

**BIOSECURITY PLAN**

**VONIN SCOTLAND LIMITED**

**ALTANAVAIG QUARRY**

**KYLEAKIN**

**ISLE OF SKYE**

**IV41 8PQ**

**PREPARED BY PJME CONSULTANTS LIMITED**

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**INTRODUCTION**

Non-native species (NNS) are organisms which have found their way to new habitat through human activity. A number of non-native species have been managed and contribute to society, however unmanaged or invasive NNS (INNS) can damage or displace native species, disrupt ecosystems and spread disease. Furthermore, in addition to the ecological impacts of NNS they can also pose a threat to stock, equipment and the overall commercial performance of marine infrastructure, particularly aquaculture installations.

Aquaculture activities can be adversely impacted by INNS, but also have the potential to encourage the spread of INNS or contribute to the dispersal of these species to new locations which are already established elsewhere through the movement of vessels, equipment and stock. Marine biosecurity plans can help minimise the spread of INNS and NNS to the marine environment through ensuring that good practice is in place. This document sets out a plan based on a proactive and preventative approach in line with the recommended approach by the Scottish Government and the GB Invasive Non-Native Species Framework strategy to manage INNS. The plan is based on the following approach:

- Prevention
- Containment
- Treatment

The plan is based entirely on the risk of marine INNS, as there is no potential for the risk of spread of terrestrial INNS.

## **BACKGROUND**

More than 147 species of marine NNS have been identified in the United Kingdom, of which 17 are now established in Scotland, with introduction principally due to shipping, namely arising from ballast water disposal, hull fouling and imported cultured species. As the net washing shore-base is in proximity to a range of marine statutory designated areas (MPA and SAC) it evidences the high ecological value/ sensitivity of species and habitat features which may be at risk from the introduction of marine INNS. The designated sites of interest are considered to be:

**Lochs Duich, Long and Alsh MPA** – designated to protect its burrowed mud and flame shell beds.

**Lochs Duich, Long and Alsh SAC** – designated to protect its reefs and horse mussel beds

**Loch Carron MPA** (although quite distant) – designated to protect its flame shell beds and maerl beds

## **THE PROPOSAL**

Vonin Scotland propose to establish a net washing and servicing facility at Altanavaig Quarry, Kyleakin in order to provide a support service to Scotland's marine cage fish farming industry. Cage nets when in use can become damaged (for example by seals) and invariably become fouled by the accumulation of organic flora and fauna. Whilst the nets are routinely cleaned in-situ to minimise organic growth during the production cycle they are removed for cleaning and repair either:

- When the net becomes damaged during the production cycle
- When the site is fallowed at the end of the production cycle

It is envisaged that individual nets removed because of damage will be delivered to the proposed facility by road but that nets removed following the end of the production cycle will be delivered to the proposed facility by sea via landing craft type vessels and will comprise the nets from all of the cages at the site, typically ~ 8 - 12, contained in one or two vessels. This is anticipated to result in one or two deliveries of nets to the facility each week, dependant on the production cycles/ fallow periods of Vonin's customers.

Road vehicles delivering nets to the site will access the wash area via a disinfectant wheel wash and the nets will be offloaded by the on-site mobile telescopic crane and transferred to the dirty net storage area. Landing craft arriving by sea will utilise the existing Mowi slipway adjacent to the proposed wash site where the nets will be removed by the same mobile hydraulic crane, access and egress from the wash site again will be via the disinfectant wheel wash. All nets are delivered within sealed metal containers, and any fluids within the containers will be discharged to the effluent collection/ treatment system before the containers are returned to the delivery vehicle/ vessel.

Once delivered to the wash site the nets are stored within the dirty net storage area until ready for cleaning. All rainfall run-off from this area is collected and treated via the effluent treatment system. The dirty net storage bays will be fitted with removable covers, which can be removed to facilitate the transfer

of nets to the washing drums but can be deployed when necessary to minimise rainfall run-off during periods of heavy rainfall in order to reduce the load to the effluent treatment plant and minimise the quantity of effluent requiring to be discharged to the marine environment.

The nets are washed in rotary drum washers and usually require 3 or 4 washing cycles to be properly cleaned. The final wash cycle incorporates a weak disinfectant solution. Once cleaned they are stored in the clean net storage bay before transfer to the proposed upper servicing and treatment site for inspection, repair, treatment if required and drying, before storage and transfer for re-use.

