

Wild Fish Monitoring Workshop: Report

March 16th & 17th 2021



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Fisheries Management Scotland
March 2021



Introduction

For many years, fisheries trust biologists have been monitoring sea lice burdens on wild sea trout, in an effort to understand the impacts of fish-farm derived sea lice on wild fish. This programme of work was funded through the Tripartite Working Group, the RAFTS Managing Interactions with Aquaculture project and latterly through Fisheries Management Scotland. Marine Scotland funding for this work has been crucial to the delivery of this work and is an important element of the wider interactions agenda at a local level. There is now a long-term data set, with some sites having been sampled for around 20 years, and this data is under review by Marine Scotland Science. The data arising from this work is published on the Fisheries Management Scotland [website](#).

More recently, a further project, supported by Crown Estate Scotland and in partnership with Lochaber Fisheries Trust and Mowi, was established to refine and develop wild fish monitoring tools. This work has been important in the context of Environmental Monitoring Plans, which Marine Scotland now expect to be delivered as a condition of any consents for marine aquaculture planning applications. In the light of the developing recommendations of the Salmon Interactions Working Group, and the spatial planning framework being developed by the Technical Working Group, there is a need to further test and refine the monitoring techniques, with a view to assessing their applicability in a reformed regulatory regime for finfish farming in Scotland.

The purpose of this workshop was to start discussions around the monitoring techniques available to fishery managers, and ensure knowledge exchange between the two sectors.

Day 1 – Discussion of the various techniques used for monitoring wild fish

Tuesday 16 th March	Time	Lead by
Welcome & Introduction from Polly Burns and Iain Berrill – watch video	14.00 – 14.10	Polly Burns & Iain Berrill
Discussion	14.10 – 14.35	Polly Burns
Introduction to Wild fish monitoring: techniques and requirements – Watch video	14.35 – 14.50	Lucy Ballantyne
Comfort break	14.50 – 15.00	
Intro to sea lice modelling – Watch video	15.00 – 15.30	Phil Gillibrand (Mowi)
Using the results of monitoring for understanding interactions – Watch video	15.30 – 16.00	Alan Kettle-White
Discussion session: Pros and cons of monitoring techniques	16.00 – 16.50	
Round up and next steps	16.50 – 17.00	Polly Burns & Iain Berrill

Day 2 – Training workshop on Fyke net deployment

Wednesday 17 th March	Time	Lead by
Welcome & Introduction	14.00 – 14.05	Polly Burns
Practical considerations of deploying Fyke Nets <ul style="list-style-type: none">• Licensing• Equipment• Time and resources Watch video	14.05 – 14.20	Lucy Ballantyne
Discussion	14.20 – 14.35	
Comfort break	14.35 – 14.45	
The process of deploying Fyke nets: ¹ Net deployment Anchor deployment Talk through of net diagram	14.45 – 15.15	Lucy Ballantyne
Discussion	15.15 – 15.45	
Round up and next steps	15.45 – close	Polly Burns

Video Guides

[Walk through of net](#)

[Walk through of net's side anchors](#)

[Walk through of net's main anchors](#)

[Overview of net](#)

[How to put the net in the boat](#)

[Starting off from the shore](#)

[Setting the net](#)

[Setting the back anchors](#)

[Steps following the anchor setting](#)

[How to ensure tension](#)

[Keeping the wings tense](#)

[Setting the heart anchors](#)

¹ Given there were some technical issues with showing videos over shared screen, we have included the workshop recordings of videos that needed a voice over.

Key questions to arise from the workshop:

- What is the appropriate scale for wild fish monitoring – there was discussion as to whether for example the Farm Management Area or a local farm scale was appropriate?
- Do we focus on predicted high lice areas, i.e. worst case scenarios, or is it more appropriate to look at the whole range of scenarios which may occur?
- How do we identify thresholds of impact on wild fish which result in farm management action?
- What does a control site for monitoring lice impacts look like?
- At what concentration of larval sea lice in the water column to impacts on wild fish occur and how can this be built into the regulatory system?

Next steps:

Given the questions that have arisen from this workshop, it was agreed it would be helpful to discuss the issues above in a suitable forum. This would also be an opportunity to share protocols and explore training on sea lice counting between the sectors. Given the limitations placed on this workshop by COVID, it is a priority to firstly record videos of in-water deployment of the fyke nets, and secondly when restrictions allow hopefully have some in-person training. Fisheries Management Scotland would welcome any further points or questions following the workshop.