

14 August 2019

Submission to Highland Council from the National Trust for Scotland in Response to Scoping Document submitted by MOWI Scotland Ltd for a fish farm off the Isle of Canna, Reference 19/02642/SCOP

The National Trust for Scotland (NTS also referred to as the Trust) is grateful for the opportunity to comment on the proposal by MOWI to develop a fish farm off the Isle of Canna. Our response sets out a number of concerns, based on the information provided by MOWI and also where we think there are deficiencies in this information.

NTS was donated the islands of Canna and Sanday by John Lorne Campbell in 1981 and received financial assistance from the National Heritage Memorial Fund (NHMF) for its endowment. The Trust owns and manages a large number of islands and areas of coastline for public benefit and enjoyment, the majority of which is designated for its natural heritage interest. In carrying out our charitable purpose the Trust has developed considerable knowledge of the marine environment, and our properties in particular, through the work of our staff, volunteers and communities who live and work there.

Fin fish aquaculture in Scotland is at a crossroads, with growing evidence of, and concern over, its environmental impacts. The Trust has placed on record its concerns regarding the operation and potential expansion of the industry. SEPA's proposals for a new approach to managing fin fish aquaculture are welcome, but they are untested. We note that the new regime aspires to "encourage[s] operators to site and operate fish farms in environmentally less sensitive waters and use improved practices and technologies, such as containment, to reduce environmental impacts¹." Our response to this scoping proposal by MOWI is in that context with our concerns exacerbated by the scale of operation and its proximity to one of the most highly designated and important marine environments in Scotland.

The Trust has concluded, on the evidence presented in the scoping document and our own assessment of the potential risks this poses to the marine environment and tourist based economy, that it is opposed to development of an open pen fish farm in the Sound of Canna.

¹ <http://media.sepa.org.uk/media-releases/2019/sepa-s-new-finfish-aquaculture-regulatory-framework.aspx>

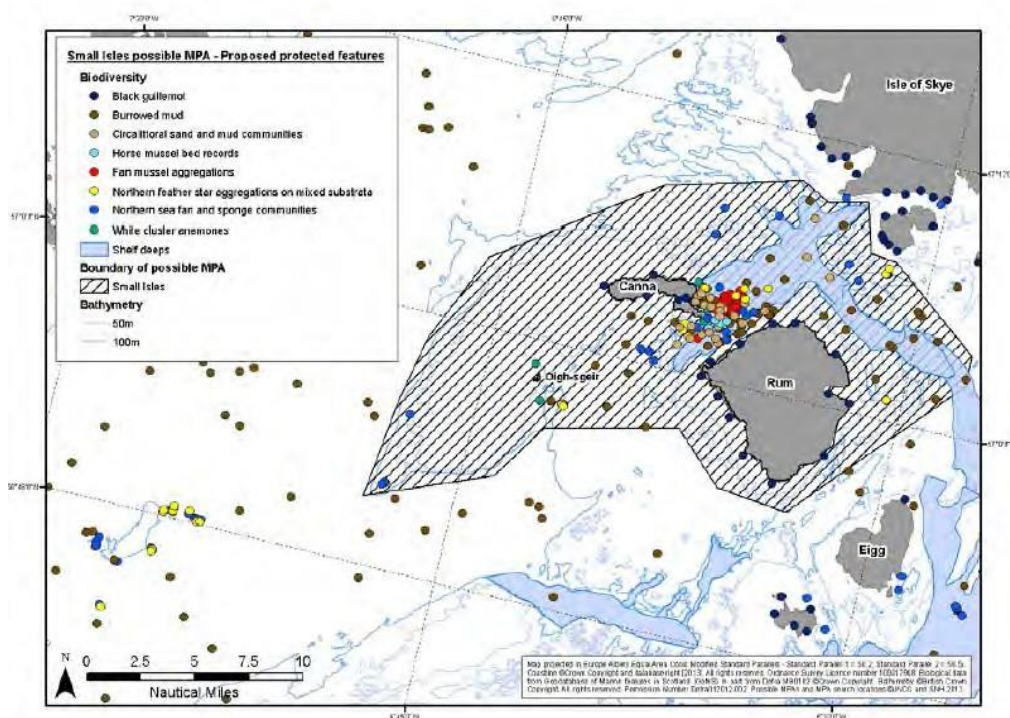
Response to the Scoping Proposal

The National Trust for Scotland is very concerned about the potential significant impact of a large fish farm in the proposed location off Canna. The impacts fall within the following areas:

- 1 Designated and other priority Marine Features within the Marine Protected Area
- 2 Wild Atlantic Salmon and Sea Trout in surrounding areas
- 3 Landscape features within the NSA
- 4 Navigation within Canna Harbour and the adjacent anchorage
- 5 Operation of Canna Harbour
- 6 Tourist industry for the island

1 Designated and other Priority Marine Features

The proposed fish farm is located within the biologically richest part of the Small Isles Marine Protected Area. It represents probably the worst location that could have been chosen in this respect and it is essential that a highly precautionary approach is taken in assessing its potential impact.



