

**Kaly Group Limited**  
**Loch Bay Vessel Management Plan**



**Details**

<b>Version</b>	<b>Date</b>	<b>Description</b>	<b>Author(s)</b>	<b>Revised by</b>
<b>V1.12</b>	<b>31/03/23</b>	<b>Final (amended)</b>	<b>Stevie Jarron</b>	<b>KMc</b>

**Index**

**01 Introduction** ..... 2

**01.01 Linkages with Other Documents** ..... 2

**01.02 Site Designations**..... 2

**01.03 Vessel types** ..... 3

**01.03.01 Multicat**..... 3

**01.03.02 Workboat**..... 4

**01.03.03 Creel boat** ..... 5

**01.03.04 Fast workboat**..... 5

**02 Site Designations** ..... 2

**02 Transit Routes** ..... 6

**03 Environmental concerns**..... 7

**03.01 General advice**..... 7

**03.02 Seal Vulnerability** ..... 8

**03.03 Golden Eagles (*aquila chrysaetos*)** ..... 8

**03.04 Other Wildlife Vulnerability** ..... 8

**04 Kaly Development Phase** ..... 9

**04.01 Vessel use** ..... 9

**04.02 Phase 1** ..... 9

**04.03 Phase 2** ..... 9

**04.04 Risks and Mitigation – Development Phases** ..... 10

04.04.01 Risks and Mitigation – Development Phases (additional advice)..... 11

**05 Kaly Operational Phases**..... 13

**05.01 Vessel use** ..... 13

**05.02 Growing Line Phase** ..... 13

**05.03 Harvesting Phase**..... 13

**05.04 Intermediate Phase**..... 13

**05.05 Risks and Mitigation – Operational Phases**..... 14

**05.06 Risks and Mitigation – Intermediate Phase** ..... 15

**01 Introduction**

## Vessel Management Plan

Kaly Group Limited (Kaly) have prepared this Vessel Management Plan (VMP) for the Deployment and Operations phases of their proposed Seaweed Cultivation Farm in Loch Bay, 2km west of Stein in northwest Skye.

### 01.01 Linkages with Other Documents

This VMP document sets out the proposed vessel management framework to be applied during the Deployment and Operations phases. It forms part of a suite of documents that were prepared to inform the Marine Scotland Algal Licence application and inform the Statutory Consultees, most notable Nature Scot of Kaly framework for environmental management of the Project.

Other documents submitted which clearly give details of the Deployment and Operations phases are;

Kaly Loch Bay Method Statement  
Kaly Loch Bay Environmental Responsibilities  
Kaly Scotlands Marine Planning considerations  
Kaly Navigational Risk Assessment and MEAC

Which will be circulated to all Statutory Consultees and Stakeholders by MS-LOT.

### 01.02 Site Designations

The proposed farm site sits within the Inner Hebrides and the Minches Special Area of Conservation (SAC) <https://sitelink.nature.scot/site/10508> which encompasses the greater proportion of the whole coast. This SAC is set up for the protection of Harbour porpoise (*Phocoena phocoena*), which frequent the west coast of Scotland.

Within the Loch Bay sub-system of Loch Dunvegan is the Ascrib, Isay and Dunvegan SAC <https://sitelink.nature.scot/site/8193>. This SAC is set up for the protection of harbour seal (*phoca vitulina*), which is abundant in Scottish waters, but declining worldwide (Fig 2)

The Dunvegan Loch system is outwith, but very near to the boundary of the Hebrides Marine Protected Area (MPA) <https://sitelink.nature.scot/site/10474>. This MPA is set up for the protection of basking shark (*cetorhinus maximus*), which frequent the waters of the West of Scotland in summer and into the autumn.

There is also a small area at Dunvegan Head which is designated as a Marine Conservation Area (MCA). We cannot find specific reason for this MCA, but the site is a soaring 300m sea cliff area, and perhaps a nesting site for some European Protected Species (EPS) and as such carries with it a level of anonymity.

