Oldany MPFF CAR/L/1015768

Environmental Monitoring Plan

Version1.0 – December 2023

The purpose of this Environmental Monitoring Plan (EMP) is to monitor seabed impacts from the existing marine fish farm at Oldany, to assess compliance with the seabed standards specified in schedule 4 of the permit.

This plan has been prepared in accordance with SEPA guidance: "*Seabed Environmental Standards - Demonstrating Compliance- March 2022 Version 1*". (SEPA, 2022)

An environmental monitoring survey design is required for the site, comprising Biological Sampling, to be undertaken during each cycle following peak biomass at the site.

The protocol and location for chemical residue sampling, should the in-feed medicine Slice be used during a farming cycle, is detailed directly in the permit.

1. Site Details

Site name	Oldany
Operator	Loch Duart Ltd
Permit number	CAR/L/1015768
Finfish species	Atlantic salmon (*Salmo salar*)
Consented Biomass	1585T
Version	1.0
Date	13/12/2023

2. Biological Sampling

A four-transect survey is proposed as per the guidance, covering the major and minor axes of the predicted farm footprint. Results from the 2019, 2021 and 2023 benthic surveys have been used to inform this plan. Proposed transect bearings and lengths are such that it is expected that a sufficient number of stations (at a minimum of 20m apart) in addition to the cage edge could be collected to demonstrate compliance.

The below monitoring plan will be followed (shown in Figure 1), with the direction of each transect as follows:

- Transect 1 - 245° Grid North
- Transect 2 – 344.2° Grid North
- Transect 3 – 74.2° Grid North
- Transect 4 – 164.2° Grid North

