

Survey Manual for Water Vole Spotters



Water Vole Spotters Pack

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Why survey for Water Voles?

Until recently, the water vole was considered to be common and widespread in the UK. Water voles have disappeared from over 90% of Sussex. A nationwide crash in water vole numbers has been one of the fastest and most severe of any mammal species in Britain and has happened mainly over the last twenty years. One of the factors contributing to their decline was a lack of survey information on their changing status. We believe that the water vole is still endangered in Sussex.

Before you Survey for water voles Equipment you may find useful in the field

- Camera (one which can zoom and take macro shots) . Useful for taking photos of things you aren't sure of, to email for verification or to use as evidence of sightings
- Binoculars – useful for checking signs on the opposite bank
- All weather clothing - waterproofs, wellies or walking boots, warm clothing, sun hat/cream
- Walking stick (to help pull you out of tricky places, check water depth etc.)
- Small plastic pots or tin foil – To wrap and keep droppings if needed
- Whistle – to attract attention to yourself if you get into trouble
- Pencil, clipboard, clear plastic bag, (bag protects the clipboard if it rains)
- Antiseptic handwipes or clean water to wash hands in
- Backpack –you need both hands for writing & steadying yourself
- Small torch for looking in dark places
- Mobile Phone – for safety reasons
- Packed lunch and plenty to drink
- Throw line or rope
- Hand held GPS or OS maps to record Grid References of sightings and for navigation
- Field guide to mammal signs



Young water vole © S Freeman

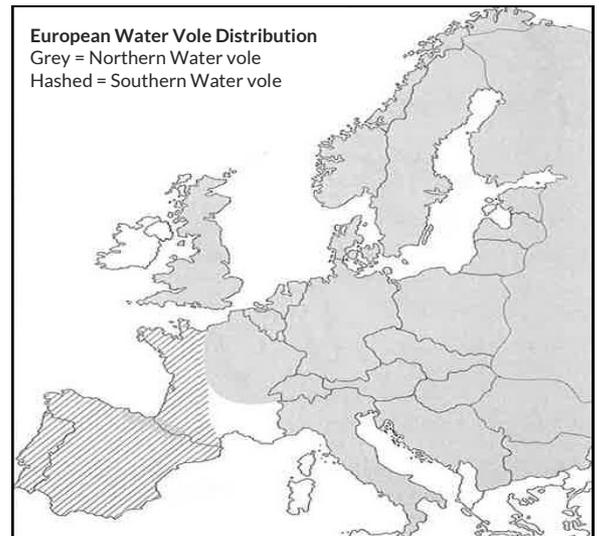
Water Vole Distribution In Sussex

In Sussex, the first National Water Vole Survey carried out in 1989/90 found that 71% of sixty three sample sites had positive signs of water voles.

By the second National Survey in 1996/98, only three sites were still positive. A report commissioned by the Environment Agency in 1998 concluded that the species was on the brink of county-wide extinction (Ryland, 1998). A further update in 2009 showed that water voles were absent from 100% of the original National Survey sites, with 1 site newly colonised from a re-introduction in 2006.

In Sussex, we have confirmed populations of water voles on the Chichester and Pagham coastal plain, in the Rye harbour/Pett area, at Arundel Wildfowl Wetland centre (a re-introduced population) and on the Arun. There may be a number of small colonies around Sussex such as on Pevensy and Cuckmere but these populations are small, isolated, and vulnerable to extinction. (See map below)

Our water voles are Northern water voles, found across much of Western Europe. English water voles are genetically distinct from their Scottish cousins.



Legal Status

Previously only water vole habitat was protected under the Wildlife and Countryside Act 1981, Schedule 5, making it an offence to damage, destroy or obstruct access to any structure or place which water voles used for shelter and protection, or to disturb a water vole while using a place.

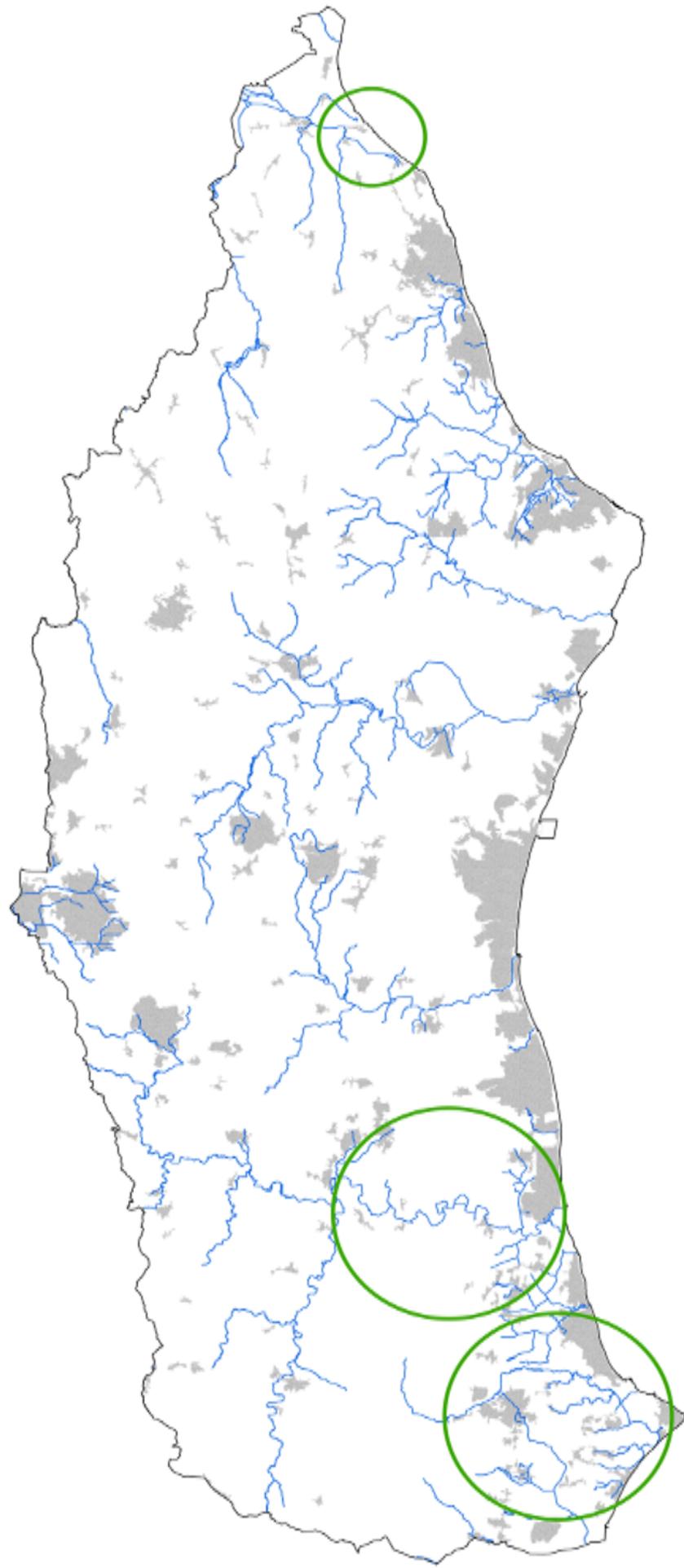
From 6th April 2008, under Section 9 of the Act the water vole became fully protected by law. This increased the legal protection of the species, adding prohibitions against reckless or intentional killing, taking or injury, possession and sale of water voles. It is now no longer defensible to say that you were unaware of water vole presence prior to damaging them or their habitat. You must show that you have actively looked for them, and have put in place appropriate mitigation for any damage to them or their habitat if necessary.