A list of the Priority Marine Features (PMF) present in this vicinity is given in Table 1 below. A few of these are designated but there are a number of other PMFs that also need to be assessed. Particular attention should be paid to two extremely rare invertebrates, the burrowing anemone (*Aracnanthus sarsi*) and the Fan Mussel (*Atrina fragilis*). The former is probably the rarer of the two, there being only 20 records of it in Scottish waters, two of which are in the immediate vicinity of the farm.

Priority Marine Features	Distance from farm (km)
Shelf deeps	0
Burrowed mud	0
Kelp and seaweed communities on sublittoral sediment	0
Maerl beds	4.3
Northern sea fan and sponge communities	0.3
Seagrass beds	0.05
Horse Mussel beds	1.4
Circa-littoral sand and mud <i>Owenia fusiformis</i> and <i>Amphiura filiformis</i>	0.3
Burrowing sea anemone, <i>Aracnanthus sarsi</i> *	0
White cluster anemone, <i>Parazoanthus anguicomus</i>*	0.6
Northern feather star <i>Leptometra celtica</i>	0.3
Fan mussel aggregations, <i>Atrina fragilis</i>	1.2
Black Guillemot	0
European spiny lobster, <i>Palinurus elephas</i>	1.5
Basking shark, <i>Cetorhinus maximus</i>	0
Atlantic salmon	0
Sea trout	0
European Otter	0
Grey Seal	0
Common seal	0
Common Dolphin	0
Harbour Porpoise	0
Minke Whale	0

Table 1. Priority Marine Features recorded from the vicinity of the proposed fish farm. Designated features are shown in Bold

The proposal is for a farm with a maximum biomass of 2,500t of salmon which can be expected to discharge annually the same amount of waste as a town of 33,000 people² (the population of Oban is 8,500 in the winter, rising to about 25,000 in the summer). All of the waste is untreated and can have a devastating impact on the seabed. The proposal indicates that hydrographic modelling will be used to predict where this waste will fall and indicates we believe to be an unrealistically small footprint for this impact. Recent work by SEPA³ has shown that in conditions of strong and complex tidal currents, such as those prevailing in the Sound of Canna, waste can accumulate up to 4km from the farm site. This long-range deposition is not well captured by existing hydrographic modelling capacity.

Under these conditions, for a new development of this size and nature being considered within a new regulatory framework and in a protected site of the importance of the Sound of Canna, it is essential that a highly precautionary approach is taken to the likely zone of impact. Of all of the features listed in Table 1, only Maerl falls outwith a 4km range.

We believe that the seabed surveys carried out by MOWI to date are completely inadequate to identify features that could be impacted by waste derived from the farm and their scope needs to be considerably extended.

The mechanisms used by SEPA to evaluate the impact of organic waste on seabed communities are currently limited to organisms living within the sediment. There are currently no procedures available to evaluate the impact on communities living on rocks or other hard substrates. A number of the Priority Marine Features are characteristic of rocky habitats and so additional scrutiny will need to be directed at evaluating what level of damage will be acceptable. It is important that this is available before any proposal for development within a susceptible MPA is considered.

The distribution or status of the mobile Priority Marine Features, even the designated Black Guillemot, have not been addressed in the scoping document.

The farm also falls within two marine Special Protection Areas, designated in part for Manx Shearwaters. Reference to work carried out for a previous farm on Rum is not sufficient to predict the impacts of a development on designated features of an SPA. The area around the proposed fish farm is known to be used by Manx Shearwaters but their exact nesting distribution is poorly understood. Shearwaters are particularly susceptible to disturbance by lights including those used in the operation of fish farms and shore facilities. There is also a potential impact on red-throated divers, another feature of the SPA, that may feed in this area.

