakeholders, groups and landowners, Naturally Native aims to save the water vole across the North East.

The project undertakes four main activities:

- Education and outreach
- Habitat Improvement
- Water vole surveys
- Mink control

The Water vole (*Arvicola amphibious*)

Description

Water voles are the largest of the 3 species of vole found in Britain. They can reach up to 29cm/11inches in length from nose to tail and weigh up to 360g.

Their coat is typically a rich reddish colour which is slightly paler on the stomach. This can vary significantly however, and individuals can range from tan, to very dark brown, and even black, as is common in Scotland or other parts of Europe.

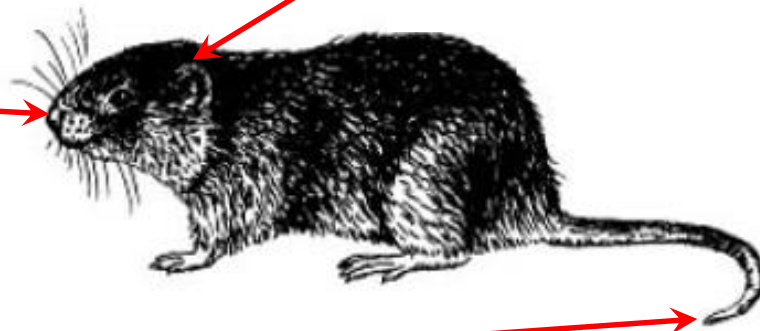
Water voles are easily confused with the brown rat (*Ratus norvegicus*). However, there are some key characteristics to look for which will help you to differentiate between the two species:

Water vole:

Rounded head
and blunt
muzzle (nose)

Ears are small and
well hidden by fur

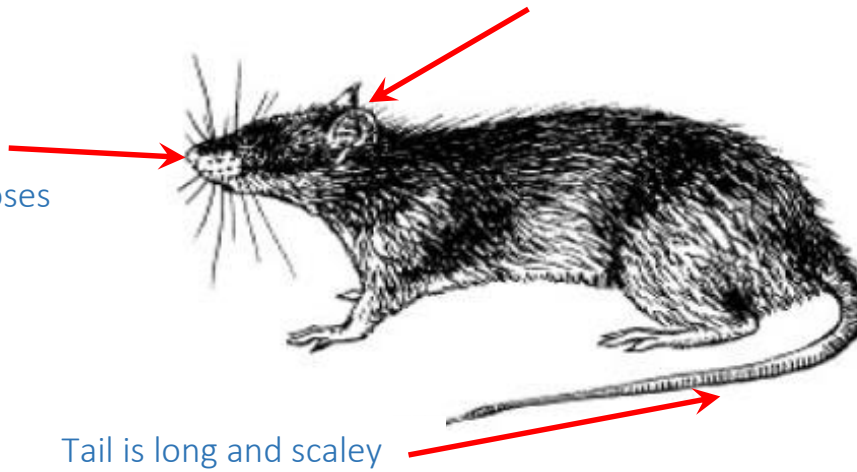
Tail is short and furry



Brown rat:

Ears are large, prominent
and rounded

Elongated head and pointed noses



Tail is long and scaley

Other Similar Species

Bank Vole



- Britain's smallest vole at 11cm
- Weighs up to 30grams
- An adult bank vole measures just half the size of baby water vole!

Photographer Credit: John Bridges

Field Vole



- Slightly bigger than a bank vole
- Distinctive short tail.
- Often coexists with water voles in the same habitat
- Leaves piles of vegetation like the water vole, but stems are typically no longer than 3cm.

Photographer credit: Bob Coyle

Interesting water vole facts!

- Water voles begin establishing territories in March, which can range from 20m – 300m depending on season and habitat quality.

- Females produce 2-5 litters of 5-8 pups from March - October. Young born before July may even reproduce that year!
- Water voles have been known to search up to 3km for new territory.
- Populations usually expand along water courses in a linear fashion from existing populations.
- They tend to avoid crossing dry land and do not like breaks in habitat.
- Water voles spend about one quarter of any 24 hour period outside their burrows, feeding, collecting vegetation and patrolling their territories.
- They need to eat 80% of their own body weight every day!
- They dig with their teeth which have hard orange enamel and are self-sharpening.
- Very little is known about what water voles get up to in winter.

Habitat

Water voles can be found along rivers, streams and ditches, around ponds and lakes, and in marshes, reedbeds and areas of wet moorland. Whatever the habitat type, it must have certain characteristics in order to support water voles:

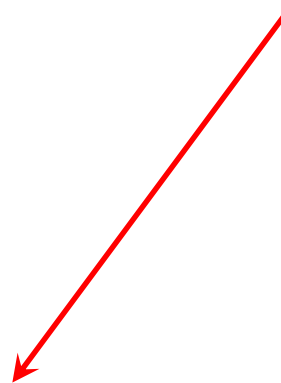
Long bankside
vegetation to
provide protection
from predators



Earthy/sandy banks at 45°
or more to allow
excavation of a complex
burrow network,
including under water
entrances



Stable water levels
(e.g. not prone to
extreme flooding
or drought)





A wide diverse 'buffer' of marginal vegetation such as rush and sedge

Deep water (more than 20cm) allowing them to 'plop' below the surface and swim to the safety of their burrows

Sparse tree cover - enough to provide a source of berries, without blocking sunlight for the bankside vegetation

Water Vole Field Signs

Water voles are shy and elusive creatures. They tend to disappear into the water with a characteristic 'plop' as soon as they feel threatened, so it's a rarity to record a direct sighting. Fortunately, they leave a number of distinctive 'field signs' behind which we can use to confirm their presence.