Under new legislation it is illegal to handle a water vole, or survey for one using trapping without a licence. It is permissible to trap/ handle unlicensed if you are assisting a fully licensed person with permission to apprentice others.

Normal surveying for water vole field signs is permissible, as long as carried out in a sensitive manner. Infra red / motion sensor camera use is also permissible if carried out without disturbing water voles or their habitat.



Core Water Vole Populations In Sussex



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Water Voles (*Arvicola amphibious*)

Appearance

- Water voles are the largest member of the vole family and range from around 60g (young) to 380g in weight.
- Although locally known as Water rats, they are voles, not rats.
- They have a rich brown coat, more reddish on the back and greyer on the stomach area. Rarely, sub species are found which are black (usually if found on peat).
- Adult water voles measure around 29cm (11 inches) nose to tail and can be confused with brown rats (*Rattus norvegicus*) which are roughly the same size.



Bank Voles (*Clethrionomys glareolus*)

- Bank voles are the smallest vole in Britain.
- They have a reddish brown coat, and could potentially be confused with a water vole, however an adult bank vole is only half the size of a baby water vole.
- They are only about 11cm long and weigh around 30g (water voles weigh up to 360g)



Bank Vole © Darin Smith / www.wildstock.co.uk /
Sussex Wildlife Trust

Short tailed Field Voles (*Microtus agrestis*)

- Field voles are slightly bigger than bank voles but weigh less than 60g - the weight of a baby water vole.
- Field voles live in rough grassland and sometimes on the waters edge in similar places to water voles.
- They leave piles of vegetation cut a bit like water voles, but only about 3cm long and roughly cut.
- They have a distinctive short tail, unlike water voles which have a long tail



How to tell a Water Vole from a Rat

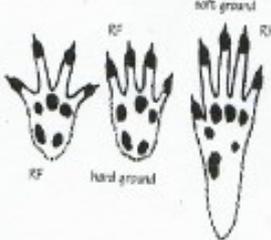
Water Vole	Rat
Footprints up to 42mm long	Footprints 40-44mm long
Orange teeth	White teeth
Eats lush grasses, sedges, reeds and rushes	Eats anything
Swims doggy paddle!	Swims with more of a swing in its haunches
Breeds March - September	Breeds all year round
Smooth, cylindrical droppings, which when fresh are usually dark green - brown and odourless with rounded ends	Rat droppings are usually black, taper to a point and smell rancid.

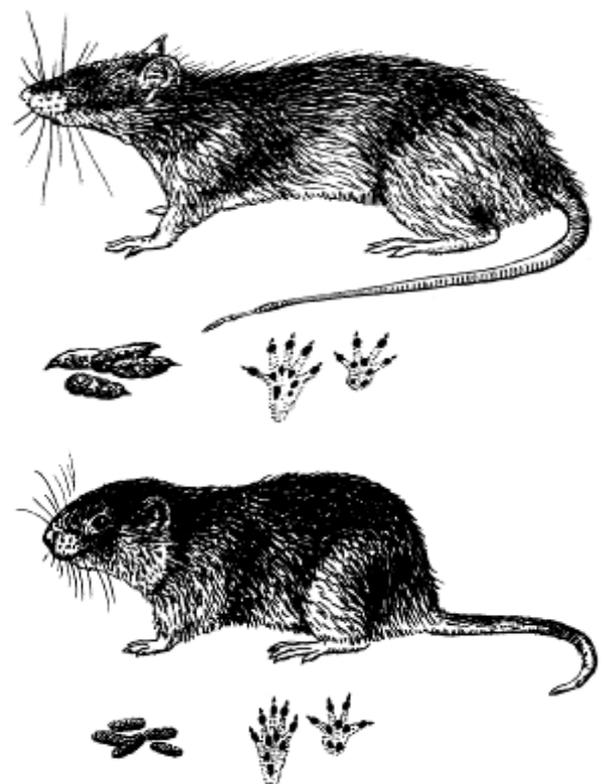


Water Vole feeding on grass



Rat feeding on a bird table

Feature	Water vole (adult)	Brown rat (adult)
Coat colour	Rich reddish brown (sometimes black)	Mid-brown
Tail	Lightly haired, about half of body length	Virtually bald and scaly, about 3/4 of body length
Size (including tail)	10 inches (220 mm)	12 inches (210-290 mm)
Weight, males <small>(females up to 8/10s)</small>	0.6 lbs (240-330 g)	1.0 lbs, (500 g)
Face	blunt muzzle, ears hidden in fur	pointed muzzle, prominent ears
Behaviour	solitary, mother and offspring largely diurnal	colonial largely nocturnal
Footprints <small>(are difficult but look for tail drag line of rat)</small>		
Other features	coat is soft and shaggy when dry	coat sleeker
Droppings	green/brown 6-12 mm long, 3mm wide, blunt ended usually piled at latrine sites odourless	brown/black same size but pointed scattered unpleasant odour



Rat, droppings and footprints (above), water vole below

Habitat and Home Range

Ideal water vole habitat is often wrongly cited as being ditches, around 3 m wide and 1 m deep. We believe this to be a refuge habitat only, following the destruction of more suitable wetland habitats. Water voles will construct aerial nests if there is sufficient tall wetland vegetation around, e.g. reedbed and fen. These wetland habitats also provide refugia in times of flood.

