

MOWI[®]



Broodstock Production Facility: Ardessie Project Description Document

**Mowi Scotland Limited
December 2022**

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1. Mowi Scotland Broodstock Fish Farm

Mowi are proposing to re-establish Atlantic Salmon broodstock and egg production within their Scottish business unit, with high strategic priority. Currently, all eggs utilised by Mowi Scotland for Atlantic Salmon production are supplied from either the business unit in Ireland or from third parties. A moratorium on all exportation of eggs from Norway in recent years has very much restricted the options for third party supply and there have been various quality issues in the supply available. This represents a considerable risk to the business, as the entire value chain relies on the eggs which start off the process.

Mowi are therefore proposing to build a new broodstock production facility at the site of an old fish farm at Ardessie, on the shores of Little Loch Broom. The old hatchery buildings will be demolished to make way for the new facility.

The production of broodstock will secure egg supply to Mowi Scotland, with the hope to also supply other companies, thus improving the situation for the salmon farming industry in Scotland as a whole. This will also allow Mowi to re-gain control of the breeding program for Scotland's production fish, selecting those parent fish whose offspring will be most robust to the specific challenges faced locally, and providing significant advances in survival and performance.

2. Broodstock Production Process

The broodstock farming process and the function of the various buildings within the development is described in the accompanying document "**Mowi Broodstock Farm - Broodstock Production**".

3. Sustainable Economic Growth and Rural Development

The proposed facility will generate between 8 and 10 new, full-time positions within Mowi Scotland. The process involved in farming broodstock and producing high quality eggs involves a range of disciplines, including the fields of aquaculture, genetics, water quality management, process engineering and veterinary science. As such, resultant employment will be highly skilled with a diverse range of experience required. The proposed facility will create direct and indirect induced employment opportunities for residents through employee spending and local supplier linkages contributing to the viability, sustainability and diversity of the local rural economy.

More importantly, resuming the production of broodstock within Mowi Scotland will secure the supply of eggs at the start of the production process. Currently, the high number of eggs supplied by third parties and from sources abroad creates the risk that Mowi Scotland would not be able to source sufficient eggs to stock all production sites. This could occur through legislative changes preventing export, as has been the case with export from Norway, or due to mortality or disease affecting suppliers, reducing their ability to produce sufficient eggs. Finally, increasing demand from within Mowi and elsewhere has the potential to exceed the capacity of the few available suppliers. If a shortage of eggs were to occur, this could jeopardise the employment of those working on the farms that cannot be stocked, with significant knock-on effects for the company as whole. Mowi Scotland currently employs **1500** people, many in rural areas associated with average low incomes and/or high unemployment.

4. Environmental Impact

The development is not sited in any area designated for conservation or of special scientific interest. It does border the An Teallach SSSI and the Wester Ross National Scenic Area on the other side of the A832 road. However, all proposed development is restricted to the location of the old fish farm, lying between the northern side of the road and Little Loch Broom.

5. Visual Impact

The **Landscape Analysis Images #1-4** show visualisations of the new buildings in the proposed location.

The outward presentation of the building set has been carefully considered in relation to its surrounding environs. During planning, the building set layout has been grouped so as to minimise the collective building mass, with the main building forming a back drop for other buildings where possible. As the predominant public views into the site are from an elevated position, the roofscape is the primary visible building element. This comprises simple dual pitch forms similar to an agricultural situation. The colour scheme proposed, shades of darker green, will complement natural seasonal colour (refer to drawing set for RAL colours for wall and roof cladding and accessories).

The above, coupled with natural weathering of external materials and the proposed scheme of replanting, will allow the building group to nestle into the existing landscape in a positive manner to mitigate any potential impacts to the landscape character in this rural setting.

