

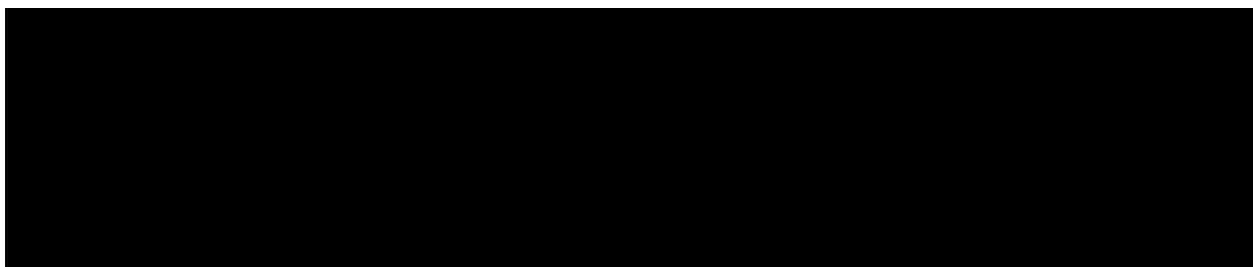


# Cairidh, Loch Ainort

**BathAuto Modelling Report**

**CAR/L/1010432/C1/VN2021-01**

**December 2021**



# 1 INTRODUCTION

Mowi Scotland Ltd. is preparing an application to the Scottish Environmental Protection Agency (SEPA) for a technical variation to CAR/L/1010432 to modify an existing salmon farm site, **Cairidh**, located in Loch Ainort on the Isle of Skye. Mowi Scotland Ltd. propose to change the existing site from 12 x 100 m circumference pens held in a 65 m grid (Figure 1) to 5 x 160 m circumference pens with 12 m deep nets, held in a 100 m grid.

Mowi Scotland Ltd have carried out modelling for bath medicines using BathAuto. Results from the modelling are described in this report.

