

IMTA farm Re-application – East Balvicar - Navigational Risk Assessment & MEAC

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01 Introduction

Stevie Jarron is an Aquaculture Specialist and Marine Operation Consultant. Trading under the name of Argyll Aquaculture (AA). Trading address – Tigh air Oisean, Cnoc a Challtuinn, Clachan Seil, Argyll and Bute, PA34 4TR.

AA has acquired the Crown Estate Scotland Lease and the Marine Directorate consent for the Integrated Multi-Trophic Aquaculture (IMTA) site, from original owner Jack Macgregor (trading as Jack Macgregor and Sons).

The East Balvicar site was originally licensed as a mussel farm (04700), but algae farming consent was added (04700/17/0), creating an IMTA consent which was subsequently re-applied for under MD license - 06833/20/0.

The documentation for the change of ownership was submitted to Marine Directorate LOT on 01/10/2024. This change of ownership is still pending, but the license is due to expire on 24 March 2025. This re-application is being made under the new ownership details in the expectation that the new detail will match those pending changes.

The boundaries of the existing MD license - 06833/20/0 of the IMTA farm are laid out as:

56° 17.683' N	5° 35.441' W
56° 17.667' N	5° 35.325' W
56° 17.350' N	5° 35.598' W
56° 17.337' N	5° 35.451' W

AA wish to provide all marine users with the information to ensure safe passage past the farm site. This document provides information on the farm position in relation to other users, lighting arrangements and the structure of the farm itself. The 2 Special Marks as recommended by Northern Lighthouse Board in the original application process, are Y Fl 5s (2m) are laid out in the existing MD license - 06833/20/0 at points:

56° 17.683' N	5° 35.441' W
56° 17.350' N	5° 35.598' W

The MD license - 06833/20/0, has the site consented for 4 longlines, all of which can be used for algae cultivation and 3 which can be used for mussel/shellfish cultivation.

The last section of this document is the Marine Emergency Action Card (MEAC) that will be given to Northern Lighthouse Board (NLB), Marine and Coastguard Agency (MCGA) and other marine users in the area. AA have already informed the Hydrographic Office of the positions and types of navigation buoys, as agreed by NLB and MCGA. The site is well marked on all nautical charts and has been operational for more than 2 decades.



02 Vessel Traffic Review

A desktop study was undertaken to assess the Navigational Risks to vessels in the area of the existing IMTA Farm. Using Marine Traffic tracking software, it was possible to provide Density Maps for 2021 and 2022 combined (Fig 1).

