



**KILCHOAN  
ESTATE**

## KILCHOAN ESTATE; PROPOSED SEAWEED FARM, LOCH MELFORT

The Kilchoan Estate is a cultural and educational enterprise in ecological restoration, preservation, and sustainability for the benefit of the people of Argyll and the world. Part of the estate is situated on Loch Melfort, a suitable location for kelp farming.

### PROPOSAL

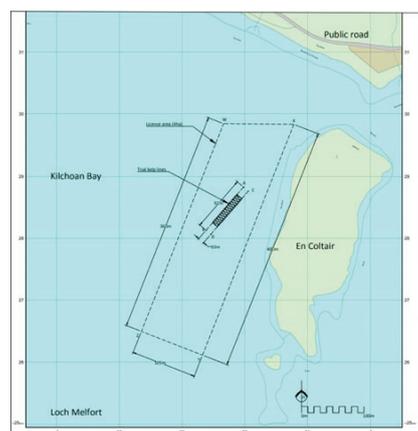
Kilchoan Estate wants to protect naturally occurring kelp forests and contribute to the rising demand for seaweed as a raw material. The Kilchoan Estate is proposing a medium sized kelp farm to showcase a sustainable method of kelp production.

#### Why Farm Kelp In Scotland?

- The proposed species, *Saccharina Latissima* is abundant on shorelines across Scotland. The kelp farm will positively contribute towards the marine environment and local economies around Argyll due to the plethora of environmental benefits discussed below;
- The Scottish kelp forests are of importance for the marine ecosystem as they offer a habitat and nursery for a significant number of marine species.
- Seaweed helps to tackle one of the most urgent global issues such as climate change, by absorbing CO<sup>2</sup>.
- Seaweed offers coastal protection by lowering the energy in storm surges.
- The demand for seaweed has been increasing globally due to the usage in a broad range of industries. For example, used in various forms, kelp can replace less sustainable sources in pharmaceutical, agricultural, and packaging industries.

#### Location of the proposed farm

The proposed location for the farm is shown on the map below. The trial farm will be marked with 2 yellow special marker buoys to ensure vessels can safely navigate around the proposed site. The longlines will be marked with yellow surface marker buoys which indicate the position of the longlines. The aim is to harvest twice a year, landing the freshly harvested seaweed on the Kilchoan pier. From there it will immediately be transported to the processing sites.



Site coordinates Trial farm		
A	56°15'26.345N	05°33'12.446W
B	56°15'23.985N	05°33'15.176N
C	56°15'26.131N	05°33'12.019W
D	56°15'23.803N	05°33'15.292W
Application area		
W	56°15'29.584N	05°33'14.607W
X	56°15'29.771N	05°33'8.112W
Y	56°15'17.487N	05°33'15.461W
Z	56°15'18.552N	05°33'21.200W

