

Wester Ross Fisheries Trust

Newsletter, February 2025



Pilot project underway to restore nutrition to some salmon streams

This project aims to reverse the downward spiral of declining salmon numbers and nutrient depletion in some of the rivers in Wester Ross by placing carefully measured amounts of 'salmon carcass analogue pellets' into streambeds to support ecosystem productivity and juvenile salmon growth.

The continuing decline in the biomass of adult salmon and sea trout returning to rivers to spawn has reduced river nutrient levels through a drop in 'surplus' fish eggs and decomposing fish carcasses. Especially in river catchments without human habitation, lower stream nutrient levels combined with rising water temperatures can contribute to fish malnutrition. Small skinny smolts don't do so well at sea. This in turn leads to lower overall rates of marine survival and a vicious circle of further reductions in the number of returning adult salmon.

Problems associated with declining seasonal food availability in some important wild salmon rivers in Wester Ross were discussed at the Loch Torridon workshop in April 2024 and in [juvenile fish survey reports](#) (see WRFT website).

So we were delighted to be awarded a grant from the [Highlands and Islands Environment Foundation](#) towards the cost of a pilot project to explore ways of addressing the nutrient deficit in some streams in Wester Ross.



Our method is based on research in the River Conon catchment area by Glasgow University and Marine Scotland scientists over many years. Project streams are located in the headwaters of the River Ewe system and in the Torridon River. Baseline surveys of juvenile salmon and aquatic invertebrates were carried out in October and November 2024. An initial treatment of 'salmon carcass analogues' (high fishmeal content organic farm salmon feed, kindly donated by Inverkerry salmon farm) was applied to two treatment sites in each of three project streams in early December. A second treatment is scheduled for late February 2025. Juvenile fish and aquatic invertebrates will be surveyed again in the summer and autumn to assess outcomes.



This project is just one small step towards restoration of higher ecosystem productivity to support wild fish populations and other wildlife across large parts of Wester Ross. Much more could be done.

Thank you to the Highlands and Islands Environment Foundation and to Kinlochewe estate, Coulin estate, Ben Damph estate, NTS Torridon, Nature Scot Beinn Eithe NNR and Hendrix-Genetics for permissions and support to make this project possible, to Beinn Eithe NNR field station for providing a lab for sorting invertebrate samples and to volunteer Duncan Gray for much help in the field.

(left) Nic Butler, Duncan Gray and Sandy Philip burying a hessian bag with salmon carcass analogue pellets (farm fish feed) in December 2024

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Salmon farm Environment Management Plan [EMP] wild fish monitoring reports for 2024 published

The parasitic sea louse, *Lepeophtheirus salmonis*, remains a major challenge for wild salmon and sea trout populations in Wester Ross as well as for farm salmon production.

In 2024, wild fish monitoring continued at Applecross to inform the MOWI Caol Mor (east of Skye) salmon farms Environment Management Plan [EMP]. Wester Ross Fisheries Trust was also contracted by MOWI and Bakkafrøst to monitoring sea trout and survey juvenile salmon in the Torridon River and River Balgy to inform the Loch Torridon salmon farms EMP. Further north, WRFT was contracted by MOWI to monitor sea trout and survey juvenile salmon in the River Kanaird and Gruinard River to inform the Ardmair Salmon farm EMP. All contracts were based on planning permission conditions set by The Highland Council that wild fish should be monitored as part of an EMP to inform on-farm sea lice management.

Wild fish monitoring reports for each of these EMPs for 2024, with data and pictures, can now be found on the WRFT website under the 'reports' tab on the downloads page or as follows:

https://www.wrft.org.uk/files/Ardmair%20Sea%20trout%20monitoring%20report%202024_final.pdf

https://www.wrft.org.uk/files/Torridon%20Sea%20trout%20monitoring%20report%202024_final.pdf

https://www.wrft.org.uk/files/Applecross%20Sea%20trout%20monitoring%20report%202024_final.pdf

The success of wild fish monitoring to inform EMPs, and in future, to inform new SEPA regulation of sea lice on salmon farms to protect wild fish, is dependent upon salmon farms being able and willing to take additional action to control sea lice on their farms in areas where high levels of infestation of wild sea trout have been recorded.

At the time of writing, the most recently [reported sea lice figures](#) (January 2025) for Bakkafrøst salmon farms at Aird and Sgeir Dughall in Loch Torridon were above the industry's Code of Good Practice level. Given their very large size, this is likely to cause high lice infestation of wild fish nearby. The MOWI Ardmair farm also reported a sea lice figure above the CoGP 0.5 adult female lice per fish for week 3 of 2025.