- Slow flowing waterways and / or places with permanent water which do not flood heavily.
- Areas which have evergreen vegetation such as rushes, and scrub such as hawthorn / willow provide winter food sources
- Lush wetland vegetation, particularly reeds, rushes and sedges.
- A variety of wetland habitats including ponds, streams, chalk streams, fens, reedbeds, tussock sedges, moorland etc.
- Burrow networks are found at the waters edge, usually on a steep bank of 45° or more. Holes are found above and below water, and up to 3 m back into the bank or even in tussock sedges.
- They do not like gravelly or rocky substrates, and tend to burrow in earth or sand.
- Between Feb and Oct (depending on weather) water voles establish territories for breeding. The size of territories varies according to habitat and season and can range from between 20-300 m.
- Voles have been known to search from 1-3km for new territory. Populations usually expand in a linear fashion from existing populations.
- They tend to avoid crossing dry land at all costs and do not like sharp breaks in habitat
- Water voles spend about one quarter of any 24 hour period outside their burrows, feeding, collecting vegetation and patrolling their territories. In winter very little is known about water vole activity.



Feeding



Water Voles feeding on tree bark © D. Green

Water voles are mainly herbivores (vegetarian!) and eat almost any available lush green vegetation. Favourites include grasses, rushes and reeds and things like foals watercress, branched bur reed and water parsnip.

In winter their diet changes and they eat tree bark, roots, tubers and fallen autumn fruits.

Occasionally they will eat invertebrates i.e. freshwater snails, carrion and occasionally fish.

They feed sitting on their haunches and cut vegetation to lengths of about 8 -10cm long with a 45° angle cut which they leave in distinctive piles by the water.

Breeding and life cycle

- Water voles can produce up to five litters per year of up to eight young per litter.
- The young are born between March and September after gestation of around 20 days.
- Young are weaned after 2 weeks and often independent within 18 days.
- In captivity, water voles have been known to live up to 5 years, but in the wild their average life expectancy is 6 months to a year.
- Mortality is high in water voles and often 70% of the population is lost overwinter.
- Many things like to eat water voles including domestic cats, dogs, mink, foxes, pike, weasels, hawks and owls, and otters!
- Water voles are territorial, and young are mostly ejected from the nest to fend for themselves once weaned.



Foxes & Pike (above) are just two of the predators that like to eat Water Voles

Facts about Water Voles



© Colin Burden

1. Water voles are active during the day
2. Water voles are 'semi aquatic' but are not very well adapted to living near water (they don't have webbed feet and can't swim underwater for long).
3. Water voles eat over 227 species of plant
4. Willow, Hawthorn and Crab apple trees are some of their favourite winter nibbles!
5. They have been spotted as much as 3 metres up a tree!
6. They need to eat 80% of their body weight a day to survive
7. They dig with their teeth which have hard orange enamel and are self sharpening!
8. Water voles try and avoid predators by jumping in the water and kicking mud in the face of the predator to confuse them.
9. The main threat to water voles today is that many of their natural wetland areas have been so altered and destroyed that remaining populations are fragmented and at risk from extinction and predation by mink.
10. Baby water voles are born blind and hairless but are independent after 3 weeks!

Main threats to Water voles

The main cause of the water vole decline is a combination of wetland habitat destruction, intensive sheep farming and land drainage. American mink have had a locally significant effect.



Habitat destruction

i.e. machine clearance of vegetation or dredging of ditches - water vole territories are small and whole colonies can be wiped out in small areas



American mink

Lack of habitat makes water voles vulnerable to mink which are the only animals that can follow a water vole down its burrow.

Bankside Destruction

Banks of watercourses are often completely denuded of vegetation by de-slubbing which also damages water vole burrows. Banks reinforced with steel sheet piling or similar leave nowhere for water voles to burrow.



Land Drainage

Vast areas of wetland have been drained using ditches, and surface and sub-surface drainage systems. This destroys wetland habitat and leaves no permanent water for water voles or their food.



Flooding

Most modern flooding is greatly exacerbated by run off from urban areas. Frequent changes in water level can flush water voles from their burrows, exposing them to predators and the elements.



Trampling

Intensive stock farming of waterside areas often results in trampling of river banks. Water vole burrows cannot survive the impact and they lose important food resources cleared by grazing.



Rat Poison

Water voles are often poisoned mistakenly because they are similar to rats

Dereliction

Water voles rely on open wetland vegetation. Particularly in areas where they are struggling, allowing wetlands to scrub over or dry out can be detrimental

How to spot a Water Vole – Useful field signs

Water voles have been immortalised as ‘Ratty’ in Kenneth Graemes ‘Wind in the Willows’. There are a number of distinctive field signs that can be used to find them.

Plop!



The noise as water voles drop into water

Water voles make a distinctive ‘plop’ as they drop into the water. This is thought to be a warning to other voles. It’s a good sign to ‘hone you in’ to where water voles might be active, but be aware that the noise could also be a frog, twig etc. falling in the water.



Vegetation piles & Feeding Stations

Water voles sit on their haunches to eat – they leave little piles of cut vegetation about 6 - 10cm long and cut at about a 45° angle at each end as stock piles for later. These feeding stations of green vegetation are often obvious to see around the muddy edges of water bodies.



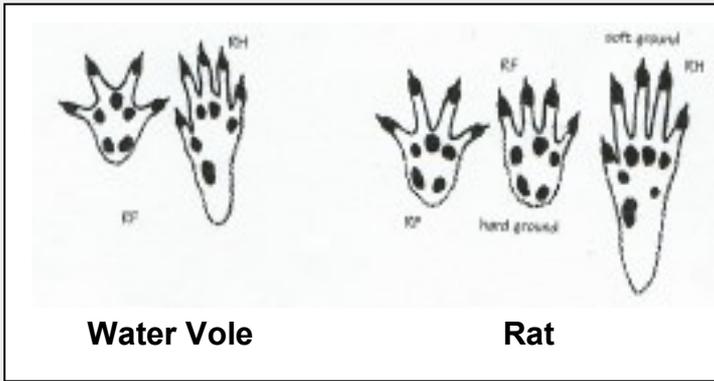
‘Latrines’

Water voles leave droppings in obvious piles to mark their territories. These are called latrines. Droppings are about 1cm long and 5mm wide with blunt ends (tic tac size)! When dry, you can break them open and they have concentric rings almost like tree rings! When water voles are breeding, male water voles will scent mark the latrine, squashing down the droppings. If a female ‘re deposits’ over the flattened droppings it is a good sign of breeding.



Water Vole lawns

When water voles are breeding, the female eats the grass around the entrance of her burrow so that she doesn’t have to stray too far from her young. The resulting ‘cleaned’ entrance around the burrow is known as a water vole lawn.



Footprints

Its very difficult to tell the difference between water vole and rat footprints, as they both have the same 'star' shaped 4 toed foot at the front. Rat prints are often bigger though, and the angle of the toes is less acute. You may also be able to see the 'drag' line of the rats tail between footprints.



Burrows

Water vole burrows are the shape of a squashed tennis ball and about 4-8cm across. They usually have a number of holes including some above the water, some below the water, and some 'escape' holes as far as 3 metres back into the bank.

