

## Water Vole Survey for Philip Wayre Trust Lintzgarth Fell

A survey for Water Vole (*Arvicola amphibius*) was conducted on Sunday 14th May 2023, focusing on the cleugh area as well as the upper pond in Lintzgarth Fell. The survey was conducted by Ecologist Lauren Gibson and Rachel McAloon. All photos were taken on site during the survey.

### Burrows

Water vole burrows are usually wider than they are high, with entrances of between 4-8cm. They can appear larger due to erosion, but will soon narrow down internally. They are smaller than a rat burrow, but larger than that of a field vole, bank vole or woodmouse.

At the cleugh, multiple water vole burrows were visible. Fig. 1 and 2 show water vole sized/shaped entry points, with 'lawns' at the front made from mud, chewed grass or short moss.



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Fig. 3 and 4 show additional examples of water vole burrows, this time complete with chewed grass remains. At least 10 of these burrows were found around the cleugh. At the upper pond site a much smaller number of burrows (Fig. 2-3) were found but these appeared to be older and no longer in use.



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## Feeding Signs

Water voles are predominantly herbivores, although breeding females can consume fish if the opportunity arises. They eat a variety of plant species in the summer, turning to roots, bark, berries and other cached food during the winter. They will eat vegetation in situ, leaving a distinct 45 degree angled cut across the stem of a plant, and this can include willow or sallow branches of up to 1 inch in diameter. Water voles will also select favourite spots as feeding stations, where they will keep a pile of nipped vegetation of 5-10cm in length. Such pieces can also be found stored outside of burrow entrances.

There were extensive areas of grazed *Juncus* sp. alongside the stream in the cleugh. (Fig. 5 & 6).



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Fewer feeding signs were evident around the pond in that area, but many older stems with the characteristic 45 degree bite mark were found around the upper pond.

The cleugh stream seemed to be the favoured feeding environment. Recent feeding signs were clearly seen along the surveyed length of the stream, with several feeding stations (Fig. 7) also in evidence.



## Droppings and Latrines

Droppings are the most distinctive signs of a water vole's presence. The colour ranges from green, brown, black and can be purple or red-tinged depending on what plant matter was last consumed. Fresh droppings have the texture of putty, but will dry out to show plant matter. Most droppings will be left in communal latrines, used regularly between February and October. Water voles scent mark the latrines before drumming the droppings with their feet, flattening the older deposits.

The area surveyed was relatively damp following a shower the previous evening and recently high levels of water in the stream. This made the detection of latrines challenging as many probable sites had been softened, making observations inconclusive initially. However, we were able to find an intact latrine, with some evidence of trampling of older faecal deposits, and fresh droppings on top (Fig. 8).



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## Conclusion

Burrows and feeding areas are important indicators of possible water vole presence but are not conclusive on their own. We found multiple burrows and extensive feeding signs along the cleugh, but the location of a latrine with fresh droppings was conclusive evidence of water vole activity in this area.

We would recommend a follow up survey in late Summer (August - September) with view to establishing a more reliable count of latrine sites. This would enable some estimation of population size. The use of trail cameras along the cleugh stream is also recommended in order to capture visual evidence of water vole activity.