Marine Pen Fish Farm: Gorsten, Loch Linnhe
Licence Reference: CAR/L/ 1009968/C1
Environmental Monitoring Plan

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EMP/CAR/L/1009968/C1

FOR

LICENCE REFERENCE NUMBER: CAR/L/1009968/C1

ADDRESS OF PREMISES: Gorsten Marine Cage Fish Farm, Loch Linnhe

Version: 3

Dated: 21 August 2023

Aim

The aim of this Environmental Monitoring Plan (EMP) is to monitor seabed environmental impacts from the marine fish farm in order to assess compliance with the environmental quality standards that are specified in the licence.

Scope of the Monitoring Plan

This plan outlines the environmental monitoring design, sampling methods, frequency and requirements for reporting of data. The plan has been developed in accordance with the following SEPA guidance:

- Performance Standard MACS-FFA-PS-01: Sampling of Soft Sediment, Version 2, dated July 2023[1];
- Performance standard MACS-FFA-PS-02: Physical and Chemical Testing, Version 1, dated March 2022[2];
- Performance standard MACS-FFA-PS-03: Biological Testing, Version 1, dated March 2022[2];
- Seabed Environmental Standards - Demonstrating Compliance, Version 1, dated March 2022[2].

Monitoring Survey Design

Two monitoring survey designs are presented as part of this Plan:

1. **Biological Sampling;**
2. **Medicinal Residues Sampling.**

Any changes to these monitoring surveys will be agreed with SEPA prior to fieldwork commencing.

[1] Guidance accessed 18 August 2023

[2] Guidance accessed 28 April 2023

1. Biological Sampling

This survey is designed to collect the environmental data required to enable assessment of compliance with environmental standards, as detailed in the licence, at pen edge and mixing zone boundary.

Monitoring will be undertaken along six transects (figure 1), with sediment samples being collected from seven stations, at least 20m apart, along each transect. Transects 3 & 6 are potentially constrained by proximity to shore and as such may require use of transects 4 & 5 as proxies; alternatively, an adjustment to transect bearings may be required at time of sampling to enable sufficient locations to be sampled.

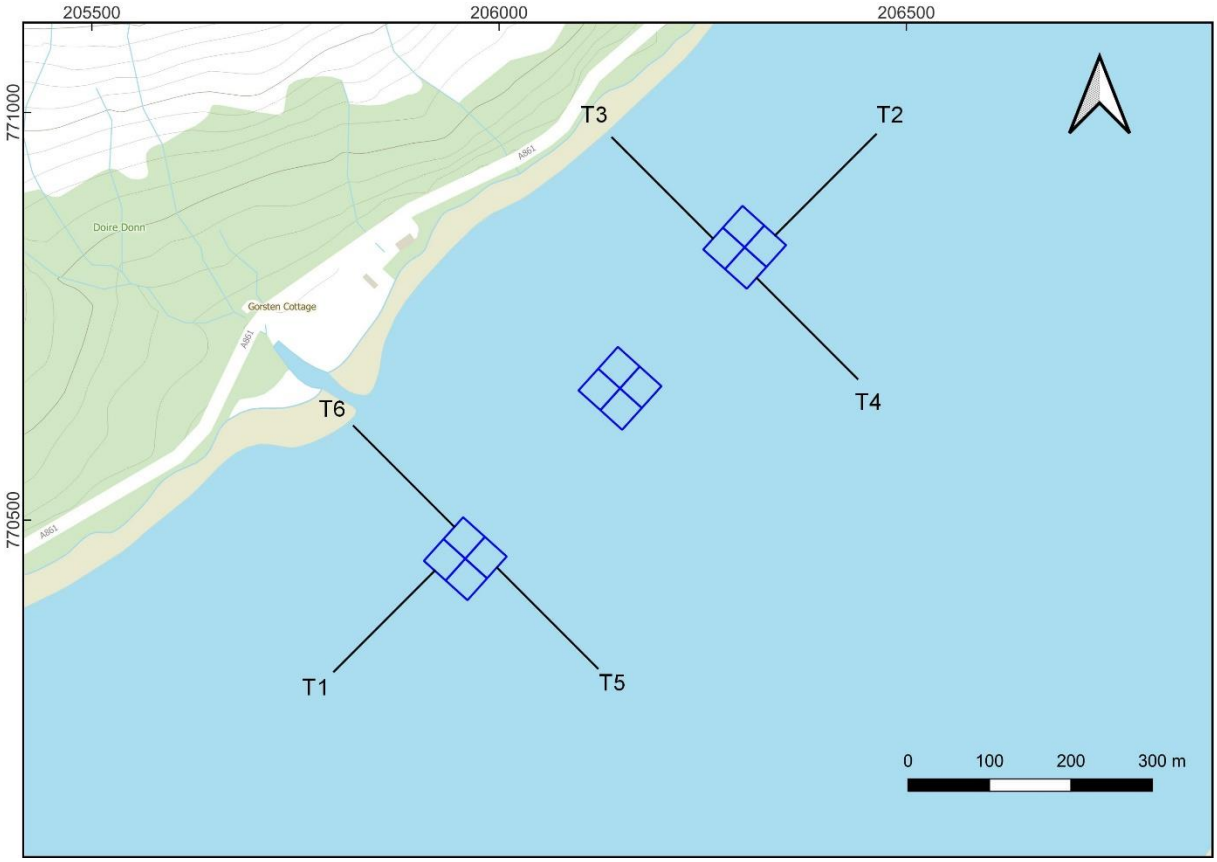

Figure 1: Biological Monitoring - Direction of Primary (T1, T2) and Secondary Transects (T3 - 6). Pens in blue.

The bearings for each of the transects are detailed in Table 1 below:

Transect	Bearing (degrees, G)
1	225
2	45
3	315
4	135
5	135
6	315

Table 1: Transect bearings

Sediment samples collected from each of the sample stations will be analysed for the following parameters:

- Organic Carbon;
- Particle size analysis;
- Benthic infauna.

2. Medicinal Residues Sampling

This survey is designed to collect the required environmental data that will allow an assessment of compliance against the environmental standards for Emamectin Benzoate concentrations in the seabed sediment.

Samples will be collected at the locations specified in the licence

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

- Particle size analysis;
- Emamectin Benzoate;
- Total organic carbon

Survey Timing

During each production cycle seabed sampling will be undertaken in accordance with the periods specified in the licence. In the event of unseen circumstances impacting on survey timing notification will be provided to SEPA.

Data Reporting

Results from the analysis of all samples collected in accordance with this plan will be submitted to SEPA using the required reporting template in accordance with licence requirements. In the event of unseen circumstances impacting on data reporting timelines notification will be provided to SEPA.

Quality Assurance

Sample collection and laboratory analyses will be conducted in accordance with the relevant SEPA MACS Performance Standards by competent and authorised persons (with the necessary knowledge, training, and certifications) on behalf of the Responsible Person (Mowi Scotland Limited).