Runs

If you look closely enough down at a 'vole' level on the ground you can see water vole shaped runways in amongst the plants. Often if you follow these runs they will lead you to more obvious field signs.

Other Waterside Species of Interest

There are a number of other native and non native birds, plants and mammals that can be found in or near waterways, which are rare, or whose presence indicate the quality of the particular habitat. We are interested in receiving records of any of these species (and others) for future conservation work.

Brown Rat	Giant Hogweed	Reedbed
Common Frog	Newts	Water Fern
Crayfish (native/non native)	Water Shrews	Breeding waders i.e. Lapwing/Snipe
Dragonflies	Wet Woodland Habitat	Ground Nesting Birds
Flowering fen species	Rush Pasture	Moorhen/Coot/Duck
Floating Pennywort	Mink	New Zealand Swamp Stonecrop
Himalayan Balsam	Toads	Marsh Frog
Japanese Knotweed	Otters	Parrots Feather
Kingfisher	Greater Tussock Sedge	Barn owls

What's NOT Water Vole?!

Whilst out in the field there are a number of field signs that you come across that you may get confused with Water Vole signs. The following should be disregarded.

Broken bits of dead vegetation

Often you will find pieces of dead plant, particularly rushes and reeds, washed up on the bankside. The broken pieces can sometimes look like they have been cut by water voles. Even if this vegetation was cut by a water vole, the fact that it is old might mean that water voles are no longer present. ***Only green vegetation should be used as a sign of water vole presence.***

Vegetation chewed by cattle or other animals

Check around and see if the area is being grazed or might have been grazed recently. Cattle, sheep, deer, rabbits and horses often graze vegetation and cut pieces off just above ground height, which you might think it was cut by a water vole. If there are hoof prints, stock etc. around then be aware of this when you're surveying. ***Trampled banks are also often not good for water voles or water vole surveying, as stock can crush burrows and obliterate field signs.***

Pieces of vegetation 'felled like trees'

You may find pieces of vegetation that have been chopped down at the base and left lying. These might be cut by water voles but quite often they are cut by field voles and then chewed into smaller pieces afterwards. ***Field vole feeding piles will tend to be 'grassy' or thin vegetation, and will be cut at about 2-5cm long, however sometimes they can cut rushes in very similar dimensions to water voles.***

Only sections of grass and rush cut with a 45° angle

A recent study has shown that yellow necked mice, field voles, and other small mammals may periodically cut pieces of vegetation (particularly rushes), to a similar size and angle as water voles. When looking for water voles try and look for a variety of signs including latrines, burrows and a high density of cut vegetation of different wetland vegetation types (often thicker and woodier species than those that smaller mammals will eat).

Field Vole burrows

Field Vole burrows are usually no more than 2 fingers in size, whereas you can usually fit 3-4 fingers into a water vole burrow.

Faeces like chocolate vermicelli!!

Field vole droppings will tend to look like hundreds and thousands – water vole is much bigger (tic tac size!), although young water voles may leave smaller droppings.



Environmental Etiquette!

Do not remove territorial or feeding field signs

If you find droppings or feeding stations, do not remove them entirely. If needed for identification purposes, take less than one half of what is there or take a photo.

Clean equipment (particularly boots and nets) between every site visit

A number of invasive, non native plants produce seeds and roots which are easily spread in tiny fragments, causing havoc with native wetlands. These plants can hitch a ride on boots and equipment. There is also a disease which can be spread to native crayfish by contact with water.

Access

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 landowners permission. Remember – Sussex Wildlife Trust relies 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 (the WildCall officer at SWT may be able to help with contact details). 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 Wildlife Trusts Living Landscapes officer (see Contacts page). We also have a website with wildlife

information <https://sussexwildlifetrust.org.uk/discover/wildlife-advice>



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.

Submitting Records of Surveys

There is no strict format for how to survey, or for sending us your Water vole Spotter records, however the following are guidelines to help you record all the information we need in a useful format.

The most important things we need from you are the following :-

- Your name
- The date you surveyed
- The location (Site name and Grid reference)
- What you saw & where you saw it

Once you have recorded these, you can send the results to www.sxbrc.org.uk, or we recommend using the i record to record all your wildlife sightings. www.brc.ac.uk/irecord/ . There is a handy i record app that you can also download from the website for free to use on hand held devices in the field.

Sussex Biodiversity Records Centre hold all records for rare and protected species and habitats. You can download a free Species Recorder spreadsheet which makes it easy to transfer your records into our systems from <http://sxbrc.org.uk/projects/speciesrecorder/>

When reporting sightings, don't be afraid to say you are not sure about what you saw . If you are only 80% sure the signs are water vole, then record this on your surveys. You can also take, upload and send photos as verification of some of the field signs.

There is a standard riparian mammal survey form available at the back of this document. These surveys are more complicated, but they provide more local detail which is useful when specific management questions are being asked about a water vole site. See also Sussex Mammals Group and the Mammal Society for more details.

Animals such as water voles and the nocturnal otter can be recorded using motion sensor infra red cameras. This saves survey effort and can produce some spectacular images. You can borrow these cameras for two week periods from Sussex Wildlife Trust. Call 01273 492630 to book them.



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 and lone worker support.

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. Please contact Sussex Wildlife Trusts volunteer coordinator if you need to find a working partner. 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.**

Learn to swim

If you can't swim then we recommend you don't survey near water. If you must survey, then a self-inflating life jacket should be worn. Even those who can swim should wear a lifejacket if possible.

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 (See generic risk assessment sheet overleaf).

General Hazards

River areas are often hazardous but there are some things to particularly watch out for :-

- Holes such as badger and rabbit holes hidden under vegetation
- Barbed wire, trash and fencing etc. hidden in vegetation and silt
- Soft, steep or crumbly river banks and soft muddy areas
- Plank bridges, logs and woody debris, they can be rotten
- Unstable bankside trees which may come loose if used as hand holds
- Submerged debris such as sharp metal and glass which cannot be seen from the surface



Specific Hazards

Giant Hogweed (above) - Highly toxic. It produces sap and has hairs on the stem and leaves that cause a severe allergic reaction (swelling, blistering and irritation) , made worse by exposure to sunlight. The plant grows up to 5m tall) with large clusters of white flower heads

Hemlock Water Dropwort - Another toxic plant with poisonous sap. If eaten in sufficient quantities it can cause severe discomfort or even kill you. The sap also causes blistering if exposed to sun. **Consult a flower book so that you can identify these plants. Wear clothing that covers your arms and legs and do not touch any plants you do not recognise.**

Weils disease / Leptospirosis - Weil's disease is caused by a bacterial organism carried in the kidneys of rodents & cattle which is passed into water by their urine. The main routes of infections are through cuts and grazes, and the nose, eyes and mouth. Early symptoms can be confused with flu i.e. pains in joints and muscles, elevated temperature, headache. Later symptoms include bruising of the skin, sore eyes, nose bleeds and jaundice. Consult the Health and Safety Executive website before surveying www.hse.gov.uk/pubns/indg84.pdf . **If you suspect Weil's disease show a copy of the HSE Leptospirosis card to your doctor immediately. The disease can be fatal.**

Lyme's disease - This disease is prevalent in Sussex and South downs. The illness is caused by bacteria which live in the gut of ticks – small insects found in long grass particularly if animals like sheep and deer are present. Symptoms start within a week to a month of being bitten. An initial sign of infection can be a red rash ring around a bite up to 50cm across. Flu like symptoms occur with headache, chills, fever, tiredness and joint aches. The best cure is not to get bitten. See www.nhs.uk for further advice.