Feeding

For the most part water voles are strict herbivore, known to eat 227 different species of plants. In winter their diet includes autumn fruits, tree bark (e.g. willow) and roots. When pregnant their need for protein means they will eat willow catkins, dandelion flowers, or even freshwater molluscs and crayfish!

Latrines

Water voles leave distinctive piles of droppings known as ‘latrines’ to mark their territory, which can range from 20-300m depending on season and habitat quality. Latrines often appear as a flattened mass of old droppings topped with fresh ones. This is the result of ‘drumming’ – the repeated trampling on latrines to scent mark them with their lateral flank glands.





Burrows are the entrances to a

Water vole droppings can be easily confused with rat droppings. However, there are some key characteristics to look for which can help you differentiate between the two species:

is usually slightly wider than it is high. They can be found up to 3m from the water’s edge. Active burrows are usually surrounded by a grazed ‘lawn’.



	Water vole	Brown rat
		
Appearance	Mass of older ‘drummed’ droppings topped with fresh ones.	Individual droppings scattered along ‘runs’.

Where	Close to water, marking territorial boundaries and water access/exit points	Small latrines occasionally made in dark corners away from water (e.g. under bridge)
Size	8-12mm long	16-20mm long
Shape	Smooth, rounded cylindrical 'tic-tac' shape	Asymmetrical – one wide end, one pointy end
Colour	Dark green, brown or black	Black
Smell	No foul smell, though can have a musky odour due to 'drumming'.	Strong, rancid

Tracks

Water voles often leave footprints in soft mud along the water's edge. The front print is star shaped with 4 toes. The Hind foot has 5 toes and is 26mm-34mm. Water vole tracks are difficult to differentiate from those of juvenile rats, so it is important to look for the other field signs to verify your record.

Fore feet



Hind feet



Nests

Where the water table is high and bankside vegetation is sufficiently dense, water voles may occasionally make nests above ground. They are a rugby ball-shaped mass of finely shredded grasses woven into the bases of reeds, rushes and sedges.



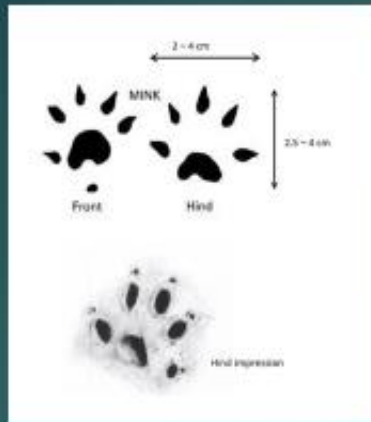
Runways in vegetation

'Runs' are hidden tunnels pushed through the vegetation, connecting burrow entrances and favoured feeding areas. They are 5-9cm in diameter and are typically found within 2m of the water.

Other Species Field Signs

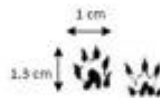
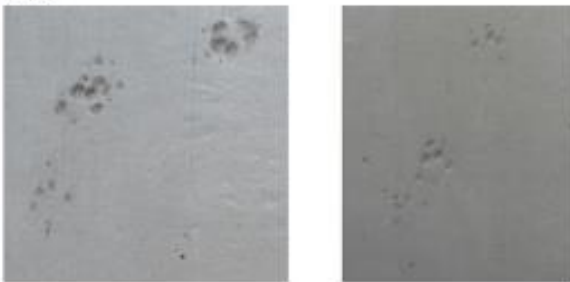
Otter

Mink



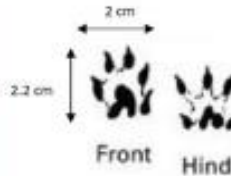
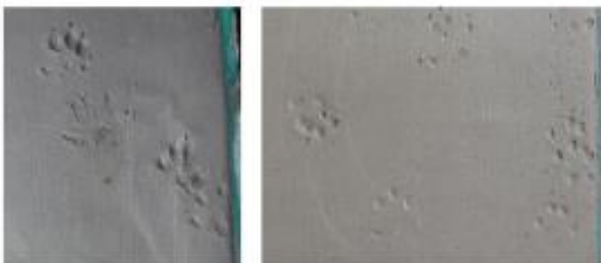
Stoats and Weasels

Weasel



Weasel;
3-6 cm long, 2mm thick

Stoat





Health and Safety

Rivers and wetlands are wonderful but they can be hazardous and great care should be taken when surveying in the field. The following is a simple guide to your own safety when surveying. Please do not be daunted by it! It is just important that you are aware of all the potential hazards.

