Woodwick Burn Survey, October 2021

The Woodwick Burn in Evie is a medium sized Orkney burn that drains into the sea at the Bay of Woodwick. It is known to support a population of brown trout, some of which migrate to sea each spring to become sea trout, before returning to the burn to spawn. It is one of seven burns located between Birsay and Kirkwall that are known to support sea trout.

The upper reaches of the Woodwick Burn, looking downstream to the sea.

A simple habitat survey of the Woodwick burn was carried out in October 2020 as part of a planned expansion of the Hammars Hill wind farm, located in the upper part of the Woodwick catchment area. This survey found a number of interesting features, including three fish ladders, abundant loose flagstones and a section in the middle reaches of the burn, approximately 200m long and up to 10m wide, composed entirely of smooth sloping bedrock. The burn follows a natural route over most of its length, which is actually quite rare for burns on the Orkney Mainland.

A year later, in October 2021, OTFA members carried out an electrofishing survey to find out more about the trout population in the burn. Two sites were sampled: a downstream site (just above the dam at Woodwick Mill) and an upstream site (at Savisgarth). The results were as follows:

- At the downstream site, a total of 35 trout were caught in 18 minutes of electrofishing, or 1.9 trout per minute. At the upstream site, 21 trout were caught in 19 minutes of electrofishing, or 1.1 trout per minute. Both results equate to moderate density, according to a scale suggested by the Wester Ross Fisheries Trust

- Trout size ranged from 65mm to 178mm. No scale samples were collected but length frequency data suggested that the trout were aged 0+ (hatched spring 2021), 1+ and 2+ yrs.

- All the trout in the sample were freshwater residents. No sea trout were found.

Length frequency analysis of trout caught Burn of Woodwick, October 2021 (upstream & downstream sites combined).

- Trout density was higher at the downstream site, mainly because 0+ trout were more abundant there. However, at the upstream site, quite a few 0+ trout escaped the handnets – if they weren't caught immediately they disappeared into the shelter of the flagstones and boulders that dominated the streambed there. Perhaps we were a bit out of practice too! If those trout had been caught then the two samples would actually have been very similar in terms of density and age structure.

- Mature male trout (N = 3) were present found at the upstream site and all were aged 2+ or older.

Mature male trout at the upstream site.

- Mean growth (fork length) was 78.7mm, 125.5mm and 158.1mm for 0+, 1+ and 2+ aged fish, respectively. These are similar to growth rates measured in other trout burns on the Orkney Mainland.

These results suggest the Burn of Woodwick supports a relatively healthy population of brown trout. The presence of trout above the bedrock section in the middle of the burn was interesting, but the ease with which trout move past this potential obstacle remains unknown. Similarly, the ability of trout, both resident and sea trout, to navigate upstream through the fish ladders in the burn remains an area of interest. Mature trout need access to spawning habitat and this is particularly important for female sea trout, as they contribute many more eggs than females that reside in freshwater. In burns such as Woodwick, which has no lochs, female sea trout are probably responsible for the vast majority of eggs laid each winter. No sea trout were found on this occasion, which was not too concerning given it was a spot survey and limited in extent. Future survey work will aim to examine these issues.

OTFA junior members Joe Thomson and Magnus Kirkpatrick take notes. All trout were safely returned to the burn afterwards.

This marks the first electrofishing survey carried out by the OTFA for some time and hopefully 2022 will see more work undertaken to gauge the current health of trout populations across Orkney. This survey was carried out by OTFA members Malcolm Thomson and Colin Kirkpatrick, ably assisted by junior members Joe Thomson and Magnus Kirkpatrick. The OTFA is grateful to landowners Micky Austin, Brian Thomson and Richard Jenkins for providing access to the burn for this survey.