Exposure, hypothermia, sunstroke, exhaustion, hunger

Make sure that you are equipped with the appropriate clothing, footwear, food and drink for your individual needs on any given day. Cut your survey short if you feel ill in any way.

Livestock and wildlife

Livestock can be very inquisitive. They are unlikely to be aggressive, however bulls and mothers with calves may be protective. Injured animals or animals with young can be dangerous. Some animals may attack hands placed into a nest or burrow, particularly if there are young inside!

Blue - Green algae

Certain forms of blue green algae can be toxic to humans. If you are unsure of the algae in a water course then do not put yourself in contact with it. Always wash your hands after contact.

General Safety in the water

- 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.
- Only go in to water to just under your knees. Never use chest waders – if you fall in they can fill with air and tip you upside down. Never go in barefoot
- 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.
- Place each footstep carefully and firmly.
- 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.

Lone Working Policy for Sussex Wildlife Trust (SWT) Volunteers

We appreciate you being a volunteer Water vole Spotter. Sussex Wildlife Trust volunteers are treated in the same way as staff when lone working and they should follow our lone working policy. These notes are an abbreviation of that policy. Lone working should be avoided where possible – it is safer and more enjoyable when working in pairs. If unavoidable, the following procedures are recommended :-

- When lone working carry a fully charged mobile phone switched on at all times
- Before surveying make sure that you have filled in all the necessary SWT volunteer forms and that the relevant staff /volunteer co-ordinator know your contact details and those of your next of kin. Before surveying let a friend/relative know where you are going (grid references/maps) and when you expect to be back. Alternatively during office hours (10 am – 4 pm) SWT (01273 492630) operates a lone working buddy system which you are welcome to use.
- If possible avoid surveying out of regular office hours and in evenings.
- If several sites are to be visited during volunteering then inform your lone worker contact of locations and times you expect to arrive/leave each site.
- At the end of the day ensure that you speak directly with your lone worker contact to advise them when you will return home (do not leave phone messages)
- Have an emergency contact entered into your mobile phone as 'ICE' (In Case of Emergency).
- If you have an accident/incident, inform your SWT/lone worker contacts as soon as possible. An accident report needs to be completed within 7 days of the incident.
- It is advisable if possible when working near water, wear a self inflating life jacket. We regret that we are unable to supply these to volunteers.



Miscellaneous Information

It is as important, if not more important, to survey areas where there are no current records of otters and water voles. This helps us establish whether otters and water voles return to areas where they have been absent following conservation work etc. So don't be disappointed if you don't find anything!

If you are interested in conservation work in general and would like the opportunity to work with other local groups then please contact Sussex Wildlife Trust (SWT) and ask for their volunteer co-ordinator on (01273) 497500.

Daily Risk Assessment – Example

Name of Survey Leader.....
 Date of Task.....
 Task.....
 Location

Activity	Yes/No
Site and Task Risk Assessments filled in by leader	
Hazards identified, and preventative and precautionary measures imparted to the group e.g. ground terrain, proximity of water, machinery etc. CONTINUE OVERLEAF IF NECESSARY	
1:	
2:	
3:	
4:	
5:	
6:	
7:	
Volunteers given introduction to site, the task and reasons for the work	
Tool talk, including safe transportation, and use	
First Aider(s) nominated	
Location of first aid kit given	
Access for emergency vehicles - see site safety map	
Mobile Phone present	
Nearest public phone	
All correct PPE given (as specified by risk assessments)	
Any medical conditions of group known	
If an accident occurs, volunteer organisation (i.e. SWT) informed at the earliest opportunity	
Accident form completed and sent to organisation responsible for managing surveys	
List names of all volunteers undertaking task, including emergency details and signatures for all volunteers	
Confirmed with other organisations bringing work parties that they are correctly insured and Risk Assessed. Exchanged Insurance and RA docs with each of these parties.	
Confirm who has overall H & S responsibility as task leader for the current task	

Contacts

Sussex Wildlife Trust
Sussexwildlifetrust.org.uk
01273 497555

Wildcall – Wildlife Advice Line
01273 494777

Natural England
0300 060 3900

Sussex Mammal Group
www.sussexmammalgroup.org.uk

Environment Agency
Ask for Fisheries & Biodiversity team
03708 506506
www.environment-agency.gov.uk

The Field Studies Council
Field Guides
www.field-studies-council.org/publications.aspx

Local Police
Wildlife Crime
0845 60 70 999

References & Further Reading

- **Further Water Vole information** – sussexwildlifetrust.org.uk/discover/around-sussex/wetlands/wetland-species/water-vole
- **Sussex Water vole Species Action Plan**
www.biodiversitysussex.org
- **Strachan; R. & Holmes-Ling; P. 2000:** Chichester Coastal Plain Sustainable Farmland Partnership. 2000. Farming and Wildlife.
- **Macdonald; D. & Strachan; R. 1999:** Restoring Water voles and other biodiversity to the Wider Countryside.
- **WildCRU. 2006.** Water vole Conservation handbook.
- **Strachan; R. & Jefferies; DJ. 1993:** The water vole (*Arvicola terrestris*) in Britain 1989-90
- **Water vole licencing** – www.gov.uk/government/collections/water-vole-licences



Water Vole © Elliot Neep

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Managing your land for Otters and Water Voles



Otter



Water Vole



5. Create
Reedbeds



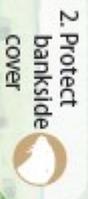
10. Hedging - by ditches or
connecting water courses



15. Restore natural river
channels and wetlands



13. Otter underpasses



2. Protect
bankside
cover



8. Maintenance of
ditch systems



3. Fence meanders



1. Plant trees
and shrubs



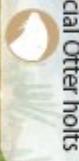
9. Natural
Reinforcing of
riverbanks



4. Buffer Strips



6. Creation of
off-stream refuges



11. Artificial Otter holts



7. Islands



14. Cattle drinks

7

See overleaf for more information on numbered options

8

Land Management



Good for Otter



Good for Water Vole

Simple ways to manage your land for Otters, Water Voles and other wildlife.