NOTE: Please take responsibility for your own safety and for anyone accompanying you. Registered Wildlife Trust volunteers are covered by our Insurance when on DWT organised group surveys.

Safety first

Never try and reach dangerous or precarious parts of a site – i.e. do not attempt to cross a river if you can't see the bottom, or to cross slippery structures. Silt in watercourses can be very deep and difficult to get out of — rivers often have over 6 feet of silt below the bottom of the water. Many river banks are steep and can be difficult to climb if crumbly or sparsely vegetated. Don't survey following heaving rain when rivers are in spate particularly if you are working alone.

Lone Working

We recommend that you always go water vole spotting with someone else. If you do go out alone, tell friends, family or landowners exactly where you are going (incl. grid reference),

what vehicle you are travelling in and where it will be left, how long you will be and when you will get back. Phone home to change arrangements if needs be. Never put yourself in danger.

Be prepared

Before you leave, make sure you have any safety equipment that you need and you are dressed appropriately.

Take note of weather conditions. Heavy rainfall can cause localised and flash flooding, causing rivers to rise in a matter of minutes. Do not go out surveying if weather is bad, and particularly if rain has been heavy in the last day or so. Surveying following bad weather is often of little use as rain washes away any useful field signs.

Useful Equipment

- Camera (especially one that can zoom and take macro shots) – as evidence of sighting or for verification
- Binoculars – for checking for signs on opposite banks
- Outdoor clothing suitable for all weathers
- Walking stick
- Whistle
- Pencil, clipboard/weather writer
- Antibacterial hand wipes or clean water to wash hands
- Backpack
- Mobile phone
- OS map or GPS to record specific locations
- Field guide for mammal signs
- Waders, throw-line and self inflating life jacket – only when absolutely required to enter water and when safe to do so. Never when lone working

General Rules of Health and Safety

- Take a first aid kit with you and have first aid training if possible.
- Make sure your tetanus is up to date, and tell your doctor you are working near water.
- Stop your search before daylight begins to fade.
- Clean and cover any cuts with waterproof dressings.
- Always clean your hands with sterile water or sterile hand wash before eating
- Always tell someone where you are going and for how long.
- Be aware of local hazards such as poisonous plants, pollution signs etc.
- Try and walk upstream when searching for signs, so that you can watch for rising water levels - this way, silt you disturb by walking is washed behind you leaving water clear.
- Risk assess each site before you go

- Only enter or cross water if there is a good reason to do so. If you wish to investigate something that is only accessible by entering the water then only do so if with another adult, who is watching you from a safe vantage point and is prepared with a rope or branch to help you if you get into difficulty. Give them any first aid kit, mobile phone etc to hold.
- Use a strong stick to help you keep your balance and to help pull you up steep banks. The stick can be used to check water depth and the condition of the river bed.
- Walk upstream – this will keep the water clear so you can see what you are stepping on.
- Beware of pools – they can be very deep. They are often found under trees, at the end of riffles and in the outside bend of meanders.
- Beware of slippery rocks, particularly if they are covered in green or brown moss or algae.
- Do not enter the water anywhere that you can see white water (rapids)
- Do not cross or enter the water near weirs, dams or waterfalls.

We value your safety more than survey information. Please don't take unnecessary risks.

Survey Guidance

A few guidelines to ensure that surveys are carried out responsibly.

- Don't remove field signs either droppings or feeding remains. For identification verification take a photograph. If, for some reason, you needed to remove field signs for ID purposes then ensure less than a half are removed.
- Clean equipment (particularly boots) between every site visit to prevent risk of spreading disease and invasive species
- Access and landowner permission

If you are undertaking surveys on any public footpaths, bridleways or open access nature reserves (shown on OS maps and usually signposted) then it is not necessary to obtain permission from a landowner, although it is courteous to explain what you are doing and make sure landowners are not opposed.

Any other land is likely to be private. Please do not enter onto private land without the landowner's permission. Wildlife Trusts rely on maintaining good relations with landowners to achieve conservation work. If you are planning to survey on private land then please seek permission from the landowner beforehand, contact Kirsty Pollard (Naturally Native



Development Manager) at Durham wildlife Trust kpollard@durhamwt.co.uk for help with this. Details can often be found by asking at the nearest farmhouse, local shop or pub etc. If you are unable to contact the landowner, then do not trespass. If you are refused access permission then please respect the decision of the landowner.

- Advice and information

If surveying only, please try not to discuss or give advice on, (wetland) habitat management or other otter and water vole related issues. It can result in a misunderstanding of the purpose of your visit, and the giving of inappropriate/un-standardised advice.

If the landowner requires any further information, has any queries you are unable to answer, or would like a site visit to discuss habitat management etc. then please ask them to contact the Naturally Native Development Manager (as above).

- Disturbance to nesting birds and other wildlife

Try not to disturb nesting birds and other wildlife whilst surveying. Be aware of their breeding seasons and, for example, when surveying in reedbeds, take particular care to note and avoid reed warbler nests.