There is no specific [EUNIS habitat classification](#) for the proposed sea farm site. From sea chart information it is likely to be A5.25 Circalittoral fine sand or A5.26 Circalittoral muddy sand.

## Vessel Management Plan

### 01.03 Vessel types

To undertake the Deployment and operational work at the seaweed farm site, Kaly 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.

#### 01.03.01 Multicat

##### **Specialised flat bed mooring vessel ~28m x 10m. Speed - <12 knots.**

This style of vessel will be chartered to deploy the anchors, navigational marker lights, subsurface and surface farm structures and be integral in site inspection and maintenance/repair and as emergency response contract vessels for Kaly. Highly versatile, they are fitted with Dynamic Positioning (DP) to accurately lay anchors in predesignated positions. May be supported by smaller vessels.



## Vessel Management Plan

### 01.03.02 Workboat

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

This style of vessel will be the primary workhorse for seaweed farm Operational phases. 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 seaweed harvested and waste rope collected. May be supported by smaller vessels. used to occasionally visit the site to observe the structural integrity, take sample of seaweed from the site and support larger vessels.



## Vessel Management Plan

### 01.03.03 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 seaweed from the site and support larger vessels. There is the possibility of these vessels being chartered for deployment and operational phases.



### 01.03.04 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 seaweed from the site and support larger vessels.



# Vessel Management Plan

## 02 Transit Routes

The most likely harbour to be used during all phases of work on or at the farm are from Dunvegan. Stein slipway will be used for smaller vessels for farm checks and to assist the larger vessels (Fig 1).