1. Plant Trees and Shrubs:

Otters need dense vegetation to lie up in during the day. Planting areas with willow, hawthorn, blackthorn and brambles can quickly create suitable habitat. Old trees on river-banks with large rock cavities, especially oak and ash, provide secure breeding holt for Otters. Permission and advice on location of trees may be required from the Environment Agency.



2. Protect bankside cover:

When providing Otter habitat, ensure that suitable areas for other species i.e. Water Vole are not destroyed. Retain some open areas with lush, green herb growth such as reeds, rushes and sedges.



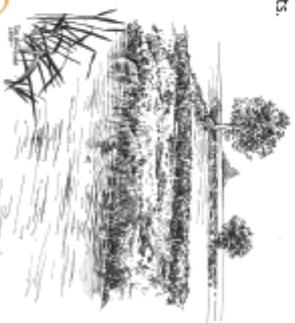
3. Fence Meanders:

Fencing off field corners and river meanders close to water courses provides potential Otter 'sanctuaries'. These can be useful locations for artificial Otter holt and provide wetland vegetation for Water Voles and other wildlife.



4. Buffer Strips:

A riverside buffer strip can provide food and cover and can have a high conservation value. Buffer strips may be permanent or part of an arable crop rotation. They help improve fisheries by reducing pollution and silt entering the watercourse, and are also good for birds and insects.



5. Create Reedbeds:

Reedbeds provide good resting and feeding areas for Water Voles, Otters and a wealth of other wildlife, and can also help improve water quality.



6. Landforming and creation of offstream refuges:

Creating bays, shelves, scalloped edges and online scrapes along ditches or creating ponds, wader scrapes, backwaters and wetlands, can offer important refuges for Water Voles, (particularly where water courses are liable to flooding or drying). These provide a diverse range of habitats, suitable for many species. Ponds can also provide alternative or additional feeding sites for Otters and Water Voles.



7. Islands:

Vegetated islands with no access provide ideal non-intervention sites for Otters and Water Voles. Islands can also benefit fisheries.



8. Maintenance of Ditch Systems:

Where possible, routine ditch maintenance should be carried out in autumn to minimise effects on Water Voles. Work short stretches at one time in rotation on alternate banks (figure 9). When de-silting, work as far back from the water's edge as possible to minimise compaction by machinery.



9. Natural reinforcing of river banks:

If bank protection is essential, river banks can be reinforced or re-profiled in ways that improve Water Vole habitat. There are many methods involving 'soft' engineering techniques (coir fibre rolls, willow spilling etc) rather than 'hard' engineering (concrete, steel sheet pile etc).



10. Hedging:

Hedges can be used as an alternative to fencing. They provide habitat, food and migration corridors for many species – as long as they do not shade out vegetation on the bank. Hedges should be broad at the base and trimmed on a rotational basis to provide a range of different structures and habitats.



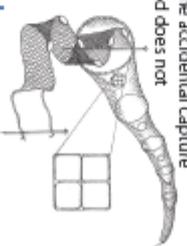
11. Artificial Otter holt:

There are very few natural holt sites on lowland rivers. An artificial underground holt or a log pile is a simple way of creating a secure lying up site for Otters. Ask your DARP officer for advice on suitable locations.



12. Otter Guards:

The fitting of Otter guards on fyke nets and Mink traps can prevent the accidental capture or drowning of Otters and does not affect catch efficiency.



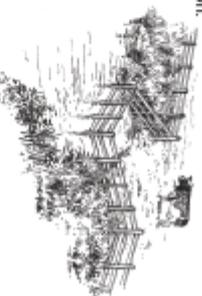
13. Otter underpasses:

Where Otter road casualties are a particular problem, Otter underpasses can be built, i.e. near bridges. Fencing guides Otters towards underpasses and away from roads.



