



Photographer Credit: Terry Whittaker/2020VISION

Surveying for Water Voles

NATURALLY NATIVE



Naturally Native – who are we?

- ▶ Funded by Heritage Lottery Fund for a 3 year project (Jan 2021 – Oct 2023)
- ▶ 3 North East Wildlife Trusts
- ▶ Project Manager – Stephen Brend (Durham WT)
- ▶ 3 Project Officers
 - ▶ Emily Marshall (Northumberland WT)
 - ▶ Tom Richardson (Tees Valley WT)
 - ▶ Paul Rodgers (Durham WT)
- ▶ ‘Working with local people, stakeholders, groups and landowners to save the water vole across the North East’

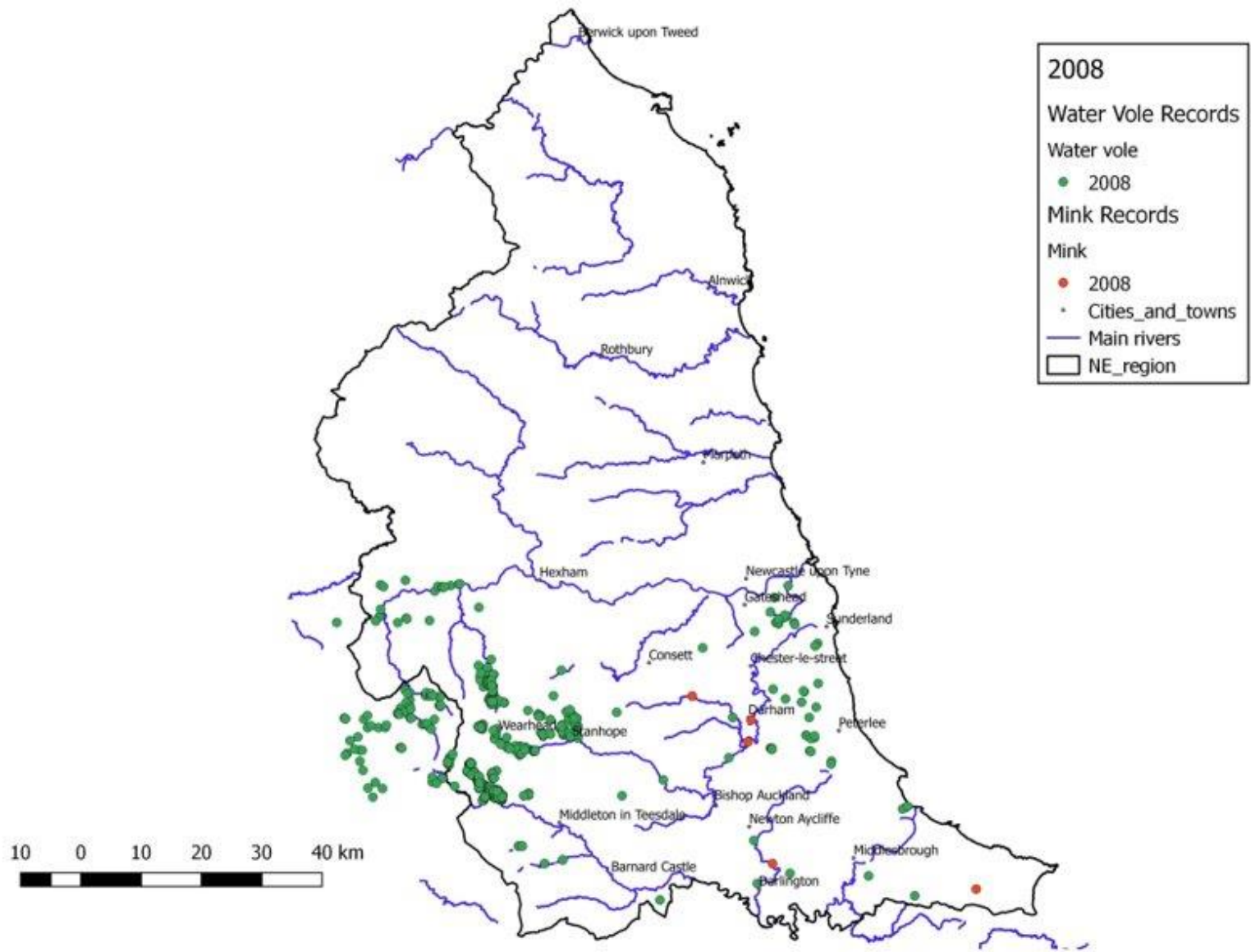




Health and Safety

- ▶ Working next to water
- ▶ Slips trips and falls
- ▶ Lone working

- ▶ Plants and diseases to remember
 - ▶ Giant Hogweed
 - ▶ Tick bites
 - ▶ Weil's disease or leptospirosis



What is a water vole?

