

# Wading out of Winter: Water Vole Surveys on the Ver

A Day in the Life of John Salisbury, Assistant Ecologist

Although much of an ecologist's work is typically associated with the onset of spring and the beginning of the 'survey season' which is now underway, the winter time provides an important window of opportunity to carry out a range of tasks which are made simply impractical by the annual bloom of foliage and vegetation. One habitat which can be particularly difficult to survey thoroughly during the summer months is riverbanks, which quickly become obscured by tall, flourishing stands of marginal vegetation such as *Glyceria* and *Carex*.

Evidence of riparian mammals is without a doubt greater in quantity during the summer, when most animals become more mobile with a sharp increase in breeding and foraging activity. To the trained eye of an ecologist, droppings, territorial markings and feeding remains can often be found in abundance along the banks of rivers, however locating small, often inconspicuously placed burrows can be much more difficult during this time of year.

In January, I visited a site on the River Ver, one of Hertfordshire's invaluable chalk streams, with the purpose of locating and mapping water vole (*Arvicola amphibius*) burrows to inform a potential river restoration project. This was in light of presence/absence survey results obtained during the previous summer, when a series of artificial rafts were set out along the channel. Subsequently one of these rafts was found to be repeatedly utilized by water voles, confirmed by the presence of a well-used latrine (a frequently maintained pile of droppings used to mark territorial boundaries and nearby burrows).

A single water vole latrine can be enough to confirm the presence or absence of the species on a stretch of river, but it is often of significant importance to attempt to locate every burrow within an operational area during the planning stage, as this will inform project leaders and designers as to how they can avoid committing an offence by damaging, destroying, blocking access to or causing disturbance within their places of shelter or protection. With the majority of marginal vegetation in recession during the winter, banks were much more accessible, and many burrows were visible from the centre of the channel. Remaining vegetation was easily and carefully parted to reveal any other concealed burrows.

The day began by pulling on the leg waders and climbing into an old overgrown watercress bed adjacent to the main river channel, along with our Principal Ecologist. Watercress beds are a common feature along Hertfordshire's rivers and streams, as the plant favours the cold, hard running water which flows from the chalk springs of the Chilterns. It was here that the water vole latrine was discovered the previous summer. As it had concrete revetments, the likelihood of finding any burrows here were slim. In the interest of thoroughness however we decided to investigate, knowing that a small breach within the revetment could provide an entrance to a safe and secluded burrow system.

Our efforts paid off, with an exciting find down towards the end of the cress bed where it joins with the main river channel. Sat inconspicuously on top of a small artificial bund, well concealed by the remaining *Glyceria*, was a water vole nest ball, woven from grasses and moss. In habitats where dense tussocky vegetation is present, water voles will occasionally shelter above ground within football sized nests, often doing so as an alternative when no diggable bank structure is available for the creation of burrow systems. To see one of these here was a personal first for me, and this set the tone for the rest of an eventful day.





Water vole 'nest' set on top of an artificial soil bund

Next it was over to the main river channel, which was much deeper and wider. This gave us the perfect opportunity to make use of our canoe, allowing us to navigate a large stretch of river and survey both banks simultaneously. This led to the discovery of a further seven confirmed water vole burrows, along with further evidence including hauling out sites and feeding remains. All of these were mapped accurately with a GPS location, using one of our Trimble TDC-100 tablets held within a watertight casing.

In addition to water voles, the survey of the main river channel revealed evidence of other riparian species. It was of great delight to find what appeared to be otter (*Lutra lutra*) footprints on a silt bar underneath a bridge, at the downstream end of the river section, as well some ageing spraints close by. Conversely, what was not such a welcome find were other spraints and footprints throughout the section which looked all too similar to those of the invasive predator American Mink (*Neovison vison*). The introduction of this species is one of the primary reasons for the serious population decline suffered by water voles since the mid-20<sup>th</sup> century.

Come the afternoon, with our survey work complete, we took our time to carefully prepare our clothing and equipment, including our canoe, for transportation off site using the 'check, clean and dry' method. Two non-native invasive plant species, Himalayan balsam (*Impatiens glandulifera*) and giant hogweed (*Heracleum mantegazzium*), were present on this section of the river and therefore it was essential that we did not transport any viable seed or other plant material off site and risk further spread of these species.

We left site very pleased with the amount of data we had gathered over the course of our surveys. We had confirmed the presence of one of our country's most threatened mammals, and accurately located what we hoped to be the strong majority of burrow entrances. This information is vital to ensuring that the river restoration project, along with future projects upstream and downstream can proceed in a manner that is sympathetic to the activity of water voles, and be designed in a manner which will benefit their long term conservation. It would be great to think that the work which we have undertaken could contribute, even in a small capacity, to a regional recovery of the species over the coming years.



Otter footprints found underneath a bridge

As April begins, I am now looking forward to getting underway with the many protected species surveys forthcoming over the next few months, in particular some herpetological (reptile and amphibian) work, which is familiar place for an ecologist during the spring. We are also into the bird nesting season, during which I am kept busy carrying out an ecological clerk of works role alongside Maydencroft's arborists. Looking back, the water vole surveys have been an aspect of my job which I have thoroughly enjoyed. Hertfordshire's waterways are an inspirational working environment and this is something which I hope to be involved in much more in the future.



*Water vole burrow within the river bank*



*Water vole feeding station*



*Surveying the river channel the previous summer*



*Otter/mink spraints found close to a bridge*



*Water vole burrows*