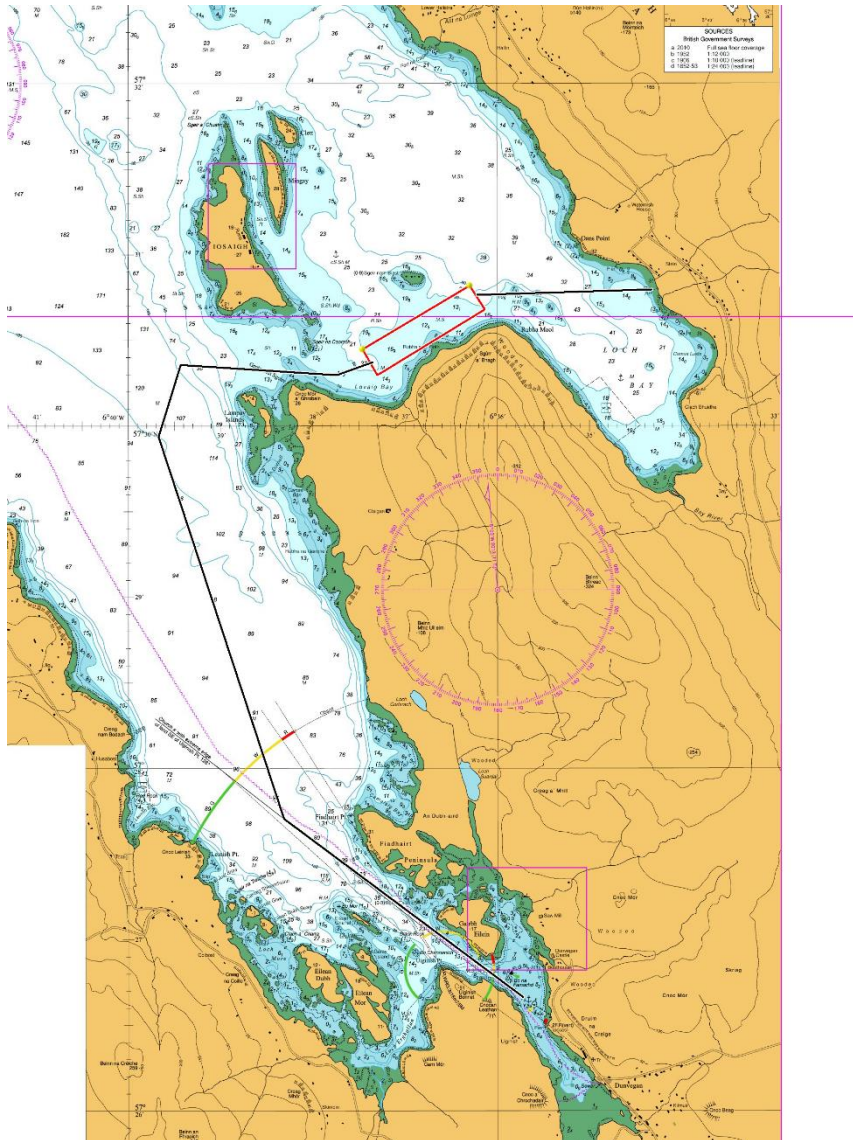


Fig 1 - Transit Routes (black) – Dunvegan – 11km, Stein – 2km to farm

Other than entry/exit of the harbours themselves, all vessels will be away from shore sites.

# Vessel Management Plan

## 03 Environmental concerns

To ensure that Kaly's proposed seaweed farm does not unnecessarily impact on wildlife at the Loch Bay site we look at specific protection given to the area.

The proposed farm site sits within the Inner Hebrides and the Minches Special Area of Conservation (SAC) <https://sitelink.nature.scot/site/10508> which encompasses the greater proportion of the whole coast. This SAC is set up for the protection of harbour porpoise (*Phocoena phocoena*), which frequent the west coast of Scotland.

Within the Loch Bay sub-system of Loch Dunvegan is the Ascrib, Isay and Dunvegan SAC <https://sitelink.nature.scot/site/8193>. This SAC is set up for the protection of harbour seal (*phoca vitulina*), which is abundant in Scottish waters, but declining worldwide (Fig 2)

The Dunvegan Loch system is outwith, but very near to the boundary of the Hebrides Marine Protected Area (MPA) <https://sitelink.nature.scot/site/10474>. This MPA is set up for the protection of basking shark (*cetorhinus maximus*), which frequent the waters of the West of Scotland in summer and into the autumn.

There is also a small area at Dunvegan Head which is designated as a Marine Conservation Area (MCA). We cannot find specific reason for this MCA, but the site is a soaring 300m sea cliff area, and perhaps a nesting site for some European Protected Species (EPS) and as such carries with it a level of anonymity.

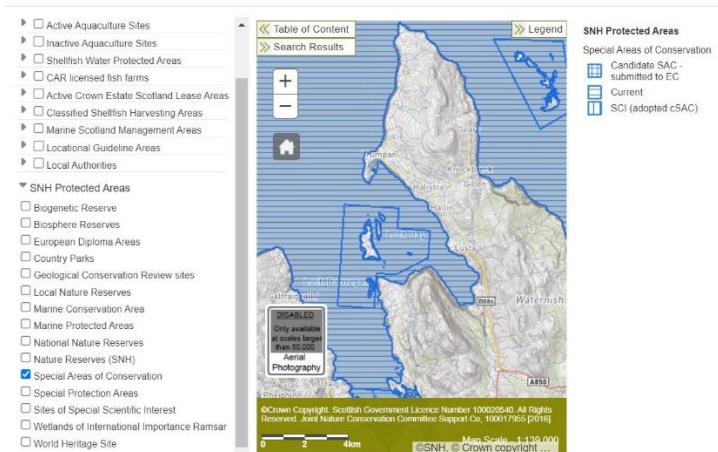


Fig 2 – SAC designation in Loch Bay for Porpoises and Harbour Seals.

### 03.01 General advice

Kaly will charter vessels to undertake both development and operational work, but in time may own its own vessels to service the seaweed farm's needs. Regardless of the contractual set up, Kaly will highlight to all staff employed on the water the risk of potential disturbance, injury or death to wildlife from vessels accessing the site. All vessels should follow the [Scottish Marine Wildlife Watching Code](#) and the [Guide to Best Practice for Watching Marine Wildlife](#) to minimise disturbance to seals, birds and other wildlife.