6. Woodland Removal

The rationale for the selection of Ardessie as the location for the broodstock farm, and the specific location of the buildings within the site, are explained in the document **“Site Selection Justification”**. The requirements and constraints specific to broodstock production result in the necessity to develop on the area defined. This entails removal of some trees within the vicinity. The site layout uses the full extent currently occupied by existing structures in order to limit the trees that need to be removed as far as possible. The trees which will need to be removed are defined in the **“Tree Protection Plan”** and **“Tree Schedule”**.

The Scottish Government’s policy on Control of Woodland Removal cites that tree removal can be deemed appropriate on the basis of enhancing sustainable economic growth or rural/community development. As detailed in the paragraph above, this development will support new jobs in the area and is absolutely essential to maintain the security of all the jobs within Mowi Scotland.

The proposal to mitigate this impact and reintroduce screening provided by the tree cover is to undertake a scheme of compensatory planting as defined in the **“Tree Compensatory Planting Plan and Schedule”**. A mix of native broadleaf woodland will be planted in the rough grazing to the south of the development area, alongside the A832 road and the Allt Airdeasaidh Burn. Mowi Scotland will also appoint a landscape gardening company on a long term basis to undertake maintenance of the newly planted trees, to ensure they remain healthy.

7. Demolition of the Old Buildings and Potential Impact on Bats

The old hatchery building will need to be demolished to make way for the new development. This building was assessed in terms of its potential to house roosting bats. The results of the survey work are presented in the document **“Ardessie fish farm station Bat Roost and Survey Assessment Report”**. The conclusion of the survey work was that, although there were bats present in the general area, there was no evidence that they were using the building to roost. Mowi will undertake additional mitigations as recommended in this report.

8. Impact on Other Wildlife

Mowi Scotland appointed an ecologist to undertake a basic assessment of the site in terms of the potential impact of the proposed development to the wildlife local to the area. The initial findings are summarised below:

Regarding possible impact on species of birds there is a possibility that species such as house-sparrow, pied wagtail and blue tit may nest in the fabric of the building. It was considered that providing the demolition is conducted outside the nesting period (April to July) there should be no issues.

The sandy part of the shoreline at the river mouth has potential suitable habitat for breeding ringed plover and oystercatcher. This area will not be disturbed by the development.

Regarding possible impact on otters, it was considered that the whole of Little Loch Broom shorelines and rivers are good otter habitat, and they are likely to be relatively common locally. The shoreline and river at the site provide good potential foraging and travel routes. Initial survey close to the building found no signs of otter use, though recent rains may have washed spraints away.

The proposed farm does not significantly change the nature of the activities away from those already being carried out within the existing fish farm, and as such the impact on any otters which may use the area should remain unchanged.

9. Road Traffic

Road traffic to the site will be minimal. The broodstock will arrive to the adjacent seawater site by wellboat. There will be a maximum of seven wellboat loads to stock the site each year. The fish will then be pumped directly onshore to the freshwater facility once mature.

The broodstock begin to slow down and stop feed consumption as they mature. A maximum of approximately 90 tonnes of food will therefore be used in the seawater site to produce the fish from initially stocking through to transfer on land which equates to four or five lorry deliveries each year.

A bulk oxygen tank will be used to stock liquid oxygen which will provide the oxygen to the RAS units to meet the demand from the fish. There will be approximately 10-12 oxygen deliveries by tanker each year. The eggs are transported by van to production sites. In general, around 2 million eggs can be moved in one van. The maximum number of eggs that will be produced is 40 million so 20 van loads throughout the year will be required. Any slaughtered fish and mortalities will be ensiled on site, with ensiled waste uplifted around 12 times throughout the year. Only a very small amount of effluent sludge will be created. This will be uplifted once per year. We envisage around 8 staff in the freshwater facility and another three in the seawater facility. These staff will commute to and from the site each day.

The analysis of vehicle movements to and from the existing farm and the new development is presented in the table below. It can be seen that HGV numbers will decrease in the new development whilst light vehicle movements will increase, mainly due to the increased number of staff working at the new farm. The proposed development will not therefore increase the traffic burden in comparison with the existing operational sea site. Access onto the A832 is outside of the development area and no changes to this are proposed.