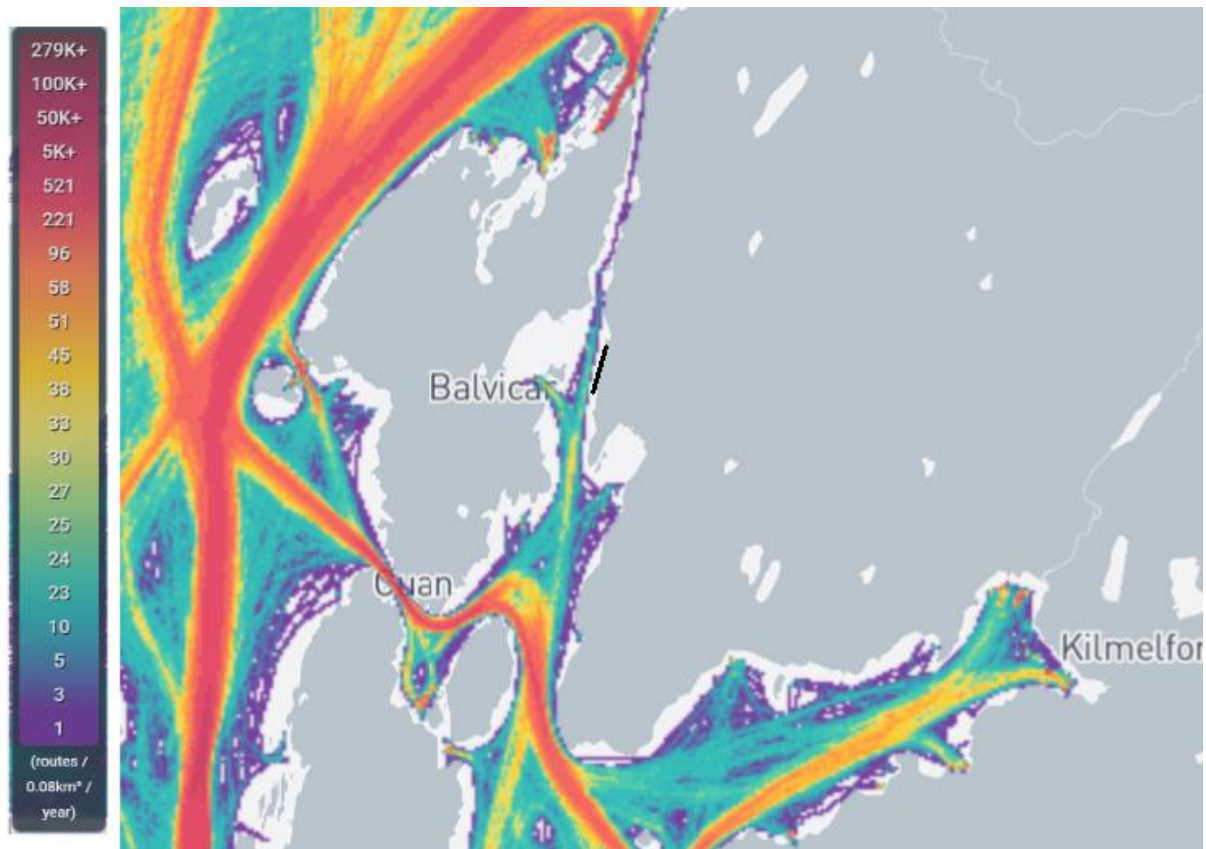


Fig 1 - AIS for 2022 and 2023 Density Map – centre black line is IMTA farm site.

As can be seen from above, AIS using vessels movements can be assessed as very low density marine traffic through the edges of the farm site. This data does not include very small fishing or pleasure vessels that use the area that do not carry AIS.

AA have sought local input from marine users and community members and have been advised that small creel vessels and masted pleasure vessels do not enter the area of the farm as passage north through Seil Sound and into Clachan Sound is restricted by height at the road bridge (the famous Bridge over the Atlantic). All the fishing vessels turn west away from the farm into Balvicar fishing harbour. Balvicar boatyard also takes in most of the area traffic. Virtually all vessels are local to the area and the 2 special mark bouys are well known and used as navigational aids for vessels lining up to enter the Seil Sound Moorings Association area to the north. A few sail powered vessels (mostly ribs) will make the transit up through under the bridge. AA will keep all local marine users well informed of any changes to our site structures.

03 Buoyage and Lighting Arrangement

The original site operators were advised by Northern Lighthouse Board (NLB), Marine and Coastguard Agency (MCGA) and Royal Yachting Association Scotland (RYAS) to use the conventional system for marking aquaculture sites, which is by the installation of Special Marks at the seaward corners. These are large, yellow coloured floating buoys. They have a top piece of a yellow St Andrews Cross and solar powered lights which flash yellow at night. Special Marks (Fig 2) are used to mark hazards and their colour and lighting set up offers information to the observer on where safe passage is available relative to their position. The site is currently marked by 2 x Special Marks (Fig 2).

The aquaculture site is clearly marked on updated paper and electronic charts by a dotted line at its limits and a fish and cage symbol within. The appropriate authorities and local marine users will be informed ahead of any changes to the lighting regime.



Fig 2 - Special Mark buoy

04 Deployment and Operational Vessels

To undertake the deployment and operational work at the IMTA farm site, AA will charter the following style of vessels. These descriptions are to allow Statutory Consultees and Stakeholders to visualise the impacts. The exact charter companies and the vessels they will use are to be determined as contracts cannot be fixed at this stage of project development. Due to distance and speeds, it is envisaged that all vessels will make one journey in a day.

04.01 [Workboat](#)

Versatile landing craft style vessel ~18m x 5m. Speed - <8 knots.

This style of vessel will be used to install or move anchors and to tension the risers to give stability to the farm structures. These vessels are the primary workhorse for mussel and seaweed farm operations across the area. The vessels have a large deck space and deck cranes to deploy growing lines in the water and lift them again at harvest time. The decks will also contain harvesting machines and suitable containers for harvest and waste rope collected. They may be supported by smaller vessels.