² SAMS (2018) Review of the environmental impacts of salmon farming in Scotland; Executive summary and main report Prepared for Scottish Parliament

³ Modelling of Emamectin Benzoate (EmBZ) seabed residues , Andrew Berkeley, Ted Schlicke, Alan Hills. SEPA briefing note.

One of the greatest threats to the SPA on Canna is from introduced predators. Foremost amongst these are rats, which are currently absent from Canna, having been eradicated in 2006 at considerable effort and expense. The operation of a fish farm carries a serious risk of reintroducing rats from Rum, Mallaig or other mainland shore bases, all of which are known to be heavily infested with rats. Rats could reach the shore from vessels landing at Canna harbour but could also swim ashore from cages moored offshore. The appropriate assessment must contain full details of this risk and measures to be taken to prevent it.

Invasive non-native species also pose a risk to features of the Marine Protected Area, particularly species such as the carpet sea-squirt, known to be present in a number of harbours on the mainland. The risk of introducing these through the operation of the fish farm needs to be fully assessed.

The proposed farm site is within 1km of a designated seal haul-out site. The proposed development greatly increases the potential for interactions with seals (predation, entanglement) and may result in the need for control measures, including lethal control. If approved, this would be the closest fish farm to a designated seal haul-out site in Scotland. The most appropriate mitigation would be the relocation of the farm to a site at a safe distance from the haul-out.

Although MOWI has indicated that it intends to operate the farm under Organic principles, this does not mean that therapeutic chemicals will not be used. Many of these can have seriously detrimental impacts on marine wildlife, including features of the MPA. The quantities of chemicals potentially to be used needs to be fully assessed. Attention is drawn to Emamectin Benzoate (Slice) which is known to kill marine invertebrates over considerable range and hydrogen peroxide (currently unregulated by SEPA and therefore not assessed under CAR) which is known to be damaging to kelp plants up to 4km away⁴.

2 Wild Salmon and Sea Trout

Salmon farms are a major source of sealice larvae in the marine environment. These larvae have been shown to be present at levels that pose a threat to wild salmon and especially sea trout at distances at least 35 km from farms⁵. The proposal therefore needs to assess the threat posed to salmon and seatrout populations within this zone.

⁴ Haugland BT, Rastrick SPS, Agnalt AL, Husa V, Kutti T, Samuelsen OB (2019) Mortality and reduced photosynthetic performance in sugar kelp *Saccharina latissima* caused by the salmon-lice therapeutant hydrogen peroxide. *Aquacult Environ Interact* 11:1-17. <https://doi.org/10.3354/aei00292>

⁵ Effects of salmon lice *Lepeophtheirus salmonis* on wild sea trout *Salmo trutta*—a literature review EB. Thorstad, CD. Todd, I. Uglem, P. Bjørn, PG. Gargan, KW Vollset, E. Halttunen, S. Kålås, M. Berg, B. Finstad <http://www.int-res.com/articles/aei2015/7/q007p091.pdf>

Figure 2 shows the location of salmon farms in the Small Isles together with circles of radius 30km to indicate potential zones of impact. It can be seen that the site on Canna potentially threatens at least 13 rivers on Skye (blue stars) in addition to two on Rum. Studies carried out by the developer to date cover only one of the rivers on Rum. The nearest to the farm site, Kilmory River, has not been fully surveyed.

It is essential that the impact on the rivers on Skye are fully evaluated.

In addition to the immediate vicinities of the river mouths, sea lice also pose a threat to fish migrating on their way to sea. Farms on the Small Isles therefore also threaten fish migrating out of the Sound of Sleat and the Sound of Mull (shown by blue arrows on Fig 2). It will therefore be necessary to assess the impact on rivers impacted by these migrations as well. These include at least two rivers designated as SACs for Freshwater Pearl Mussels (red stars on map) which could be seriously affected by a reduction in migratory salmonids.