- ▶ UK's largest vole species 200-350g - similar size to a brown rat
- ▶ Nose to tail length approx. 29cm/11inches
- ▶ Chestnut brown to black fur, blunt muzzle, hairy tail and paws
- ▶ Small ears close to the head, small black eyes and overall 'chubby' appearance



Photographer Credit Amy Lewis

Similar Species

Bank Vole

- ▶ Smallest of the British voles
- ▶ Approx 11cm long, 30grams



Photographer Credit John Bridges

Field Vole

- ▶ Slightly bigger than bank vole 60grams
- ▶ Lives in rough grassland often on edge of water course so overlapping habitat with water voles
- ▶ Distinctive feature is short tail



Photographer Credit Bob Coyle

Similar Species



Brown Rat

- ▶ Larger, up to 500grams
- ▶ Pointed muzzle, bigger ears and eyes
- ▶ Naked tail which is longer than water voles (relative to body size)

So, why are water voles important?

- ▶ Ecosystem engineers (think beavers on a smaller scale)
 - ▶ burrowing - soil aeration and nitrogen availability
 - ▶ changing the shape of the watercourse, altering flow patterns and creating pools and eddies
 - ▶ constant 'gardening' feeding behaviour changes the plant composition
- ▶ Food source for predators – 10x the size of a bank vole
- ▶ They need our help – One of Britain's fastest declining mammals with over 90% decline

Reasons for their decline

- ▶ Primarily:
 - ▶ Habitat degradation and fragmentation
 - ▶ Predation by American mink (*Neovison vison*)
- ▶ Other factors include:
 - ▶ Pollution
 - ▶ Persecution





Water vole Habitat

Classically good habitat includes

- ▶ Slow moving water
- ▶ Steep, earthy banks,
- ▶ Lots of bankside vegetation
- ▶ Holds water all year with low flood risk
- ▶ Typically 1 meter deep (min 15cm) and max of 3 meters wide – but there are plenty of exceptions!
- ▶ Remember, water voles don't read the handbook



Water voles – Feeding behaviour

- ▶ Herbivores (mostly) known to eat 227 different species
- ▶ 80% body weight consumed each day
- ▶ Pregnant females need more protein
 - ▶ willow catkins, dandelion flowers in their diet or even freshwater molluscs and crayfish
- ▶ In winter their diet includes autumn fruits, tree bark (eg willow) and roots
- ▶ Favoured feeding spots – feeding stations

A water vole's life – Spring and Summer

- ▶ Spring: Breeding begins (March/April)
- ▶ Colonial, social animals
 - ▶ Female territories 30m-160m
 - ▶ Male ranges 50m – 300m
- ▶ 2-5 litters per year , 2- 6 pups per litter
- ▶ Venture out at 15 days old, weaned after 28 days
- ▶ Dispersal to nearby habitat
- ▶ Early pups will be capable of breeding later that year



hittaker/Solent



Life of a water vole – Autumn and Winter

- Autumn - water voles concentrate on eating and building up their underground food stores
- They don't hibernate but overwinter in their burrows and are fairly inactive - torpor.
- Territorial behaviour changes in the winter
- 70% mortality rate over winter
- Generally juveniles under 170g won't survive

Water vole surveys – How to

- ▶ Before you start, check that:
 - ▶ You have permission from the landowner. Consider doing a recce beforehand.
 - ▶ You know your start and end point/have a clear idea of your route.
 - ▶ The weather is safe and it hasn't rained significantly in the last 24 hours
 - ▶ You are adequately dressed (hats, waterproofs, suncream, sturdy footwear) and have plenty of water and food
 - ▶ You have a buddy or someone knows where you are and when to expect you home - carry a mobile phone
- ▶ Walk on the bank or if it's shallow and safe to, in the water.
- ▶ Wading sticks to check depth and substrate, don't get in over welly height – whole survey can be done from the bank
- ▶ Walk slowly and quietly, listen and look for any signs
- ▶ Leave your dog at home or in the car if possible
- ▶ It's generally better to survey upstream so you don't dislodge survey signs
- ▶ Presence or absence survey is all we need
- ▶ Breaking up into transects of 10 to 100m at a time or between tributaries, usually easier to survey tributaries separately
- ▶ Photograph any survey signs