Table 1: Predicted traffic load versus existing traffic load.

Vehicle description	Baseline				Proposed			
	No per day	No per week	No per month	No per annum	No per day	No per week	No per month	No per annum
Feed lorries (40 tonne HGV)				30				5
Harvest lorries (40 tonne HGV)				50				20
Bulk oxygen tanker (40 tonne tanker)				0			1	12
Ensiled waste tanker (40 tonne tanker)				0			1	12
Fish sludge tanker (40 tonne tanker)				0				1
Fish mortality skip uplift (26 tonne skip lorry)			1	12				6
Waste uplift (26 tonne refuse lorry)		1		52		1		52
Fuel deliveries (16 tonne tanker)				6				6
Staff commuting (light vehicles)	3			156	8			416
General consumables delivery (light vehicles)		1		52		1		52
Egg transport van (light vehicles)				0				20

10. Noise

The entire plant will be located inside insulated buildings so any machine noise will be kept to a minimum. The development will use water-cooled chillers at this location rather than air-cooled chillers to avoid any noise arising from the air flow required to cool the condensers. The chillers will also have installed acoustic jackets over the compressors and will be located in a plant room with insulated composite cladding to prevent any noise breakout.

The majority of operations involving the use of a small forklift will be carried out inside the main broodstock building thus the noise of vehicle movements on the site will be minimal.

There will be standby generators on the farm, which will only function in event of a power cut. The generators selected will be designed to reduce any operational noise as far as possible, with exhaust gas, air inlet and outlet attenuators and silencers installed.

The background noise level for the purposes of assessing compliance with BS4142:2014 will be measured at the nearest noise receptor which is approximately 130m distant. All installations will ensure compliance with BS4142:2014 and NR20 regulations so that noise from the farm is not significantly higher than background levels.

11. Freshwater abstraction

The use of RAS technology throughout the development will ensure the water required to support the broodstock is minimal. Only 6 l/sec will be used to provide new water to the broodstock and egg incubation RAS. A CAR abstraction license (reference CAR/L/1011264) of 5000m³/day is already in place at this site and the proposed abstraction will be fully compliant with existing conditions and limits. No changes to the freshwater abstraction infrastructure are proposed other than the location at which the inlet pipe arrives within the development area since it will be diverted to the new intake water filtration equipment.

12. Seawater abstraction

The proposal is to abstract seawater to provide cooling water for the chillers described in section 10. 280 m³/hr is required for this purpose. The cooling water is pumped through a stainless steel or titanium plate heat exchanger and then discharged directly back to sea, unchanged other than a small increase in temperature (1-3°C). The impact from the discharge will therefore be negligible. The abstraction and discharge pipe will be constructed of 315 mm outside diameter PE pipe which will be secured on the seabed using concrete mats. The abstraction of seawater from coastal water ≥10m³/day is an activity that falls to be regulated under the Controlled Activities Regulations as a Registration level activity. The requisite application will be submitted to SEPA.

13. Effluent discharge

Broodstock fish stop feeding at the point when they transfer to freshwater. As such, the particulate waste they produce is minimal. The dissolved waste that the fish and eggs produce will be removed through biofiltration in the RAS biofilters. Any small amount of particulate waste that is produced will be captured in the drum filters and protein skimmers and retained in a holding tank for disposal on arable land as a fertiliser. The blood water which arises when we slaughter the fish when they are ready to spawn will be retained and ensiled. A discharge license (reference CAR/L/1002039) is in place already at the site and the planned effluent discharge from the broodstock facility will be fully compliant with existing conditions and limits.

