

Supplementary Material - Marine Licence Application

Lochalsh algae farm

Sgurr Services Ltd

August 2020

This Supplementary Material has been prepared to accompany the Marine Licence Applications (MLA) to Marine Scotland Licensing Operations Team (MS-LOT) by the Applicant (Sgurr Service Ltd Ltd.) for an 'algal farm' to trial the natural/wild seeding of kelp on rope in Lochalsh, Highlands. The application is for a full MLA, lasting up to 6 years. The MLA and all supplementary material have been prepared by Kyla Orr Marine Ecological Consulting (the Agent).

1. Site Drawling/Design

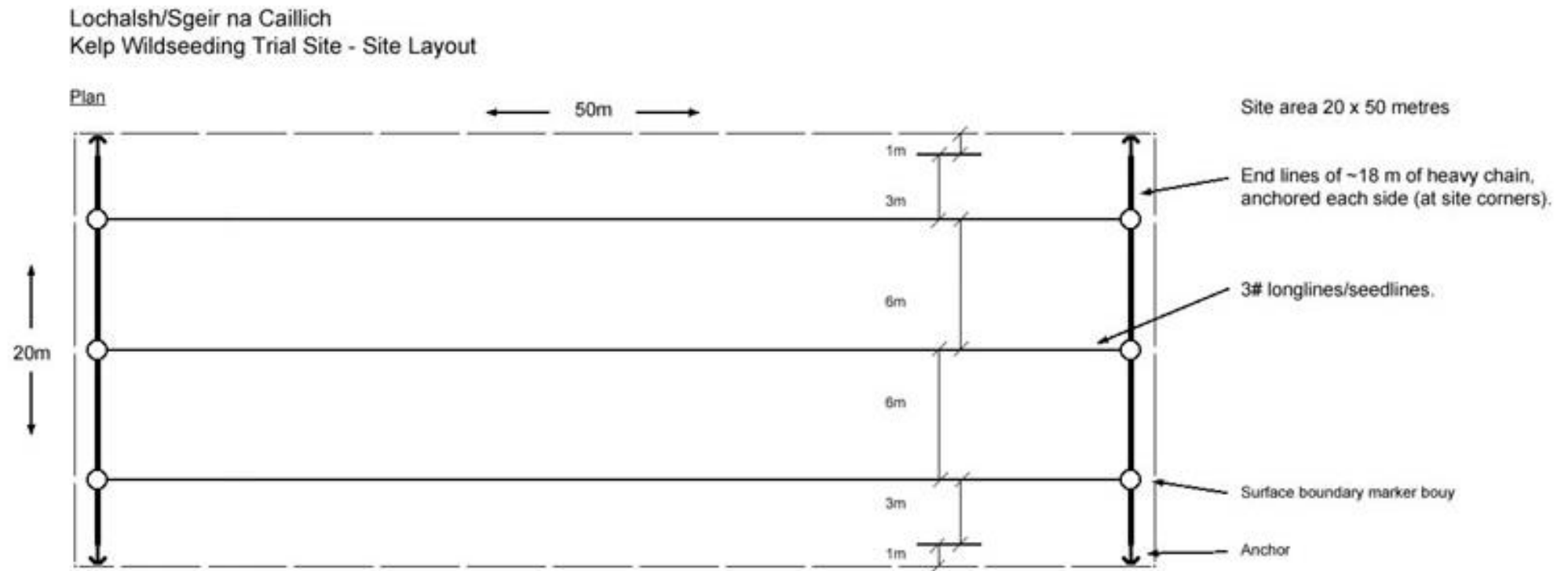


Figure 1: Site drawing / plans showing surface view of proposed layout at wild seeding trial site, Sgeir ns Caillich, Lochalsh.