14. Cattle-drinks:

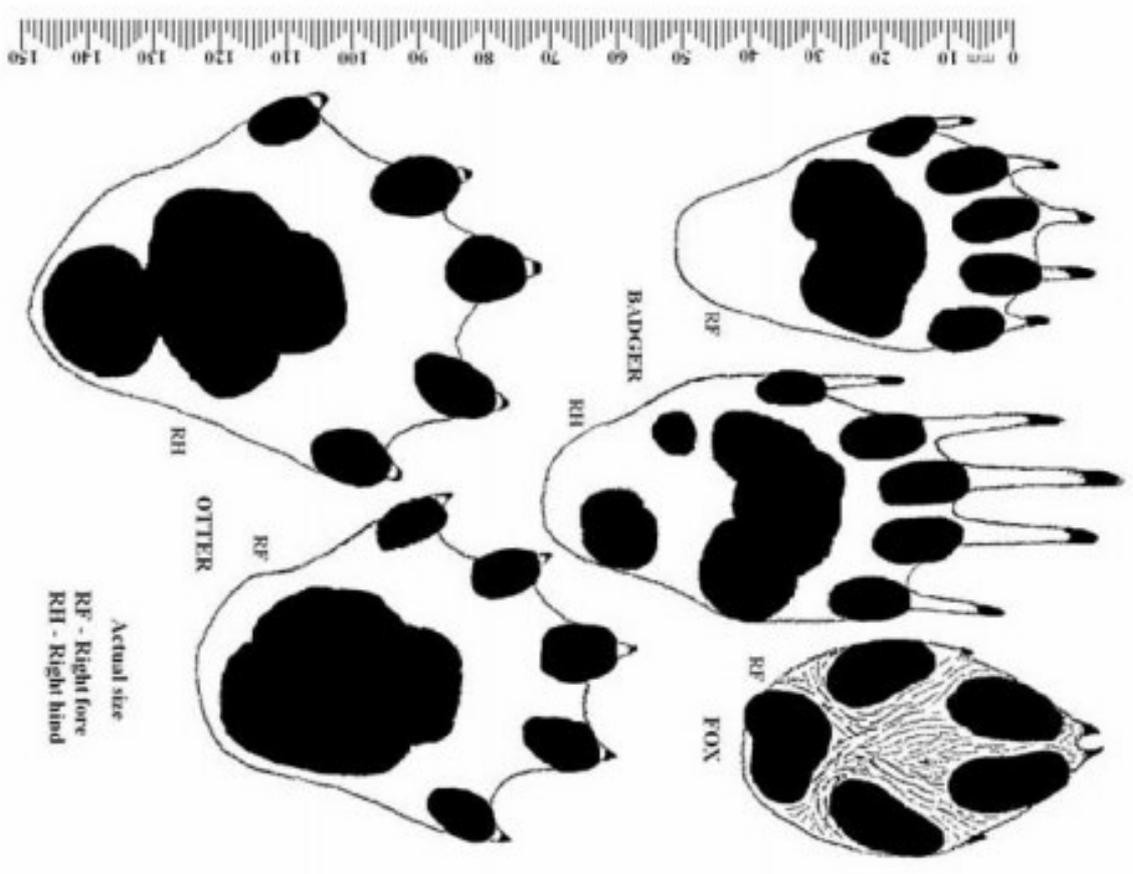
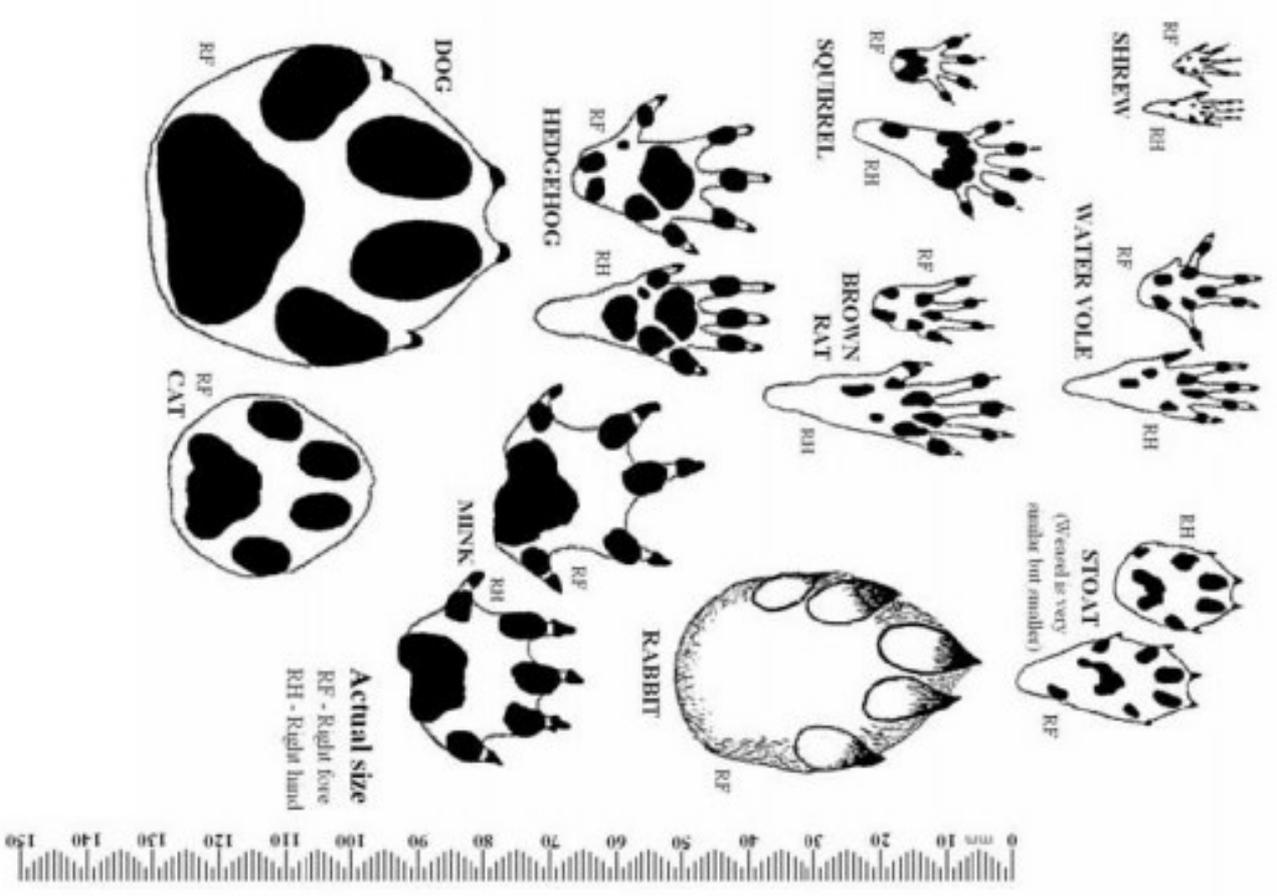
Cattle-drinks allow livestock direct access to a watercourse but confine damage and trampling of river banks to localised areas and reduce siltation.



15. Restore natural river channels and wetlands:

Many river channels have been intensively managed, straightened and canalised over the years. River rehabilitation and wetland restoration is a long term commitment but can have immense benefits for people and wildlife.

Common Tracks Found on The River Bank



Know Your Vole

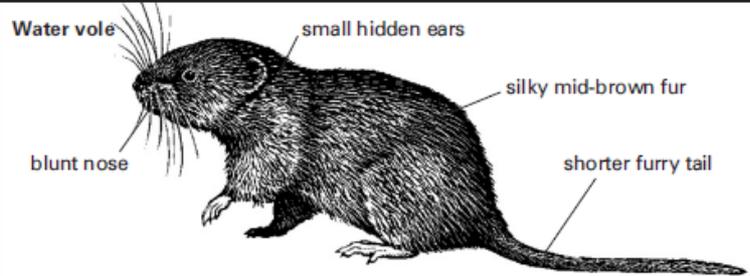


T. Whittaker

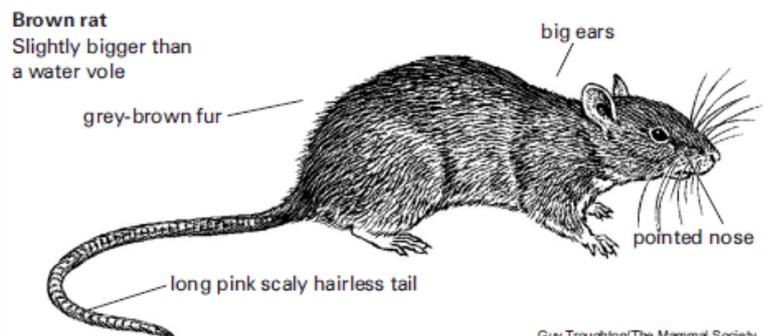
Water voles are the UK's fastest declining mammal. They live along lakes, rivers, ditches and streams feeding on vegetation. Preyed on by mink and suffering the loss of their riverbank homes, their numbers have fallen dramatically. Urgent conservation action is needed to stop this charismatic creature becoming extinct.

Many people mistake water voles for brown rats and accidentally poison them or disturb their homes. The key is to really know when a water vole is a water vole and not a rat!

Follow our tips to "Know Your Vole"



Water voles can be confused with brown rats which are often found near water.