14. Chemical discharge

A very small amount of formalin will be used to disinfect the water from saprolegnia, which can infect the eggs during incubation. The volume of water to be treated is low as the eggs do not require large volumes and as such the volume of formalin required to reach the required concentration is similarly low. Our studies have shown that almost all of the formalin breaks down within the RAS unit and so the amount that is discharged in the effluent is very much reduced from the initial treatment concentration. Again the discharge of formalin is already consented within the discharge license and any formalin discharge as a result of operations within the proposed development will be within the license conditions.

15. Odour

A small scale sealed ensiling unit (<10m³ storage capacity) will be installed at the hatchery to process any slaughtered fish or mortalities. The carcasses will be ensiled on the same day they are collected to prevent any decomposition which could give rise to offensive odours. Ensiled liquor will be collected from the site by approved waste carriers for disposal at appropriately licensed facilities. The properly managed ensiling of fish on a small scale will not give rise to offensive odours outside the site and as such the activity is considered as being excluded from control under the PPC Regulations.

16. Flood Risk and Drainage

The **Flood Risk Assessment** details the findings of the coastal and fluvial flood risk analysis.

The design coastal flood level of the site has been assessed at 5.14m (Above Ordnance Datum). A 600 mm freeboard has been applied to account for uncertainties including building settlement and wave action, such that finished floor levels at or above 5.74 m AOD will be sufficient to protect against coastal flood risk. The lowest finished floor level is 5.8m AOD which ensures none of the buildings are at risk of coastal flooding.

In addition the analysis demonstrates that the proposed buildings are not at risk of flooding from the Allt Airdeasaidh burn as the flood would stay within the banks of the burn or at least the higher ground beyond the bank, between the bank and the building. Cross sections through the burn provided in the flood risk assessment detail the flood levels in relation to the topography and the building finished floor levels.

The engineers drawings **Proposed Underground Drainage Layout** show how the roof and road run-off will be treated prior to discharge.

17. Construction Environmental Impact

A Construction and Environmental Management Plan (CEMP) is provided with the application which defines the environmental management of the project. The CEMP details the construction methodology, environmental controls and mitigation, and sequence of operations providing details as to how the impact on the surrounding environment will be minimised during construction.

18. Impact on the Wider Environment

The broodstock development will use the existing seawater production site at Ardessie to house the broodstock during their final year at sea. As mentioned in section 9, broodstock gradually reduce their feed intake in their final year at sea to the point where they stop feeding all together. The effluent discharge from the seawater farm should therefore also reduce for this reason.

In addition the proposal will use 40 l/sec of the existing freshwater abstraction licence to pump freshwater to the seawater pens to use freshwater lensing to protect the broodstock from various pathogen issues. This is a practice where the top 6 m of the pen is surrounded by a tarpaulin skirt. The freshwater is pumped continually into the tarpaulin where it will float on top of the seawater due

to its lower density. If the broodstock fish are subject to sea lice attachment or any gill parasites they will swim into the freshwater zone, which kills the pathogens and addresses the issues. This is used very successfully in our operations in Ireland and ensures that a lice population cannot develop through to maturity thereby restricting sea lice larvae from being released. Mowi will seek a variation to the CAR abstraction license (reference CAR/L/1011264) to divert some of the abstracted water to the sea pen location.

Little Loch Broom is within the Wester Ross MPA and it borders the Inner Hebrides and the Minch Marine SACs. The planned operations in the sea water farm are all within the current licensed activities and indeed should reduce the environmental impact further, as described above.

19. Location of Ardesie Farm



Figure 1: Map showing overview of Ardesie and Little Loch Broom in relation to other major Scottish locations.



Figure 2: Specific overview of the proposed seawater farm location and shore-based hatchery facility.

APPLICATION TO AMEND AN AUTHORISATION OR REGISTRATION UNDER THE AQUATIC ANIMAL HEALTH (SCOTLAND) REGULATIONS 2009 AND TO NOTIFY CHANGES TO AN AQUATIC ANIMAL HOLDING SITE.