04.02 Creel boat

Local fishing fleet vessels around 10m to 16m. Speed - <8 knots.

This style of vessel will be used to visit the site to observe the structural integrity, whilst passing to or from their fishing grounds. They may occasionally take sample of harvest from the site and support larger vessels. There is the possibility of these vessels being chartered for deployment and operational phases.



Oban Harbour

04.03 Fast workboat

Rigid Hull Inflatable Boat (RHIB) or hard boat 8m to 10m. Speed - 20 knots.

This style of vessel will be used to occasionally visit the site to observe the structural integrity, take sample of harvest from the site and support larger vessels.



05 Transit Routes

Balvicar, 0.5km to the west is the most likely harbour to be used during all phases of work on or at the farm. Smaller vessels may be used for regular checks, leaving from Clachan Seil (Seil Sound) to the north. There may be occasion for equipment to come in on vessels from further afield. These will transit the area via Cuan Sound to the south. (Fig 3).

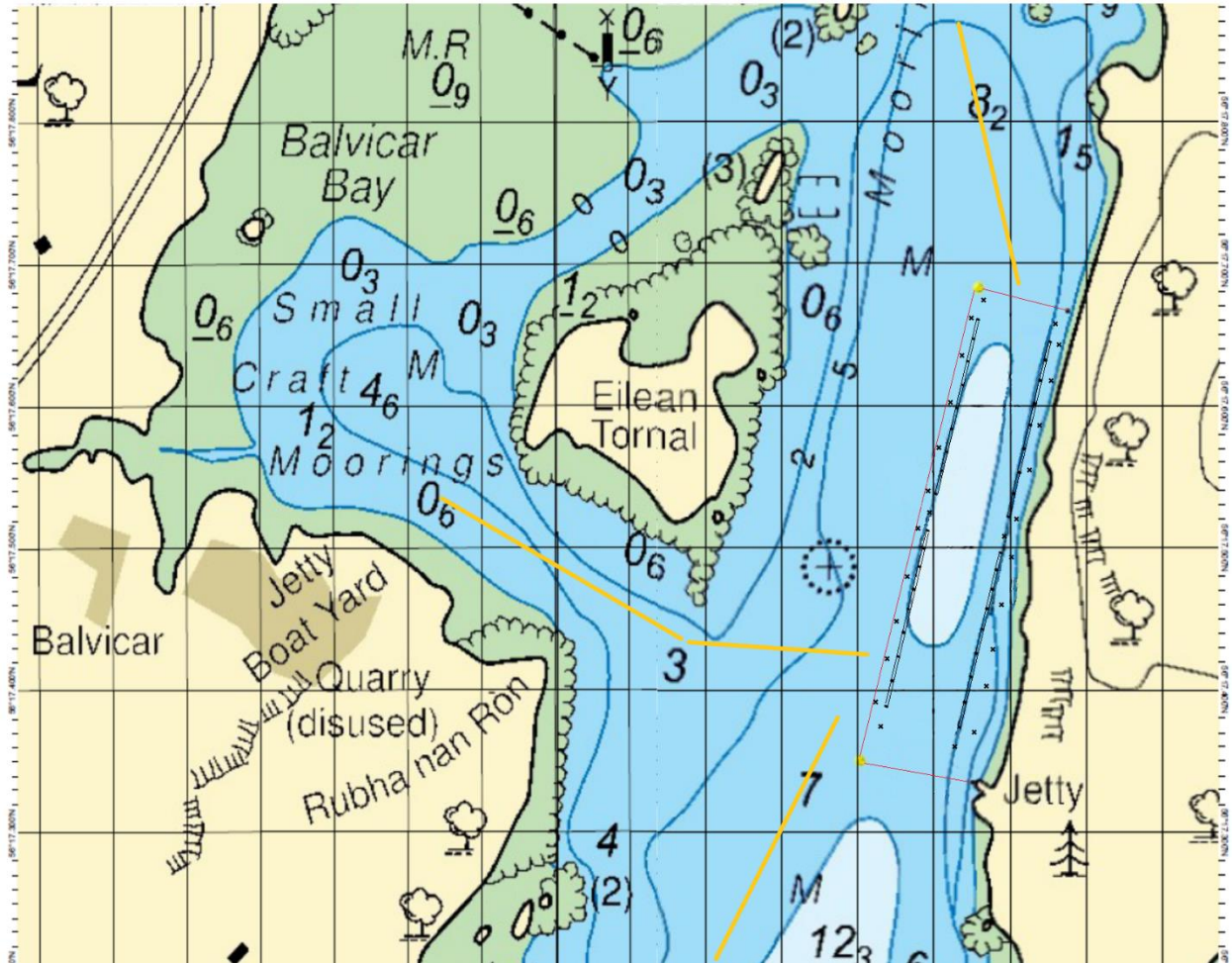


Fig 3 - Transit Routes (yellow) – north to moor in Seil Sound, west to land at Balvicar Harbour, south to transit Cuan. AA’s planned operations are all to be conducted in daylight hours.

06 Operational Farming Phases

AA will undertake 2 main Operational Farming Phases at its IMTA farm (Fig 4), Deployment Phase and Harvesting Phase. A further Intermediate Phase will also be described for clarity. During the Operational phases, Workboat and Creel fishing vessels will be brought in to deploy lines and to harvest seaweed.