2. Site Location:



Figure 2: Photograph of proposed site location of wild seeding trials for seaweed (Lochalsh/Sgeir na Caillich)

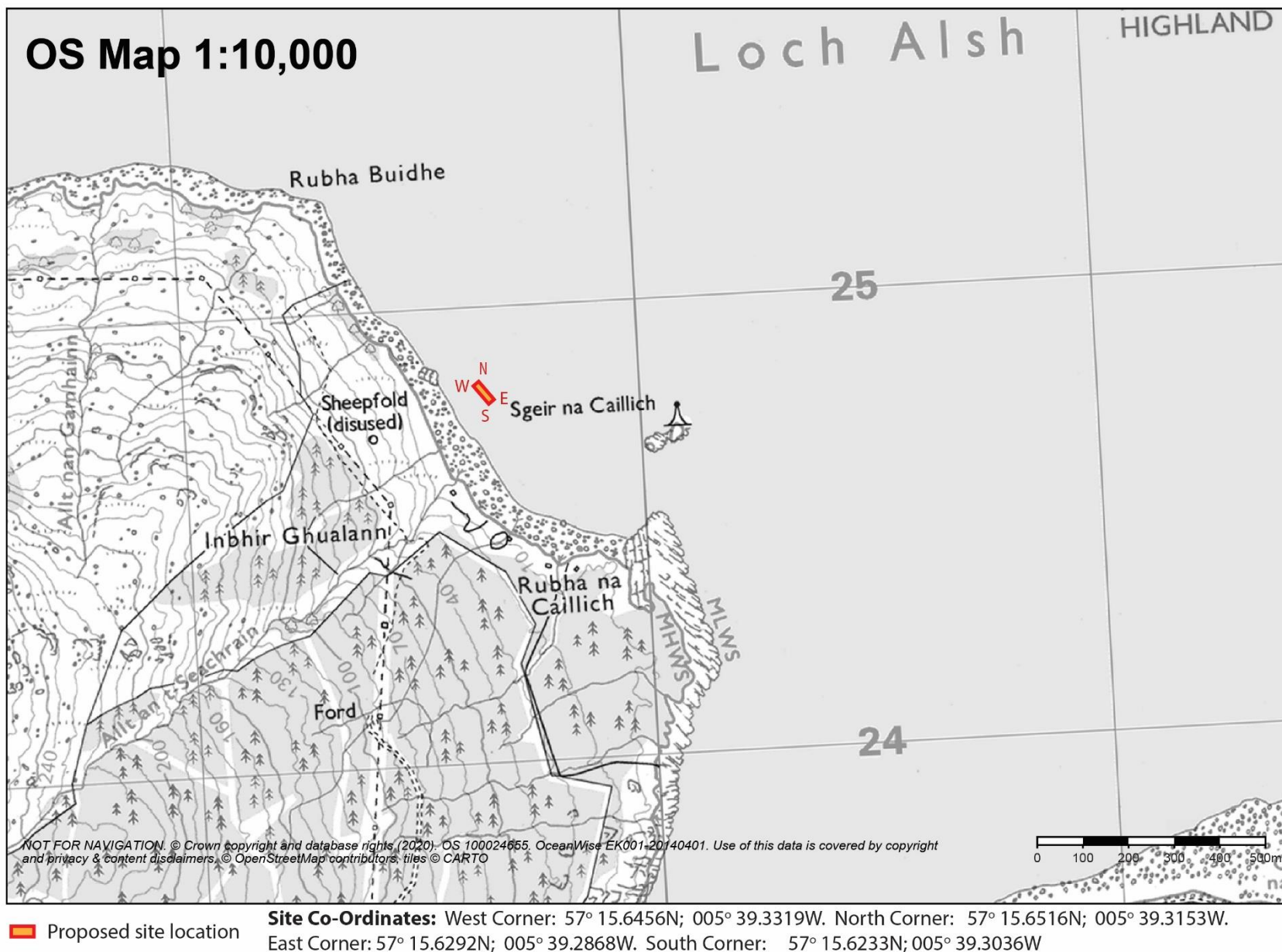


Figure 3: Ordnance survey map showing site boundaries (full extent of the works) for the proposed site/project location.