Please read the accompanying guidance notes before completing this form.
(Read our [privacy notice](#) to find out what we do with your information.)

Business name	KAMES FISH FARMING LIMITED
Authorisation / Registration number	FB0134

1. Amendment or change of details

Please tick the type of amendment required:

Amendment to business details (e.g. business name, address)

Change of business ownership

Amendment of conditions of authorisation

Changes to site details (e.g. site name, species held, site grid reference)

Changes in status of business or sites (e.g. inactivation, de-registration)

Transfer of aquaculture site(s) to or from this business

(NOTE: If the operation of the site or the site details are changing on transfer, the receiving business must instead complete an 'aquatic animal holding site details form')

2. Detail

Please provide details of the reason for applying / notifying an amendment to your authorisation, authorisation conditions or change to your registration

Transfer of Aquatic Production Business authorisation for Carnasserie Mill Hatchery FS0757 from Kames Fish Farming Limited to MOWI (Scotland) Limited.

3. Business transfers and change to business status:

For business transfers:

New business name							
Authorisation / Registration number							
Contact title	Mr <input type="checkbox"/>	Mrs <input type="checkbox"/>	Miss <input type="checkbox"/>	Ms <input type="checkbox"/>	Dr <input type="checkbox"/>	Other <input type="checkbox"/>	
Contact name(s) (in full)							
Contact position							
Address			Postcode				
Telephone No			Fax no				
Other tel No			Mobile No				
e-mail							

For a change in business status:

Date of business status change			
Business status to change to (✓)	ACTIVE <input type="checkbox"/>	DEREGISTERED <input type="checkbox"/>	NON-PRODUCING <input type="checkbox"/>
Are any of the sites belonging to the business to be transferred to another business?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	

4. Site transfers and change to site status:

For site transfers:

Site name(s) to be transferred	Site number(s)
Carnasserie Mill Hatchery	FS0757
Name of business that sites will be transferred from	Kames Fish Farming Limited
Authorisation / Registration number	FB0234
Name of business that sites will be transferred to	MOWI (Scotland) Limited
Authorisation / Registration number	FB0119

For change of site status:

A = Active
 I = Inactive
 D = Deregistered

Site name(s)	Site number(s)	Date status changed	Status changed to (✓)		
			A	I	D

REGULATION 8(5) AND REGULATION 12(6) OF THE AQUATIC ANIMAL HEALTH (SCOTLAND) REGULATIONS 2009 MAKE IT AN OFFENCE FOR A PERSON TO PROVIDE INFORMATION OR MAKE A STATEMENT IN AN APPLICATION THAT IS FALSE, AND WHICH THAT PERSON KNOWS OR SUSPECTS IS FALSE.

I declare that the information I have supplied is accurate to the best of my knowledge.			
Signature:	[Redacted]	Date:	4 October 2023
Name:	[Redacted]	Position held:	[Redacted]

For official use only

Amendment granted (APB/ APE)	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	INITIAL	New authorisation certificate issued		INITIAL
Date transferred					INITIAL	Registration details changed		INITIAL