They are likely to be supported by smaller RHIB or hard boat style vessels (in Operational and in an Intermediate Phase). The vessels are likely to work out of Balvicar or Clachan Seil. The vessels will load and unload equipment and seaweed and transit the site via recognised transit lanes used by other Marine Traffic.

06.01 Deployment Phase

IMTA Cultivation requires the deployment of seeded seaweed and spatting shellfish lines. For seaweed this can be a late autumn operation, October to mid-November each year. Shellfish deployments can vary from late spring to late summer. As the farm productivity increases, the longer time taken to complete the Deployment phases will take, but it is hoped that technological advancements will increase efficiency accordingly.

With the current in water equipment, it is expected that Deployment will take no more than 2 days. For a fully developed IMTA farm site, it is expected that Deployment will take 2 to 3 weeks, spread out over the various seasonal differences.

06.02 Harvesting Phase

The harvesting of the matured seaweed plants begins in early-March and ends in late-May. The harvesting of the mussels/shellfish can be taken any time, but high summer is avoided.

With the current in water equipment, it is expected that seaweed harvesting will take place over a 4 week period, with roughly 2 harvest vessel journeys to the site per week, harvesting up to 5 tonnes per harvesting visit.

06.03 Intermediate Phase

Outside of the Deployment and the Harvesting or Operations phases, the IMTA farm will either be fallow or largely left unattended while the harvest grows. Vessels will visit the farm weekly to inspect the site to check on the structures (part of the license conditions) and to check on plant growth and crop quality.