Figure A1: Full farm site & trial site

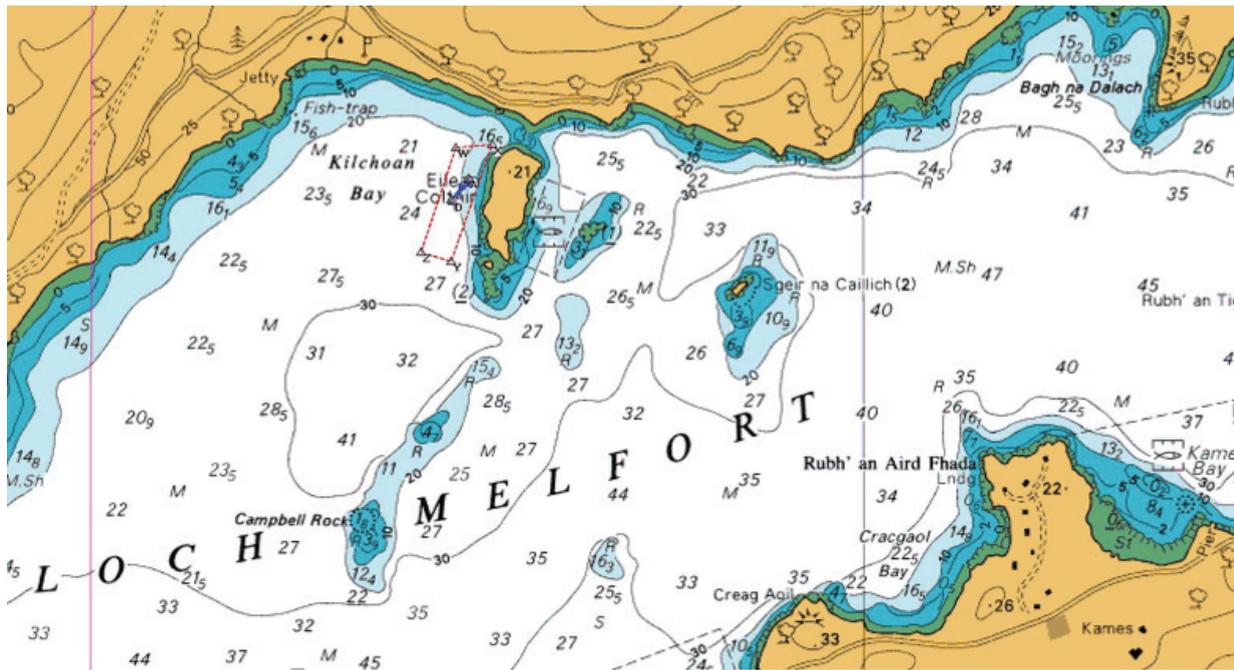


Figure A2: Location kelp farm (marked in red).

### Structure of the farm

The trial farm will consist of two 60 metre longlines (also called growth lines) which will be seeded with kelp. The growth lines will be set 10 metre apart from each other. They will be connected using a zig zag method every 2 metre, therefore increasing the length of growth lines and the total biomass of farmed kelp. The footprint of the trial farm will be 920m<sup>2</sup> with a growing area of 600 m<sup>2</sup>. Depending on the success of the trial farm there is potential to expand hence the oversized application area. This expansion would be done by adding more lines within the applied license area (Photo A1) full site WXYZ. However, the estate has no intention of expanding the trial area at this time. To prevent any storm damage the longlines will be positioned parallel to the prevailing wind to reduce the sail effect. The outside anchors will have a holding capacity of 4,5 ton to ensure the gear will be kept in place.

### Monitoring and Decommissioning

The farm structure will be monitored daily from shore and once a week by boat for structural damage and needed repairs. Gear which has been worn out will be brought to shore, disinfected, and then correctly disposed of. In case of failure or the termination of the lease, Kilchoan Estate will be responsible for the decommissioning of the farm and the used gear.

### Harvesting

During harvest the longlines will be brought to shore and the kelp will be collected in fish tubs to then be transported to the processing site.

## Kelp species and volumes

Saccharina lattissima; common name sugar kelp, will be the main target species. However, in the future we would like to diversify towards the cultivation of different seaweed species. The growing season for sugar kelp runs from October till June the following year. An estimation suggests that the trial farm will produce between 2.5 and 3.5 tons of kelp within year one. Any expansion to the site would increase the tonnage of harvested kelp.

## The Marine Life

Kilchoan Estate strives towards the conservation of the environment and aims to contribute towards the conservation of the different ecosystems along the west-coast of Scotland. Loch Melfort is part of the Loch Sunart to sound of Jura MPA, designated for the protection of the flapper skate, (*Dipturus batis*) which prevents the area being dredged for Scallop. The farm site has been dived and consists mainly of a silty and clay bottom. No sensitive habitats and species were discovered. The construction of a kelp farm has limited impact on the benthic communities in the area. The deployment of an algae farm benefits the marine environment by creating shelters and a nursery for a variety of marine organisms. Harbour porpoise (*Phocoena phocoena*) have been observed in the area before, but the use of longlines ensures limited risk of entanglement. To prevent the introduction of alien species, the seeded lines will be provided by an approved hatchery with a health certificate such as SAMS (Scottish Association of Marine Sciences). The Kilchoan Estate will monitor and carry out ongoing surveys to measure the effects and impacts of the farm.

## Other Marine users in the area

The location of the proposed kelp farm has been carefully chosen. Boat traffic has been monitored for 12 months since December 2019 and we noticed limited use of this area. Furthermore, AIS data has shown that the site is not located in a busy area or shipping channel. We monitored the proposed site for surface markers from static fishing gear and chose to position the proposed site close to shore out of the usual nephrops fishing grounds. With caution, the deployment of static gear could be carried out next to the long lines. Other marine activities such as diving, kayaking, paddle boarding and snorkeling could continue without any disturbance.

## HAVE YOUR SAY!

We would like to hear the thoughts and opinions of the local community and involved stakeholders concerning this development. This can be done by contacting us directly or by joining the public consultation event on 20th of May 2021 at 10:30 am.

*If you are interested in joining the consultation event:*

email: [factor@kilchoanestate.co.uk](mailto:factor@kilchoanestate.co.uk) and we will provide a link to join the zoom meeting.

We would be happy to answer any questions concerning this development.