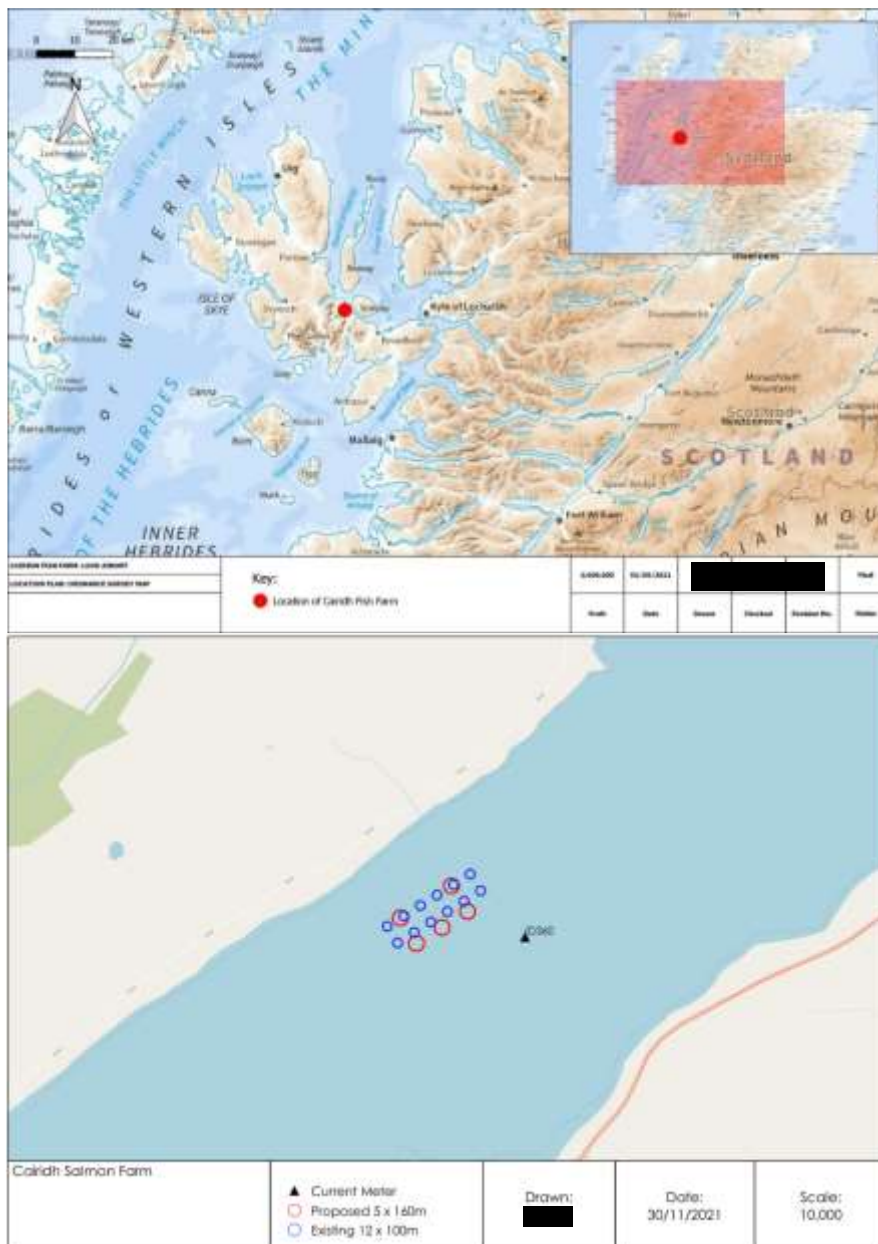


Figure 1. Site location (top) and layout (bottom) of the salmon farm at Cairidh. The current meter deployment location ID360 is marked by the black triangle.

## 1.1 Site Details

The site is situated adjacent to the northern shore of Loch Ainort (Figure 1). Details of the site are provided in Table 1. The receiving water is defined as a sea loch. Current meter data used with BathAuto was collected adjacent to the site (ID360, Figure 1, Table 1). A hydrographic report describing the current data is included with the application.

Table 1. Project Information

<b>SITE DETAILS</b>	
Site Name:	Cairidh
Site location:	Loch Ainort
Peak biomass (T):	1,800
Proposed feed load (T/yr):	4,599
Proposed treatment use:	Azamethiphos Deltamethrin
<b>PEN DETAILS</b>	
Group location:	NG56102890
Number of pens:	5
Pen dimensions:	160m circumference
Grid matrix (m)	100
Working Depth (m):	12
Pen group configuration:	2 x 2 + 1
Pen group orientation (°G):	58
Pen group distance to shore (km):	0.3
Water depth at site (m):	~35
<b>HYDROGRAPHIC DATA</b>	
Current Meter record ID:	<b>ID360</b>
Current meter position:	156383E 828855N
Depth at deployment position (m):	35.3
Surface bin centre height above bed (m):	27.7
Middle bin centre height above bed (m):	22.7
Bottom bin centre height above bed (m):	3.7
Duration of record (days):	70
Start of record:	22/09/2020
End of record:	02/12/2020
Current meter averaging interval (min):	20

## 2 BathAuto Results

BathAuto was run using current parameters derived from the analysis of the near-surface cell from current meter deployment ID360. Cage details are given in Table 1. The cage treatment depth used for the bath treatments was 0.8m. EQS compliance for both Deltamethrin and Azamethiphos was predicted at this cage depth.

### **Deltamethrin Results:**

Cage Treatment Depth = 0.8m

Permissible Quantity of Deltamethrin = 12.0g; 3.7 cages/3 hours

### **Azamethiphos Results:**

Cage treatment depth = 0.8m

Permissible Quantity of Azamethiphos = 177.4g; 1.1 cages/3 hours

Permissible Quantity of Azamethiphos = 325.6g; 2.0 cages/24 hours

The bath treatment model files are saved in the file: *Cairidh\_bathauto\_v5.xls*