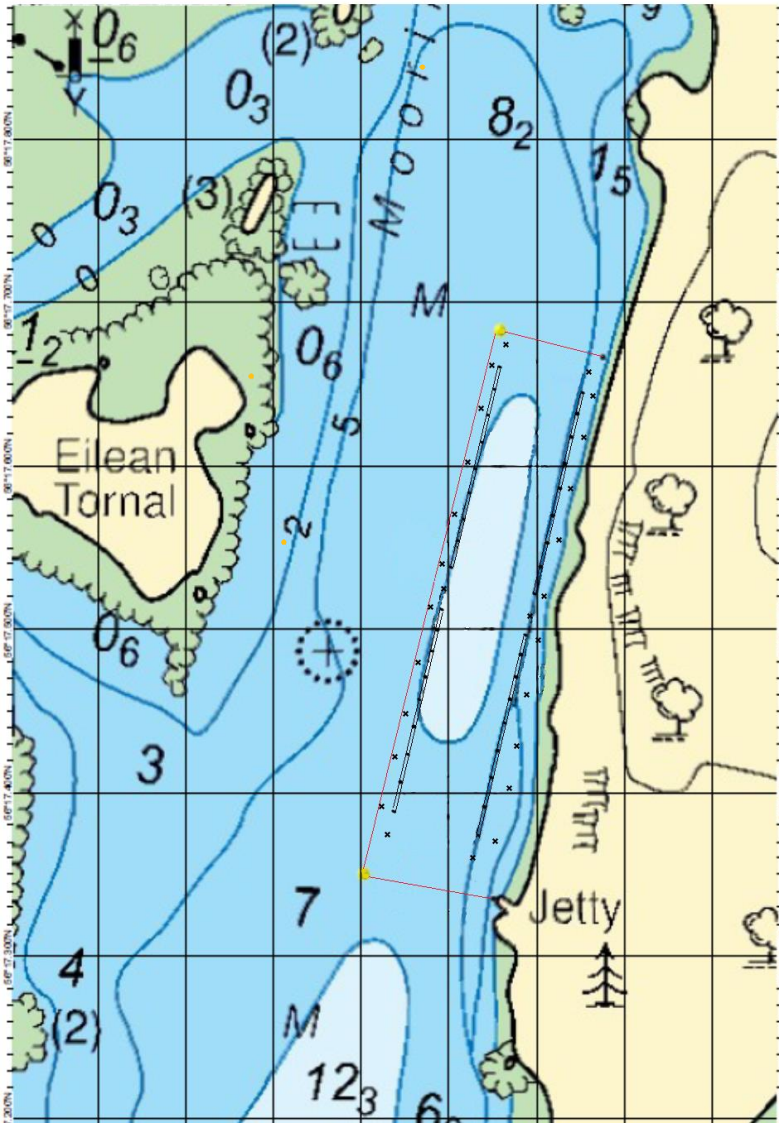


Fig 4 – IMTA farm layout

08 Monitoring Arrangements

AA will ensure that the East Balvicar IMTA farm will be regularly inspected by certified mooring specialists. A provision will also be made for the continuous monitoring of the site outwith its operational growing period. The site will be regularly visited by farm operatives by vessel. A record of visits and inspections will be kept by AA and made available to any inspecting MCA staff on request.

It is essential that the navigational and health and safety regulatory expectations for mooring systems are set in proportion to the potential risks with a view to develop a safe and sustainable seaweed growing platform for the long term. To do that a registered marine provider (as yet uncontracted), will deploy a bespoke designed IMTA Farm for AA that uses oversized ropes, chains and anchors to ensure the structure;

- can withstand such forces acting on it as are reasonably foreseeable including;
 - Environmental conditions, e.g. winds, waves, tidal currents
 - Loads during operational conditions including normal operation, contact loads from access boats and temporary loads during maintenance operations.
 - The weight of the installation and anything on it, buoyancy, drag and inertia forces.
from movement
 - Unplanned incidents including vessel impact.
- its construction, commissioning, operation, modification, maintenance and repair of the IMTA Farm may proceed without prejudicing the structure's integrity.
- in the event of reasonably foreseeable damage to the installation or its moorings, it will retain sufficient integrity to enable action to be taken to organise appropriate safe repair, thus preventing mooring failure (thereby becoming a navigational hazard).
- it may be decommissioned and dismantled safely.

The farm design is sufficiently robust to withstand the most extreme weather conditions to be found at site and be well within the tolerances of the structures. Factors tested are the worst case scenarios (i.e. the effect of the worst winter storms impacting the farm when it is most heavily laden with biomass).

The similar design has already been used and proven in licensed farms on the west coast (e.g. South West Mull and Iona Development, Mull). This farm is now completed its third winter without issues. The anchoring system used will be robust to ensure farm's stability but use the minimum amount of infrastructure possible to reduce the footprint of the site and reduce seabed impact.

09 Decommissioning Plan

AA have been trading since 2016 acting as consultants and operational support to low trophic IMTA farms on the west coast of Scotland. They are now investing heavily in the IMTA industry by buying this IMTA farm.

The harvest this IMTA farm will grow, will become high value ingredients across multiple product lines. AA are in consultation with processors and on developing onshore facilities for the movement and processing of their product. The cultivation of seaweed and shellfish at their new IMTA farm will strengthen the supply to the whole Scottish sector.

The IMTA farm design has been made with long service in mind. The use of heavy ropes rather than chains will allow a decade or more of operation before major replacement of parts are required.

Should the business venture founder, AA will hold back sufficient funds to enable the IMTA farm to be removed from site. The surface structure can easily be detached and towed to shore. The anchors that hold the structure in place can be simply lifted to the deck of a winch enabled vessel. The cost of decommissioning would be a fraction of the cost of deployment and the sale of the anchors and floats at the site should easily cover the cost of works.