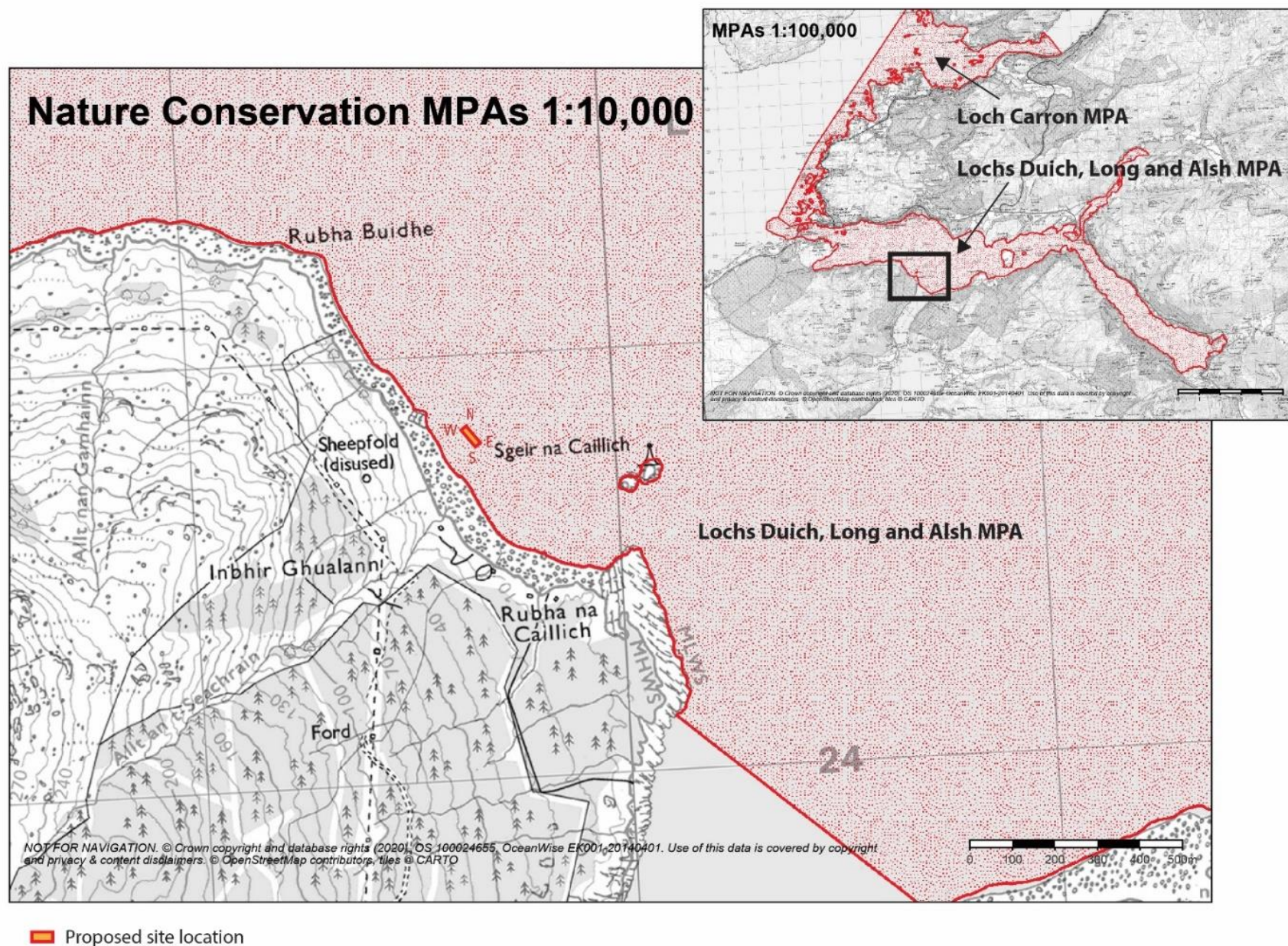


Figure 4: Ordnance survey map showing proposed project location in relation to Marine Protected Areas (MPA). The site falls within the Loch Duich, Long and Alsh MPA.