## Vessel Management Plan

In addition to the above, Kaly training will insist on the mitigation of potential impacts of vessel disturbance. Advice given is that vessels;

- 1) avoid driving through feeding seals, cetaceans or birds (where safe to do so), give them a minimum approach distance of 50m where possible,
- 2) travel at <6 knots (where safe to do so) in the vicinity of seals, cetaceans or birds in the water or shoreline.
- 3) slow down or stop to allow passage of cetaceans and basking sharks should any transit the working area of Loch Bay or passage to and from the site.

### 03.02 Seal Vulnerability

The most specific classification threat from Kaly's marine activities is to harbour seal (*phoca vitulina*) during different phases of their life cycle. Using [Nature Scot Guidance](#) the main period of vulnerability is in [June and July](#) of birthing, nursing and moulting harbour seals, where individual or groups of female seals give birth and suckle land bound pups.

A second period of vulnerability is a moulting period in [August](#) where all adult seals go through a moulting phase. Sea Mammal Research Unit (SMRU) have advised that moulting in this SAC continues to at least [mid-September](#) in this area. During this period, seals prefer to not enter the water, basking on rocks and rubbing off shedding skin, which allows an improved skin condition in preparation for the coming winter.

### 03.03 Golden Eagles (*aquila chrysaetos*)

[Redacted]

### 03.04 Other Wildlife Vulnerability

The area of the proposed seaweed farm also sits within the Minches Special Area of Conservation (SAC) for the protection of harbour porpoise (*Phocoena phocoena*), which frequent the west coast of Scotland. The site is also outwith, but very near to the boundary of the Hebrides Marine Protected Area (MPA) set up for the protection of basking shark (*cetorhinus maximus*), which frequent the waters of the West of Scotland in summer and into the autumn. The area of Loch Bay on Skye and the west coast of Scotland in general is seen as a haven for wildfowl, seabirds and sea raptors such as the sea eagle (*haliaeetus albicilla*).

The local and wider area designations cover vast areas of sea, islands and coast encompassing most of the west coast of Scotland. Kaly are aware of these specific designations and their obligation to the protection and preservation of all wildlife. This document will deal mainly by the local designation of harbour seal (*phoca vitulina*), but with the understanding that all wildlife in the water on the water or on the shores or in the air, have both legal and moral right of preservation. To name all species and risks and subsequent mitigation would create a very



## Vessel Management Plan

long repetitive document. The reader can assume that mitigation we have in place for avoidance of collision of seals or disturbance during sensitive times, extends to nesting and moulting seabirds, [Redacted], feeding cetaceans and basking sharks and juvenile birds fledged but not fully independent. For the avoidance of repetition – section “04.04.01 Risks and Mitigation – Development Phases (additional advice)” gives clearer instructions of vessel use and behaviour.

### 04 Kaly Development Phase

#### 04.01 Vessel use

During the deployment phases, Multicat - Dynamic Positioning (DP) work vessels will be brought in to accurately lay anchor blocks on the seabed. They are likely to be supported by smaller workboat or creel boat style vessels. The vessels are likely to work out of Dunvegan or Uig to load equipment on board and transit the site via recognised transit lanes used by other Marine Traffic.

#### 04.02 Phase 1

Kaly's desire is to have a substantial seaweed farm at the site. To do this, the aim is to develop a 1<sup>st</sup> Phase of up to 4 seaweed Grid Structures late September and in to October 2023. This timing has been altered from original timetable due to NS advice. It is envisaged that the timing of this work will still allow for predictable weather and long daylight hours to complete the work, whilst avoiding a period of vulnerability for wildlife that will be discussed below. It is hoped the work will take no more than 3 weeks for this phase of work.