Guy Troughton/The Mammal Society

RSCNC charity no. 207238

Help us to help the water vole. If you see a water vole please complete and return the slip below.

www.wildlifetrusts.org

Name: _____

Address: _____

Postcode: _____

Tel no: _____ email: _____

Name of pond/river/stream/lake/canal: _____

Location (nearest town/village): _____

Grid reference (if known): _____ Date: _____

Comments: _____

Please return to :-

Sussex Biodiversity Record Centre, info@sxbrc.org.uk, or c/o Sussex Wildlife Trust, Woods Mill, Henfield, BN5 9SD.

RIPARIAN MAMMAL SURVEY FORM			Site number	
			10KM square	
BACKGROUND INFORMATION				
Recorder		Date		
Site name/river				
County		Grid ref		
Landowner				
HABITAT INFORMATION		Survey distance		
HABITAT TYPE	DEPTH	SHORE/BANK TYPE	BORDERING LAND USE	VEGETATION (DAFORN)
<input type="radio"/> Ditch	<input type="radio"/> <0.5m	<input type="radio"/> Boulders	<input type="radio"/> Upland grass	<input type="radio"/> Bank trees
<input type="radio"/> Dyke	<input type="radio"/> 0.5-1m	<input type="radio"/> Stones	<input type="radio"/> Permanent/temp grass	<input type="radio"/> Bushes
<input type="radio"/> Gravel Pit	<input type="radio"/> 1-2m	<input type="radio"/> Gravel	<input type="radio"/> Mix broadleaf woodland	<input type="radio"/> Herbs
<input type="radio"/> Pond	<input type="radio"/> >2m	<input type="radio"/> Sand	<input type="radio"/> Conifer woodland	<input type="radio"/> Submerged plants
<input type="radio"/> Lowland lake		<input type="radio"/> Silt	<input type="radio"/> Peat bog	<input type="radio"/> Floating plants
<input type="radio"/> Upland loch		<input type="radio"/> Earth	<input type="radio"/> Arable crop	<input type="radio"/> Reeds/sedges/ rushes
<input type="radio"/> Reservoir		<input type="radio"/> Rock cliffs	<input type="radio"/> Salt marsh	<input type="radio"/> Tall grass
<input type="radio"/> Running water	SUBSTRATE	<input type="radio"/> Earth cliffs	<input type="radio"/> Urban/industrial	<input type="radio"/> Short grass
<input type="radio"/> Marsh/bog	<input type="radio"/> Boulders	<input type="radio"/> Canalised	<input type="radio"/> Park/garden	
<input type="radio"/> Canal	<input type="radio"/> Stones	<input type="radio"/> Poached	<input type="radio"/> Heath	DISTURBANCE
	<input type="radio"/> Gravel	<input type="radio"/> Reinforced	<input type="radio"/> Fen	(scale 1-5)
BANK PROFILE	<input type="radio"/> Sand	<input type="radio"/> (man-made)	<input type="radio"/> Cattle/grazing	
<input type="radio"/> Flat <10°	<input type="radio"/> Silt/mud	<input type="radio"/> Other	<input type="radio"/> Bank fenced?	ALTITUDE
<input type="radio"/> Shallow <45°	<input type="radio"/> Other			
<input type="radio"/> Steep >45°				WEATHER
<input type="radio"/> Vertical/ undercut				(Today+for last week)
FREEBOARD HT	WIDTH	<input type="radio"/> <1m	<input type="radio"/> 1-2m	<input type="radio"/> 2-5m
<input type="radio"/> < 10cm	<input type="radio"/> 5-10m	<input type="radio"/> 10-20m	<input type="radio"/> 20-40m	<input type="radio"/> >40m
<input type="radio"/> 10-30cm	CURRENT			
<input type="radio"/> 30-80cm	<input type="radio"/> Rapid	<input type="radio"/> Fast	<input type="radio"/> Slow	<input type="radio"/> Sluggish
<input type="radio"/> >80cm	<input type="radio"/> Static			
WILDLIFE INFORMATION				
OTTER	WATER VOLE	MINK	BROWN RAT	WATER SHREW
<input type="radio"/> Sightings (no)	<input type="radio"/> Sightings (no.)	<input type="radio"/> Sightings	<input type="radio"/> Sightings	<input type="radio"/> Sightings (no.)
<input type="radio"/> Spraints (no.)	<input type="radio"/> Latrines (no.)	<input type="radio"/> Scats (no.)	<input type="radio"/> Droppings	<input type="radio"/> Droppings
<input type="radio"/> Footprints	<input type="radio"/> Burrows (no.)	<input type="radio"/> Footprints	<input type="radio"/> Footprints	<input type="radio"/> Burrows
<input type="radio"/> Anal jelly	<input type="radio"/> Footprints	<input type="radio"/> Runways	<input type="radio"/> Runways	<input type="radio"/> Footprints
<input type="radio"/> Runways	<input type="radio"/> Runways	<input type="radio"/> Dens (no.)	<input type="radio"/> Burrows (no.)	<input type="radio"/> Prey remains
<input type="radio"/> Slides	<input type="radio"/> Swimways			
<input type="radio"/> Feeding remains	<input type="radio"/> Feeding remains			
<input type="radio"/> Holts (no.)	<input type="radio"/> Cropped lawns around entrances (no.)			
OTHER WILDLIFE				
<input type="radio"/> Coot	<input type="radio"/> Moorhen	<input type="radio"/> Kingfisher	<input type="radio"/> Heron	Other

SKETCH OF SITE - ANIMAL ACTIVITY INDICATED (IF ANY)

KEY TO SYMBOLS

(mark route surveyed and direction of flow)

Mature trees		ADJACENT LAND-USE CODES
Over-hanging branches		Broadleaved wood BW
Fallen tree		Conifer plantation CP
Exposed roots		Moorland/heath MH
Pollarded tree		Rough pasture RP
Sapling		Wetland WL
Scrub		Improved grass IG
Hedgerow		Tilled land (crop) TL
Fence		Suburban/urban devel. + gardens URB
Reed/sedge bed		OTHER FEATURES
Flood bank		Roadbridge
Artificial bank		Footbridge
Earth cliff		Weir
Water Vole Wv Otter Ot		Culvert
Mink Mk Brown Rat Br		Ford
Water Shrews Ws		Outfall
Spraint Spr Scat Sca		Dredgings/spoils
Latrine Lat Droppings Dro		Silt bars
Runway Rwy Swimway Swy		Islands (mark position and size)
Feeding Remains Frs Burow Bur Sighting Sig		

ADDITIONAL COMMENTS:

Water level management
 Signs of drying out
 Flood debris position
 Evidence of pollution

Feedback Form

Name:

Address:

Post code:

Telephone number:

Email:

Comments on training pack (i.e. contents, omissions, suggestions)

Course/training day attended (Date, location, species)

Comments on training received

Any other comments



**Thank you
for your help!**