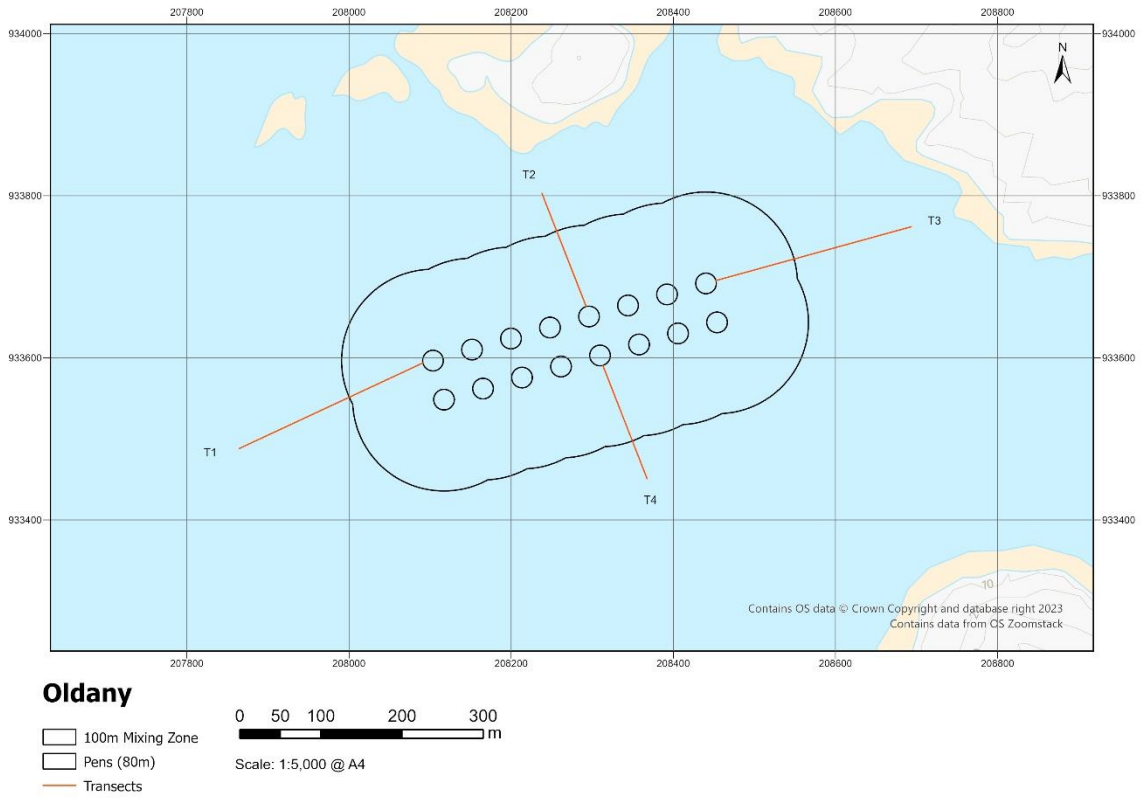

Figure 1. *Plot illustrating the site location, layout, and proposed transects/sample stations. Transect bearings and station coordinates are provided in the tables appending this document (Annex I).*

2.1 Survey Scope- Biological samples

At each sample station samples of sediment will be collected and analysed for:

- Benthic infauna
- Particle Size Analysis (PSA)

2.2 Survey Scope- Chemical residues sampling

At each sample station samples of sediment will be collected and analysed for:

- Total Organic Carbon (TOC)
- Particle Size Analysis (PSA)
- Emamectin Benzoate (only when sampling for emamectin benzoate (SLICE™))

3.0 Sample Collection & Analysis

Sampling and analysis will be carried out in accordance with the following Measurement Assurance and Certification Scotland (MACS) documents:

- Performance Standard MACS-FFA-PSO1 - Version 2 July 2023 (MACS, 2023)
- Performance Standard MACS-FFA-PSO2 - Version 1 March 2022 (MACS, 2022a)
- Performance Standard MACS-FFA-PSO3 - Version 1 March 2022 (MACS, 2022b)

3.1 Sample Collection

If a suitable seabed sample cannot be collected at one or more monitoring stations on a transect:

a) the collection of a suitable sample (or samples) will be attempted at different locations on the transect concerned.
b) If sufficient suitable samples cannot be collected on the transect after trying to sample at different locations, the collection of samples along a replacement transect will be attempted.

If it is necessary to attempt collection of samples on a replacement transect, the identification of that transect will consider:

(i) any relevant information about the seabed to help choose a replacement that maximises the likelihood of being able to collect sufficient samples.
(ii) In the light of (i) above, moving the origin for the transect on the pen group.
(iii) In the light of (i) above, orienting the transect on a different bearing within ± 5° of the predominant direction of the bed current in the case of a replacement primary transect or, in the case of a replacement minor transect, within ± 20° of orthogonal to the direction of the predominant bed current.
(iv) A combination of (ii) and (iii) above.

3.2 Analysis & Reporting

The above peak biomass survey will be conducted by a third-party consultant on behalf of Loch Duart Ltd. Sample analysis will be undertaken by a suitably accredited laboratory.

Analysis of samples collected for the peak biomass survey will be undertaken in a systematic manner to adequately assess compliance at the site and following SEPA guidance. Not all samples collected will necessarily be analysed.

4.0 References

MACS, 2022a. Performance Standard MACS-FFA-PSO2 Finfish Aquaculture Sector Physical and chemical testing – Version 1 March 2022. Available at https://www.sepa.org.uk/media/594191/macs-ffa-ps-02.pdf

MACS, 2022b. Performance Standard MACS-FFA-PSO3 Finfish Aquaculture Sector Biological testing - Version 1 March 2022 Available at https://www.sepa.org.uk/media/594192/macs-ffa-ps-03.pdf. Accessed 3/11/23.

MACS, 2023. Performance Standard MACS-FFA-PSO1 Finfish Aquaculture Sampling of soft substrate - Version 1 July 2023. Available at https://www.sepa.org.uk/media/vaxnwum2/macs-ffa-ps-01-v2.pdf

SEPA, 2022. *Seabed Environmental Standards - Demonstrating Compliance- March 2022 Version 1.* Available at https://www.sepa.org.uk/media/594220/seabed-environmental-standards_demonstrating-compliance.pdf . Accessed 3/11/23.