Waste from the washing process arises via rotary drum filters to remove the coarser material and the effluent treatment plant. The waste arising from both processes will be collected in sealed impermeable IBC's before transfer to the proposed waste biodigester located at the upper site for pasteurisation and treatment.

All roadway access/ egress from the wash site to the rest of the facility will be via the disinfectant wheel wash.

## **METHODOLOGY**

The purpose of this plan is to set out a framework to reduce the risk of the introduction of marine INNS through net washing activities at Kyleakin. It has been prepared with reference to the guidance document 'Marine Biosecurity Planning' produced by Scottish Natural Heritage (now NatureScot) in February 2014. It adopts a version of the Hazard Analysis and Critical Control Point (HACCP) technique. The HACCP technique when applied to this proposed operation is a process for identifying site tasks and activities which have the potential to spread marine INNS and develop and apply subsequent control measures. The HACCP system was originally developed for application in food hygiene and quality control and its underlying principles are suited to the systematic requirements for identifying risk and developing appropriate biosecurity measures. In summary, this process is broadly based on breaking site activities into tasks for which the following is established:

- Risk – determine if the task can lead to the introduction of INNS
- Justify – set out the rationale behind the attributed risk level
- Critical Control Points – are triggered at any step where hazards can be either prevented, eliminated or reduced to acceptable levels

- Control Measure – outline the proposed control measure to be applied to the task; and
- Who – identify the person or persons responsible for carrying out the control measure

All site activities, including the construction phase, have been identified and, where relevant, broken into constituent tasks associated with the operation of the proposed net washing and servicing facility to identify potential pathways or vectors for marine INNS.

## **THE CUSTOMER**

The proposal is to provide a service to the Scottish marine cage fish farming industry, predominantly marine salmon farms. This sector is substantially different from a number of other marine operations in the need to maintain relatively high levels of biosecurity and husbandry to control disease and meet high-quality welfare standards for salmon health. A high frequency of in-situ net cleaning, for example, is of key importance as the amoeba *P.perurans* – often detected in net biofouling organisms – can cause the potentially fatal amoebic gill disease (AGD). Sanitation and cleanliness protocols have also been established as standard for site cleaning activities ranging from site personnel visits to well boat operations and are set out in detail in the annexes contained within the industry wide Code of Practice (Scottish Finfish Aquaculture, 2015) which are integrated as standard into a Veterinary Health Plan/ Biosecurity Plan.

These standards already require Biosecurity Plans covering key management procedures. Examples of best practice approaches from these guidelines cover, for example:

- Sanitation of equipment, including both moveable and fixed structures;
- Dedicated procedures for wellboat operations;
- Ballast water disposal;
- Routine inspection of nets and equipment; and
- Monitoring of algae and jellyfish, prevention and contingency planning.

In addition to the routine sanitation and biosecurity measures identified above, as part of compliance monitoring for benthos, marine cage fish farm sites are routinely surveyed by specialist marine biologists including in-house staff, the SEPA compliance monitoring team and, occasionally, external

surveying contractors when required. SEPA also have an annual programme of benthic audit sampling at fish farm sites. This routine inspection and monitoring would have a strong chance of identifying any INNS at a MCFF site and allow control measures to be employed, thus minimising the risk of any INNS arising within fouled or damaged nets being delivered to the proposed Kyleakin site.

**Site Name:** Kyleakin net washing and servicing facility

**Site Location:** Altanavaig Quarry, Kyleakin, Isle of Skye

**Plan Perion:** Duration of site operation

**Biosecurity Manager:** Site Manager (named on appointment)

### **Site Features Impacting Biosecurity**

**Salinity:** Normally high, although the Alt Anavaig watercourse discharges close to the site and during periods of high rainfall resulting in spate conditions the nearby salinity could be substantially reduced.

**Submerged Structures:** None on site, although the Mowi slipway and pier are in close proximity.

**Non-Native Species Known To Be Present:** None known.

### **Hazard Analysis and Critical Control Points**

The following table documents analyses of the activities which have the potential to introduce pathways for the introduction of marine INNS. The activities include land reclamation, the construction process and the subsequent operation of the facility. The perceived level of risk is identified in each case and the controls to be employed to obviate that risk or reduce it to acceptable levels, with the person(s) responsible for the implementation of those controls identified in each case.