Water Voles Surveys

Clue No. 1: Water Vole Latrines



- Approx. 12mm 'tic-tac' shape
- Green- brown in summer, darker in colder months
- Odourless or 'cut-grass' smell
- Water voles have a flank gland to add scent
- Stamping down old droppings
- Female uses latrines to mark territory, approx. 6 latrines per female



Clue No. 2

Burrows

- ▶ Water voles use burrows and runs to navigate their habitat
- ▶ Typically 4-8cm diameter and often wider than they are high
- ▶ Burrow entrances within 1m of the water's edge
- ▶ They're very elusive – listen out for a 'plop'
- ▶ This is a water vole's escape method
- ▶ Burrows above and below water-line
- ▶ Internal U-bend structure to deter predators



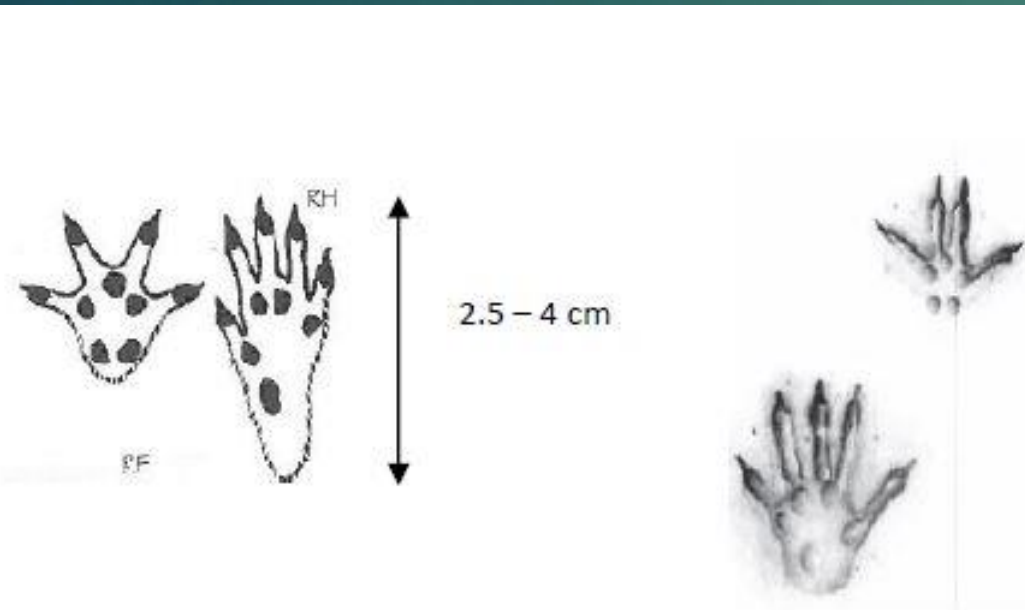


Clue No. 3 Feeding Stations

- Piles of cut vegetation – can be next to a latrine or burrow
- Typically 8 – 10cm long
- Distinctive 45 degree cut
- Teeth marks can rule out smaller species

Clue No 4. Tracks

- Star shaped fore foot with four toes
- Five toed hind foot
- As with all tracks – use with caution as field sign



Recording your findings:

- ▶ Hard copy
- ▶ Via the survey app

<https://arcg.is/zyPa50>

Remember the aim of the surveys are to confirm presence or absence

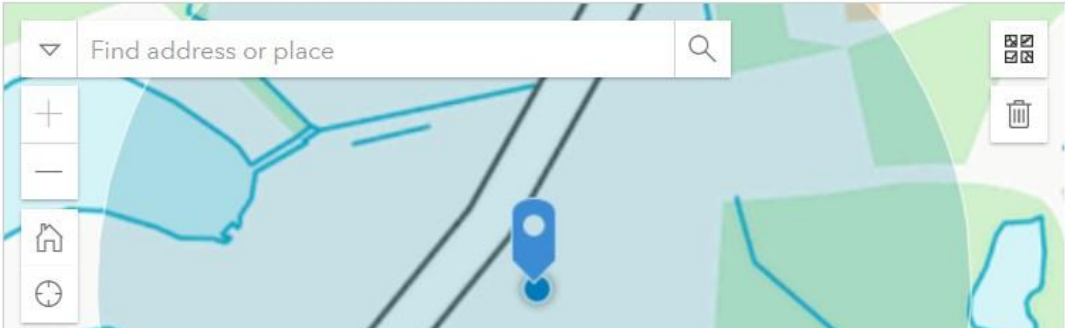
Water Vole Survey, 2023

Part of the Naturally Native water vole conservation project

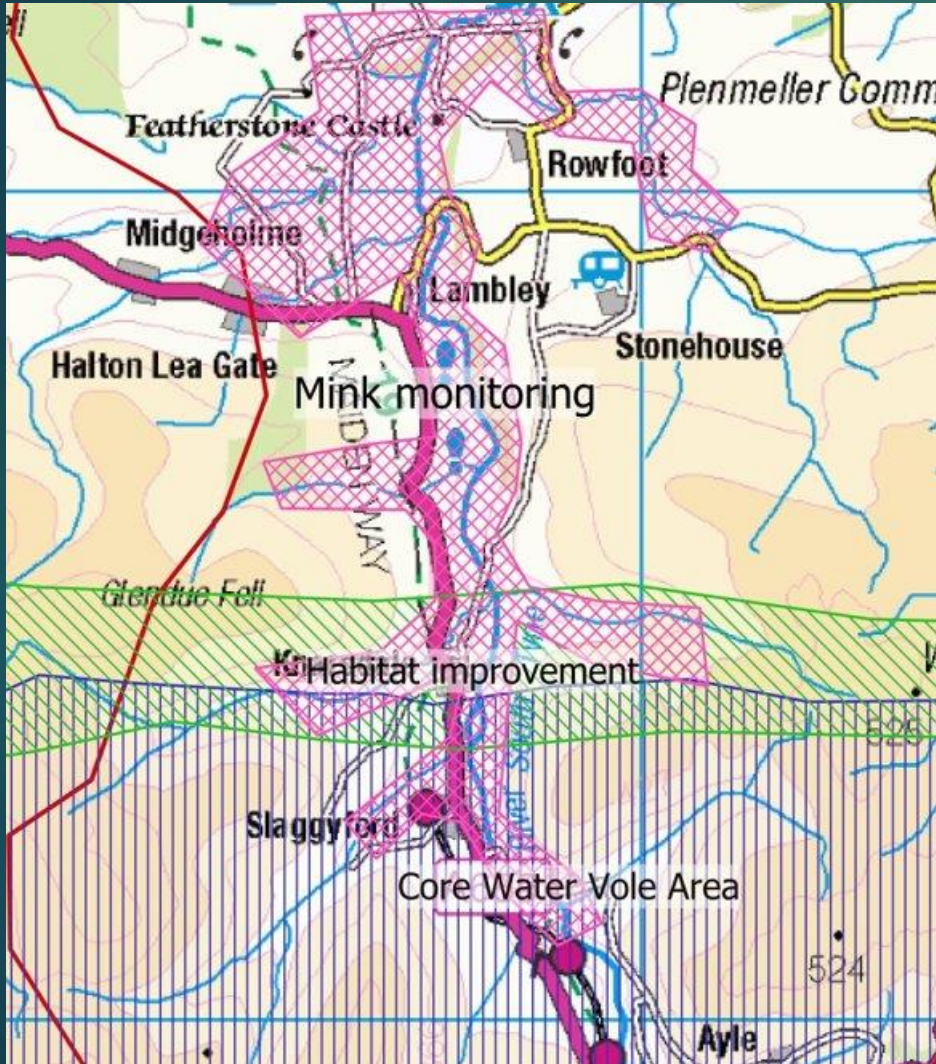
Surveyors Name(s)

Date of survey

Location*
Normally the survey's end point



Where to go?



You decide!

Q&A

▶ Thank you for listening!

▶ Any questions?