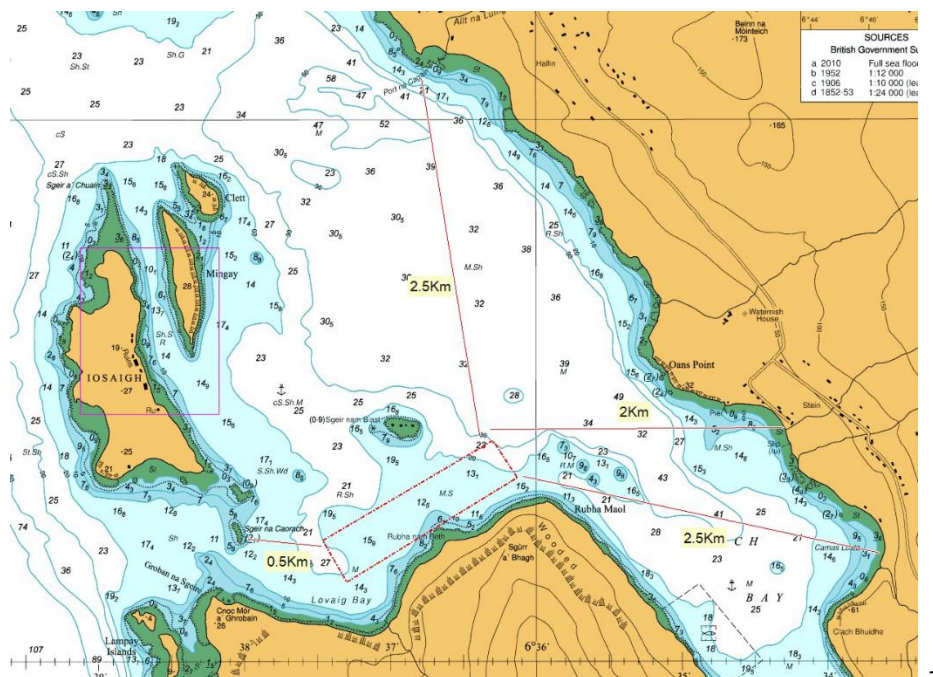
From further advice given by NS, Kaly will endeavour to develop the site Phases from the western end of the LOA. This will avoid the seal haul-out at Sgeir nam Biast for as long as possible while the seals become accustomed to aquaculture vessels working the area.

#### 04.03 Phase 2

A 2<sup>nd</sup> phase is envisaged for the years 2025 or 2026. This will see Kaly potentially double the size of the farm with another 4 seaweed grid structures. As the seaweed farm begins to provide harvests for Kaly's new processing facility in Dunvegan, Kaly will evaluate the timing of the 2<sup>nd</sup> phase of development. As before, the timing of this work will be set to late September and in to October. It is envisaged that the timing of this work will still allow for predictable weather and long daylight hours to complete the work, whilst avoiding a period of vulnerability for wildlife that will be discussed below. It is hoped the work will take no more than 3 weeks for this phase of work.

Following the further advice given by NS, Kaly may not fully deploy the Phase 2 structures if it is deemed that they would present too much disturbance at the seal haul-out at Sgeir nam Biast. We will reassess this as we develop through Phase 1 as to whether seals have become accustomed to the aquaculture vessels working the Phase 1 structures.

## Vessel Management Plan



Loch Bay map and Kaly seaweed farm

### 04.04 Risks and Mitigation – Development Phases

**Risks** - Kaly recognise the potential risk for disturbance of birthing, nursing and moulting harbour seals, also potential disturbance and injury to seals hunting for food in the water.

A main period of vulnerability in **June and July** of birthing, nursing and moulting harbour seals, where individual or groups of female seals give birth and suckle land bound pups. All adult seals then go through a moulting period in **August**. Sea Mammal Research Unit (SMRU) have advised that moulting in this SAC continues to at least **mid-September** in this area. It involves a period where seals prefer to not enter the water, basking on rocks and rubbing off shedding skin, which allows an improved skin condition in preparation for the coming winter.

The risk is that vessel activity near these haul out sites during birthing and nursing could cause disturbance to the seals. This in turn may cause;

- decreased hunting by the females needed to maintain their strength and milk production.
  - disturbance to their feeding pattern of suckling pups.
- both of which could cause decreased growth/weight rates in pups, lowering survivability rates.

and;

- adult female disturbance leading to abandonment of pups.
  - orphaning of seal pup due to death of mothers from vessel collision.
  - disturbance of seal pups from haul out area, entering the water to escape.
- all leading to pup starvation, injury or death through predation or collision.