<b>Activity</b>	<b>Task</b>	<b>Pathway</b>	<b>Risk</b>	<b>Controls/ Justification</b>	<b>Critical Control Point</b>	<b>Control Measures</b>	<b>Implementation</b>
<b>Land reclamation</b>	Importation of rock and equipment for land reclamation	Fouling on plant or materials	Low	Rock armour and aggregates to be obtained on-site	No	Clean equipment. No working in the sea	Vonin's construction supervisor. External contractor.
<b>Construction works</b>	Necessary works to create site infrastructure	Fouling on plant or equipment	Low	All construction material obtained new.	No	Clean equipment. Working on land only.	Vonin's construction supervisor. External contractors.
<b>Delivery of dirty nets to site by: Landing craft</b>	Transport of dirty nets to the facility	Fouled nets transferring INNS to sea	Medium	Regular anti-fouling treatment of vessel. Containment of nets	Yes	Cleaning of nets in-situ by MCFF operator prior to removal. Containment of nets during transport.	MCFF operator. Vessel owner/operator if different.



<b>Road transport</b>	Transport of dirty nets to facility	Fouled nets transferring INNS to sea	Low	Storage of nets on land before removal from shore base. Transport on land	No	Containment of nets during transport	MCFF operator. Road haulage contractor.
<b>Transfer of dirty nets to storage area: Landing craft</b>	Unloading of nets by telescopic crane	Spillage	Medium	Containment of nets in waterproof container	Yes	Containment. Safe handling. Disinfectant wheel wash. Any water in containers to effluent collection and treatment system.	Landing craft operator. Wash site manager.

<b>Road transport</b>	Unloading of nets by telescopic crane	Spillage	Low	Containment of nets in waterproof container. Transport over land.	No	Any water in containers to effluent collection and treatment system.	Wash site manager
<b>Dirty net storage</b>	Storage of nets prior to washing	Uncollected run-off	Low	Use of covers to minimise rainwater infiltration. All run-off collected	Yes	Maintenance of effluent collection system. Use of removable net storage covers when necessary	Wash site manager
<b>Net washing</b>	Washing of dirty nets in rotary drum washers	Overflow of effluent collection system	Low	Activity contained within dirty net area	Yes	Maintenance of effluent collection system. Containment of waste from drum filters in impermeable containers.	Wash site manager

<b>Effluent treatment</b>	Treatment of collected effluent	Malfunctioning system	Medium	Three step filtration plus UV sterilisation of effluent	Yes	Proper maintenance and operation of the effluent treatment system. Use of net storage covers to minimise rainwater infiltration.	Wash site manager
<b>Waste transfer from wash site to treatment</b>	Movement of waste from net washing and effluent treatment to the waste biodigester	Spillage. Leakage	Low	Containment of waste. Transport over land.	No	Containment of waste in impermeable IBC's. Use of wheel washer	Wash site manager
<b>Waste treatment and use</b>	Use of the treated waste by spreading on land	Use of inadequately treated waste in areas close to the sea	Low	Length of time between removal from the sea and	No	Pasteurisation of the waste before biodigestion.	Service site manager

				beneficial use.			
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## Monitoring and Reporting

Mowi carry out regular diver surveys of the sea in the vicinity of the Kyleakin site to monitor the health of the protected characteristics. Vonin will collaborate with Mowi in such surveys to monitor for any evidence of INNS. Should monitoring reveal the presence of INNS, a report will be made to the appropriate authorities using the deicated INNS reporting form found at: <https://www.environment.gov.scot/get-involved/submit-your-data/invasive-non-native-species/#report>

Specific reporting procedures are in place for wireweed *Sargassum multicum* where notification should be sent to [wireweed@nature.scot](mailto:wireweed@nature.scot) and carpet sea squirt *Didemnum vexillum* where the report should be made to [https://risc.brc.ac.uk/alert.php?species=carpet\\_seasquirt](https://risc.brc.ac.uk/alert.php?species=carpet_seasquirt)

The discharge from the effluent treatment plant will be monitored by SEPA and Vonin to ensure compliance with the SEPA imposed discharge quality standards.

## Plan Review Date

No specific date is set for review of this plan. The plan's effectiveness will be monitored during implementation to ensure no problems are encountered during the operation of the facility and compliance with the plan will form part of routine workforce performance appraisal. Any change in operational procedures will trigger a review of the plan.