10 Emergency Response Plan

This plan will exist both here for information and as a stand alone document that will be circulated to local HM Coastguard and RNLI stations, local vessel users, local houses and on a signpost overlooking the harbour at Stein.

Emergency scenarios and response

- vessel stranding – in the event of a vessel entering the IMTA Farm exclusion zone and colliding with the Farm structure, the first concern is the safety of the vessel and crew. **999** should be called and the coastguard/RNLI informed. ARGYLL AQUACULTURE should also be contacted (number below) and repairs to the Farm structure will be enacted.
- cetacean entanglement – in the unlikely event of a seal, whale, dolphin or basking shark becoming entangled in the IMTA Farm lines, The British Divers RESCUE HOTLINE: **01825 765546** should be called - <https://bdmlr.org.uk/>
- float loss – occasionally, some line floats may become detached from the IMTA Farm structure. This will not degrade the integrity of the Farm structure, but ARGYLL AQUACULTURE should be contacted (**number below**) so the float can be recovered and the replaced back where it came from.
- Storm damage/loss of integrity of the structure – the design of the IMTA Farm is such that multiple anchor lines hold the structure in place and the loss of several of these lines would not degrade the integrity of the Farm. But should it be observed that the Farm structure has been damaged or worse, lost from its moorings **999** should be called and the coastguard informed. ARGYLL AQUACULTURE should also be contacted (**number below**) and emergency repairs to the Farm structure will be immediately enacted. Local vessels (fishing and aquaculture boats) will be retained as emergency response and ropes, floats and other equipment held in preparation for such emergency repair at shore base 0.5 mile to the west at Balvicar Harbour.

ARGYLL AQUACULTURE Contact details (to be contacted in all scenarios)

Stevie Jarron	Argyll Aquaculture	Marine Coordinator	<Redacted>
			+44 1852 350 056
	Coastal Connection	Marine Provider	+44 1631 565 833
			<Redacted>



MARINE EMERGENCY ACTION CARD

For Argyll Aquaculture - IMTA Farm

Development summary (include details of the design, numbers of units/structures, mooring arrangements, subsea information, etc.) A full description including diagrams must be included below.

Emergency Contact
One of the following or a combination of both, must be 24/7

Duty Holder name	Stevie Jarron
Primary number	<Redacted>
Secondary number	+44 1852 300 056
Media relations (if applicable)	n/a
Coastguard	999
Police	999

Insert a picture/drawing of the device

See attached photograph of Special Marks and specification of light below

Development location	
Range & Bearing from land	East side of Balvicar Bay, isle of Seil.
Dimensions of the area	150m x 600m
Number of devices	2

Device Specific information (adapt to suit the device)

Heights/depths (m and ft)		Lights / Markings	
Height above sea level	Focal height of light 2420mm	Lights	2 x (Y Fl 5s)
Depth below surface	1.2m	Marks	Yellow
Height seabed	14m OD		

SPECIAL MARK



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<p>Details of regular maintenance activities</p> <p>Weekly visual inspection from shore or vessel. Records will be kept for inspection by ARGYLL AQUACULTURE. See example sheet in details.</p>	<p>Summary of number of personnel working offshore and emergency response capabilities</p> <p>Site is fallow until October, There will be no work done at site until then.</p>
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<p>Details of vessels operating to/from the development – include name, callsign, description, communications (e.g. channels used), number of crew, operating limits, etc.</p> <p>No vessels are yet owned by ARGYLL AQUACULTURE. Operations at the site begins in May 2025. This form will be updated as staff and vessels are assigned to the work.</p> <p>Various vessels will keep visual contact on site as they pass. Local work/fishing vessels will visually inspect site regularly. Records will be kept for inspection by ARGYLL AQUACULTURE.</p>	
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Personal SAR Locating Device Make & Model				
Functions: yes/no	COSPAS-SARSAT	AIS	DSC	121.5MHz
	n/a	n/a	n/a	n/a

<p>Additional information pertinent to the development</p> <p>No vessels are yet owned by Argyll Aquaculture. Operations at the site begins in May. This form will be updated as staff and vessels are assigned to the work.</p>	
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