## Vessel Management Plan

### Mitigation

Kaly plan their Development phases (1<sup>st</sup> and 2<sup>nd</sup>) to be outwith the vulnerable periods of harbour seals as indicated in the guidance available. The time window of Development phases (3 weeks and 3 weeks respectively) presents relatively short periods of work at the farm site.

Under this advisement from Nature Scot guidance, our timing for deployment phase of works has been altered to late September and in to October. It is envisaged that the timing of this work will still allow for predictable weather and long daylight hours to complete the work, but also allow vessels to work in the Loch Bay area whilst avoiding the main vulnerable periods.

Further, the vessels employed during this period have the potential for 24 hour working but will be restricted to daylight hours only. This will give the highest visibility to crews to avoid seals, birds, otters, cetaceans and basking sharks in the water and for the wildlife to avoid the vessels.

Also, the vessels employed are slow (<8 knots), allowing adequate reaction time for vessels and wildlife alike. The Loch Bay seaweed farm site will only be entered via the oblique ends of the site from the west when transiting to and from Dunvegan and to the east when transiting to and from Stein. This will give the vessels the maximum distance away from the regular haul out areas and for seals.

#### 04.04.01 Risks and Mitigation – Development Phases (additional advice)

Additional advice from Nature Scot has been included and paraphrased. It will be referenced in other places within the document.

- whilst Kaly's proposed boat approach routes seem sensible, a slow approach while watching and responding to the behaviour of the seals on the haul-out will be important, at least until the seals become accustomed to the human activity associated with the farm.
- The Scottish Marine Wildlife Watching Code ([SMWWC Guide](#)) to Best Practice puts it well: *'When approaching seals,*
  - *stop at a safe distance away and observe them through binoculars or a telescope.*
  - *Determine their current behaviour and, as you approach, look for any changes to this behaviour.*
  - *The first sign that seals are becoming disturbed is the "heads up" response.*
  - *This is associated with vigilance and means seals are starting to perceive you as a potential threat.*
  - *If you notice this behaviour, back off and/or change your method and speed of approach. If the animals relax again you can approach a little closer.*
  - *The second stage of disturbance is usually shifting around and becoming agitated. At this point you are getting too close and should back off carefully.'*
  - *'Always approach all marine wildlife cautiously. In practice this means slowing down to less than 6 knots when you are at least 300 metres.*

It has been suggested that Kaly boat skippers produce a shortened version of the VMP which includes all the key messages. This will be done and regular training with boat Kaly owned vessels and chartered vessels will be undertaken.

## Vessel Management Plan

Further NS advice states – “Utilizing the same boat(s) each time would be helpful where possible. This is likely to help the seals become used to operations. They would learn to associate the sound and silhouette of the boat with non-threatening activities.”, this may be difficult to achieve if chartered vessels are relied on, but Kaly will consider this continuity in its planning of vessel use.

**Risks** - Kaly recognise the potential risk for disturbance of nesting Golden Eagles while they are searching for a suitable nest site amongst their numerous alternatives and early egg and chick rearing.

### **Mitigation**

The development phase of the seaweed farm vessel activity predicted by Kaly at their Loch Bay site will be low level (a day or a few days, a few weeks of the year) using small vessels (under 24m), that are similar or the same vessels that will work and transit through the sea area throughout the year (Kaly intend to charter local fishing and work boats to service their needs at the farm site).

For the sake of avoidance of early nesting disturbance during our farm deployments we suggest that Kaly liaises annually with the Highland Raptor Support Group (HRSG) each March to establish best practice protocols for each new breeding season. We will ensure we maintain slow workboat speeds and maximise transit distance to the adjacent headland during the period of high sensitivity of eagles (March – early April), as we will be for seal disturbance avoidance. This gives us a short window of opportunity for deployment work in May or beyond September.

Additional advice from NS on mitigation of seal disturbance asks that the Phasing of the farm project tries to avoid the seal haul outs to the east of the LOA. This may bring conflict with the above concerns around Eagle disturbance. Kaly will work with all parties on a suitable compromise.