	The Marine Directorate, Marine Laboratory, 375 Victoria Road, Aberdeen, AB11 9DB. Tel +44 (0)131 2442500, Fax +44 (0)131 2440944, Email ms.fishhealth@gov.scot https://www.gov.scot/policies/fish-health-inspectorate/
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Case Number:		Site No:		Insp:		
Date of Visit		No of movements/supp./dest.			Score	
Live fish movements		0	1-5	6-10	>10	
Movements on (from out with GB) of susceptible species	Frequency of movements on from equivalent MS	0	5	10	14	0
	Frequency of movements on from equivalent zone or compartment including third country	0	9	18	26	0
	Number of suppliers	0	5	10	14	0
Movements off	Frequency of movements off	0	3	6	10	9
	Number of destinations	0	3	6	10	1
Exposure via water		Site contacts				
Water contacts with other farms (holding species susceptible to same diseases)	Farm is protected (secure water supply through disinfection or borehole)	0				
	Farm is on-line or in a coastal zone with category I farms upstream or within 1 tidal excursion	1	2		4	1
	Farm is on-line or in a coastal zone with category III farms upstream or within 1 tidal excursion	1	3		6	
	Farm is on-line or in a coastal zone with category V farms upstream or within 1 tidal excursion	1	4		8	
Management practices		None	Secure	Unsecure		
Water contacts with processors	Any processing plant discharging into adjacent waters	0	1		2	0
On farm processing within the rules of the directive	No on farm processing	0				
	Processing own fish (re-cycling risk)	1				1
	Processing fish from MS of equivalent status	2				
	Processing fish from zone or compartment of equivalent status	4				
	Processing fish from Category III farm	8				
	Processing fish from Category V farm	10				
Disposal of fish and fish by-products	Site's own waste only processed.	0				0
	Common processes with other farms	3				
	Collection point for waste from other farms	5				
Use of unpasteurised feeds	No feeding of unpasteurised feed	0				0
	Feeding unpasteurised feed	5				
Biosecurity		Number of sites	1	2 or 3	≥ 4	
Contacts with other sites	Sites operating from single shorebase	0	1		2	
	Sites sharing staff and equipment	0	1		2	2
Disinfection of equipment between sites, use of footbaths etc	Yes	0				0
	No	1				
CoGP/Regulator						
Practices in accordance with regulator or industry code of practice	Yes	0				0
	No	3				
Platform access to cages	Yes	0				
	No	2				
Total Rank					14	0
					LOW	

Pre-application advice for proposed broodstock sites

Inverpolly - E206589.8, N915973.10
Isle Ewe - E186289, N885444
Torridon - E182343, N855906

The above locations were provided for pre application advice for proposed broodstock sites and are shown on the map attached.

Chapter 1, Section 1.2 of A Code of Good Practice for Scottish Finfish Aquaculture (CoGP) states - "New pen or marine-linked land-based broodstock sites established after 2010 should be located more than two tidal excursions away from any production farms"; therefore broodstock sites should be isolated from production farms in their own disease management area.

From the coordinates provided there are currently no active sites at the Inverpolly location (E206589.8, N915973.10) and this would therefore reactivate the 10a Enard Bay DMA and comply with the CoGP requirement. Both of the other locations contain active fish farm production sites. The Isle Ewe location (E186289, N885444) in DMA 10c – Ewe, which contains one active site (FS1084) operated by Mowi and the Torridon location (E182343, N855906) is that of Mowi's existing Torridon site (FS0234) in DMA 11a – Torridon which also includes several Scottish Salmon Company sites within this DMA.

Exactly what is proposed in terms of proposed facilities and stocking age/regime at the locations provided has not yet been provided and further details would be required to provide specific advice.

Generally, the risks associated with holding broodstock arise from the extended periods of stocking without fallow which can bridge different inputs of fish resulting in multi-year class sites or areas increasing the risk of disease occurrence and spread, and parasite infestations. It should also be noted that the CoGP has a presumption against seawater to seawater transfers, particularly those between farm management areas to minimise risk of disease spread.

It is proposed that sites may be semi-enclosed or "isolated"; however information on how this will be achieved has not yet been provided. For the purposes of disease and parasite control a semi enclosed site would still be considered as part of the wider disease or farm management area.

If a site is to hold fish as "potential broodstock" which may be used as broodstock in the future an appropriate risk assessment should be provided addressing how the site will not prolong stocking within the existing area and create a multi-year class site or area without fallowing on a single year class basis.

Commented [A1]: I think you should quote the whole point. You could also quote the ISA CoP ([Disease Management Areas \(webarchive.org.uk\)](#)) regarding broodstock being more than 5 Km or a tidal excursion (whichever is greater) away from any other farm i.e. in its own DMA.