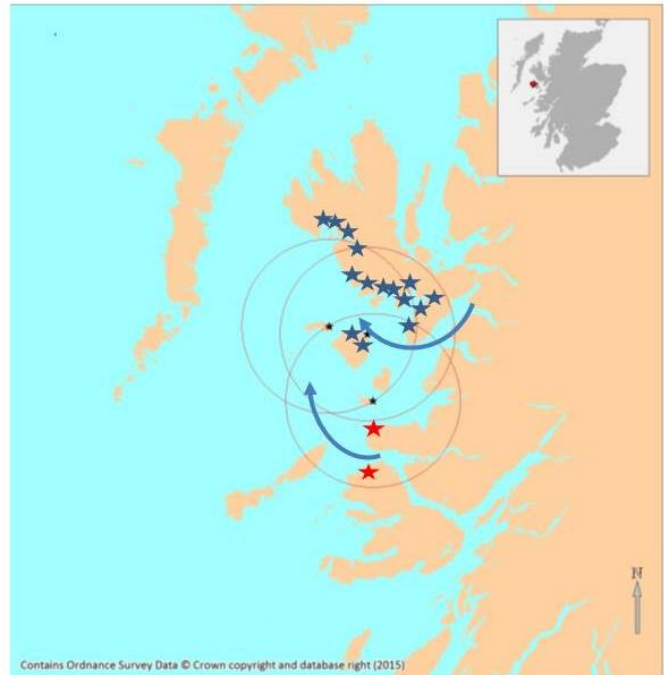


Figure 2 (right). Zones of impact of sealice emanating from farm sites in the Small Isles. Blue stars show rivers within 35km of Canna. Red stars show SACs designated for Pearl Mussels. Arrows show likely migration routes passing through the area.

The zones of impact of all of the farms on the Small Isles overlap and it will therefore be necessary to assess the cumulative impact of all of the farms.

The impact of sea lice originating from a fish farm is dependent on a combination of the level of lice infestation (number of lice per fish) and the number of fish in the farm. It is essential that the assessment takes both of these into account. The applicant has stated that it is their policy to start with a 2,500t farm and to increase this at a later date. It needs to be made clear how such a move would be subject to adequate overview from the Planning Committee in future and to ensure that any impact assessments are carried out to accommodate that potential eventuality.

3 Landscape impact

Canna lies within the Small Isles National Scenic Area. The "Sanctuary of Canna Harbour" is specifically mentioned in the Special qualities of the NSA as "*Canna Harbour provides an intimate*

sanctuary in the midst of mountain and sea. The houses round the bay, the lush fields, and the scent of clover, the woodland plantations and the sheltered harbour are a pleasing contrast after the wilds of Rum and Skye. They also contrast with the open moorland landscape that covers much of Canna itself." It is renowned for these qualities amongst yachtsmen and is regularly frequented by 20-30 yachts throughout the summer season.

Experience from the development of shore facilities and pontoons for the fish farm on Rum has shown that they have introduced industrial structures into a previously quiet rural sealoch altering the local landscape character. The impact on Canna would be much greater as the harbour is much smaller and the landscape is more open.

The cages, together with the feed barge, will also have a major landscape impact on the remote eastern shore of Canna, immediately below the very important landscape feature of Coroghan Castle. This stretch of coastline is much valued by walkers as the quickest way to escape the settlement around the harbour and experience something of the wildness that Canna has to offer.

4 Navigation within Canna Harbour and the adjacent anchorage

Canna Harbour is already congested. There are 10 permanent moorings that are routinely fully occupied in the summer and there are not infrequently a further 15-25 yachts at anchor in the bay. The areas needed for this level of occupancy significantly overlap with the area shown for the pontoon. Visiting yachts are one of the main sources of income on the island.

In addition to the pontoon, it will also be necessary for the farm to have permanent moorings for one or more work boats. These will also take up space which will need to be agreed with the Harbour Authority.

The proposal states that "cruise ships periodically visit Canna". This is misleading as last year 79 cruise ships visited and we are on target to have around 90 this season. They provide a very significant source of income for the island.

Larger cruise vessels need to anchor outside the harbour and the swinging circle needed for these (radius 400m) overlaps with the proposed site of the cages, thereby denying the island this lucrative source of income.

5 Operation of Canna Harbour

The proposal indicates that it plans to replace the buildings currently behind the pier with a "shorebase". These buildings are fully occupied and necessary for the operation of the harbour.

The road to the harbour is used by all visitors to the island (pedestrians). Additional commercial traffic associated with the operation of the fish farm will pose a potential threat to them.

6 Tourist industry for the island

The economy of Canna is hugely dependent on tourism, driven by the desire to experience its rich cultural and natural heritage. In addition to the provision of overnight accommodation, the community receives income from a number of ventures including mooring fee donations and the community shop. The National Trust for Scotland has invested well over £1m on Canna over the last 5 years. Any future investment in sustainable tourism could be jeopardised by the development of a large fish farm.

Coroghan beach, adjacent to the proposed development is one of the most popular bathing beaches on Canna.

The Trust is committed to working in partnership with the Canna community. Our decisions will reflect our charitable purpose as well as the views of our donors and supporters.