# Vessel Management Plan

## 05 Kaly Operational Phases

### 05.01 Vessel use

Kaly will undertake 2 main Operational Phases. Growing Line 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 Growing Lines and to Harvest seaweed.

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

### 05.02 Growing Line Phase

Seaweed Cultivation is an overwintering crop with the deployment of seeded seaweed Growing Lines beginning in mid-October completed by mid-November each year. There is also the possibility of Growing Line deployment in late-January to early-February.

In Phase 1 Operations, it is expected that Growing Line deployment will take 2 weeks.

In Phase 2 Operations, it is expected that Growing Line deployment will take 4 weeks.

### 05.03 Harvesting Phase

The harvesting of the matured seaweed plants begins in early-March and ends in late-May.

1. In Phase 1 Operations, it is expected that Growing Line harvesting will take place over an 8 week period, with roughly 2 harvest vessel journeys to the site per week, harvesting up to 20 tonnes per harvesting visit.
2. In Phase 2 Operations, it is expected that Growing Line harvesting will take place over an 8 week period, with roughly 3 or 4 harvest vessel journeys to the site per week, harvesting up to 20 tonnes per harvesting visit.

### 05.04 Intermediate Phase

Outside of the Growing Line Deployment and the Harvesting or Operations phases, the seaweed farm will either be fallow or largely left unattended while the seaweed 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.

## Vessel Management Plan

### 05.05 Risks and Mitigation – Operational Phases

**Risks** – Kaly recognise the potential risk for disturbance of seals birthing, suckling or hunting for food for land bound pups. Also the potential risk for disturbance of seals moulting.

**Mitigation** – Kaly plan their Growing Line Deployment phase outwith the birthing, feeding and moulting periods of the harbour seals as indicated in the guidance available. The time window of Growing Line Deployment phases (mid-October completed by mid-November) presents relatively short periods of work at the farm site.

Kaly plan their Harvest phase outwith the birthing, feeding and moulting periods of the harbour seals as indicated in the guidance available. The time window of Harvesting phases (early-March and ends in late-May) presents relatively short periods of work at the farm site.

**Risks** – Kaly recognise the potential risk, at all times of the year, of accidental collision with seals in the water.

**Mitigation** – Vessels employed are slow (<8 knots), allowing adequate reaction time for vessels to slow and alter away from seals and for seals to avoid moving vessels as they do with other marine traffic.

Vessels employed during this period have the potential for 24 hour working but will be restricted to daylight hours only. The vessels employed during the Growing Line Deployment phase and the Harvest phase will not require to leave port before dawn and return to port in the dark and be able to transit and work at site in daylight as the timings are beyond the March Equinox (12 hours of daylight) and towards the longer days of approaching summer. This will give the highest visibility to crews to avoid seals, birds, otters, cetaceans and basking sharks in the water and for the wildlife to avoid the vessels.

The Loch Bay seaweed farm site will only be entered via the oblique ends of the site from the west when transiting to and from Dunvegan and to the east when transiting to and from Stein. This will give the vessels the maximum distance away from the regular seal haul out areas.

[Redacted]

### 05.06 Risks and Mitigation – Intermediate Phase

**Risks** – Kaly recognise the potential risk, at all times of the year, of accidental collision with seals in the water. Kaly is likely to use existing local creel boats for weekly checks on structure and lines and to take samples of growing seaweed. There will be occasions where Kaly use smaller RHIB or hard boat style vessels. These are faster than other vessels (over 20 knots) and as such present a potential risk for disturbance of seals and of danger of collision.

**Mitigation** – As such, Kaly will insist that chartered vessels will restrict speeds to below <8 knots, only operate in daylight and keep a good all round lookout for individual seals on the surface. This is in line with the activities of fast craft operating as tour boats or aquaculture support vessels elsewhere around the coast areas covered by SAC or other designations.

For the avoidance of repetition – section “04.04.01 Risks and Mitigation – Development Phases (additional advice)” gives clearer instructions of vessel use and behaviour.