Thank you to many estates and many people for supporting wild fish monitoring in 2024. At the time of writing, our wild fish monitoring programme for 2025 has not been finalised. However, it looks likely that sea trout monitoring will continue at sites where adequate numbers of fish were caught in 2024. In addition, SEPA are planning to start wild fish monitoring at some sites to inform on-farm sea lice regulation.

(below) Sea lice on the head of a small sea trout, and lice damaged dorsal fin of a sea trout, Applecross July 2024



Search for spawning herring and eDNA sampling underway



The Trust is very happy to be partnering with the [West of Scotland Herring Hunt \(WOSHH\)](#) for another year of eDNA [environmental DNA] sampling from water to learn more about spring spawning herring around Wester Ross. WRFT recorded herring spawning on the seabed to the SW of Loch Gairloch in 2018 and 2019. In 2024 there was much excitement in being able to record spawning of herring on the seabed to NW of Loch Gairloch. After observing associated wildlife (gannets, porpoises, a minke whale, a pod of orca) in early March last year, a satellite photo picked up the light-coloured area of water seen from shore, associated with spawning herring; then two days later we were able to [record herring eggs on the seabed](#).

Later in the summer, locally based wildlife tour boats recorded humpback whales and fin whales nearby. Observations suggested that the large whales were feeding on krill during day light hours. Were they also attracted to the area by herring? Subsequently, several humpback whales remained between Wester Ross and Skye through the autumn and winter, one of them was recently (January 2025) untangled from creel ropes by a fish farm near Skye, and last seen heading towards Gairloch (see [BBC Highland News](#)). Background information can be found [here](#).

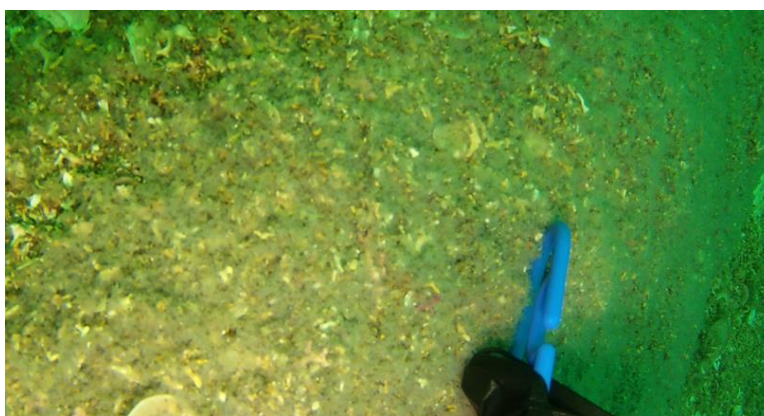
This year, as in previous years, we will be filtering water samples to find out about quantities of herring eDNA at Opinan (near South Erradale, to SW of Loch Gairloch) and at Melvaig (to NW of Gairloch) every three days from early February to mid-April. Additional samples will be taken from the Loch Ewe area, where herring may have also spawned in previous years according to anecdotes from retired herring fishermen.

The project aims to find out how the amounts of eDNA in samples taken relates to the occurrence of herring spawning activity nearby, as well as learning more about the timing of spawning, the seabed habitats upon which herring spawn, the weather and sea conditions herring spawn in, and associated wildlife.

Last year samples of recently hatched herring larvae were also taken for genetic studies to learn more about herring populations within the west of Scotland area; there is much still to learn. Newly hatched herring larvae would appear to be an ideal food source for post-smolt salmon migrating through the west and north west of Scotland. Do the post-smolt salmon linger in areas where there are concentrations of newly hatched herring larvae?

At the time of writing (11th February 2025), high pressure has settled over Scandinavia and the breeze is from the east: [conditions said to favour herring spawning](#). In previous recent years, peak spawning activity has occurred in early March so far as we know. Please keep a look out for gannets diving in within 2km of the shore; and cetaceans (porpoises, dolphins, minke whale, humpback whale); let us know what you see!

(left) project team heading out in search of herring eggs on the seabed in March 2024 and (right) herring eggs forming a layer on top of maerly gravel, recorded using a drop-down camera. What will we find in 2025?



Thank you!

Most of the work that the Trust is able to do is dependent upon many supporters and helpers. If you would like to find out more about helping with our work, membership or anything else, please contact Sue Ward at admin@wrft.org.uk or Peter Cunningham at info@wrft.org.uk.