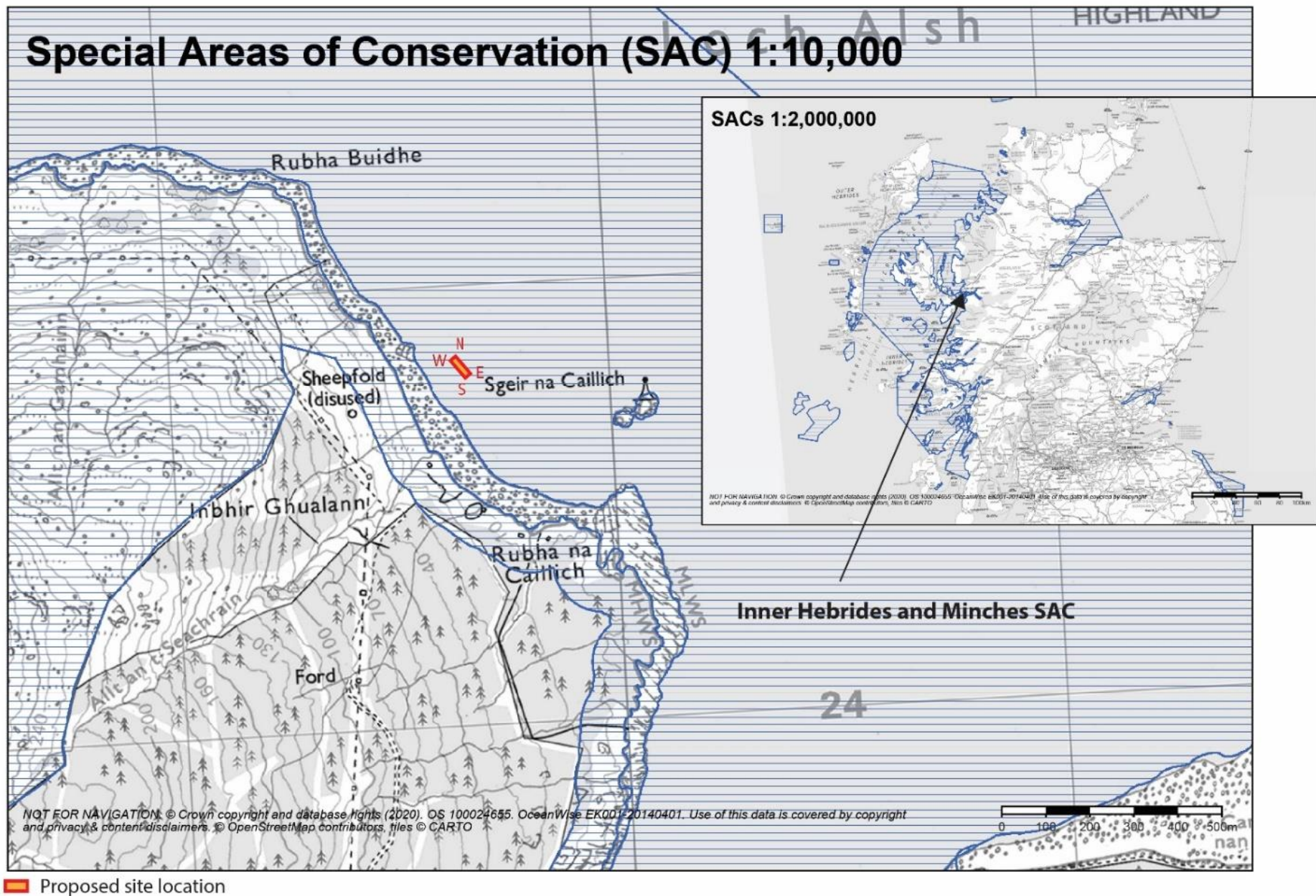


Figure 5: Ordnance survey map showing proposed project location in relation to Special Areas of Conservation (SAC).

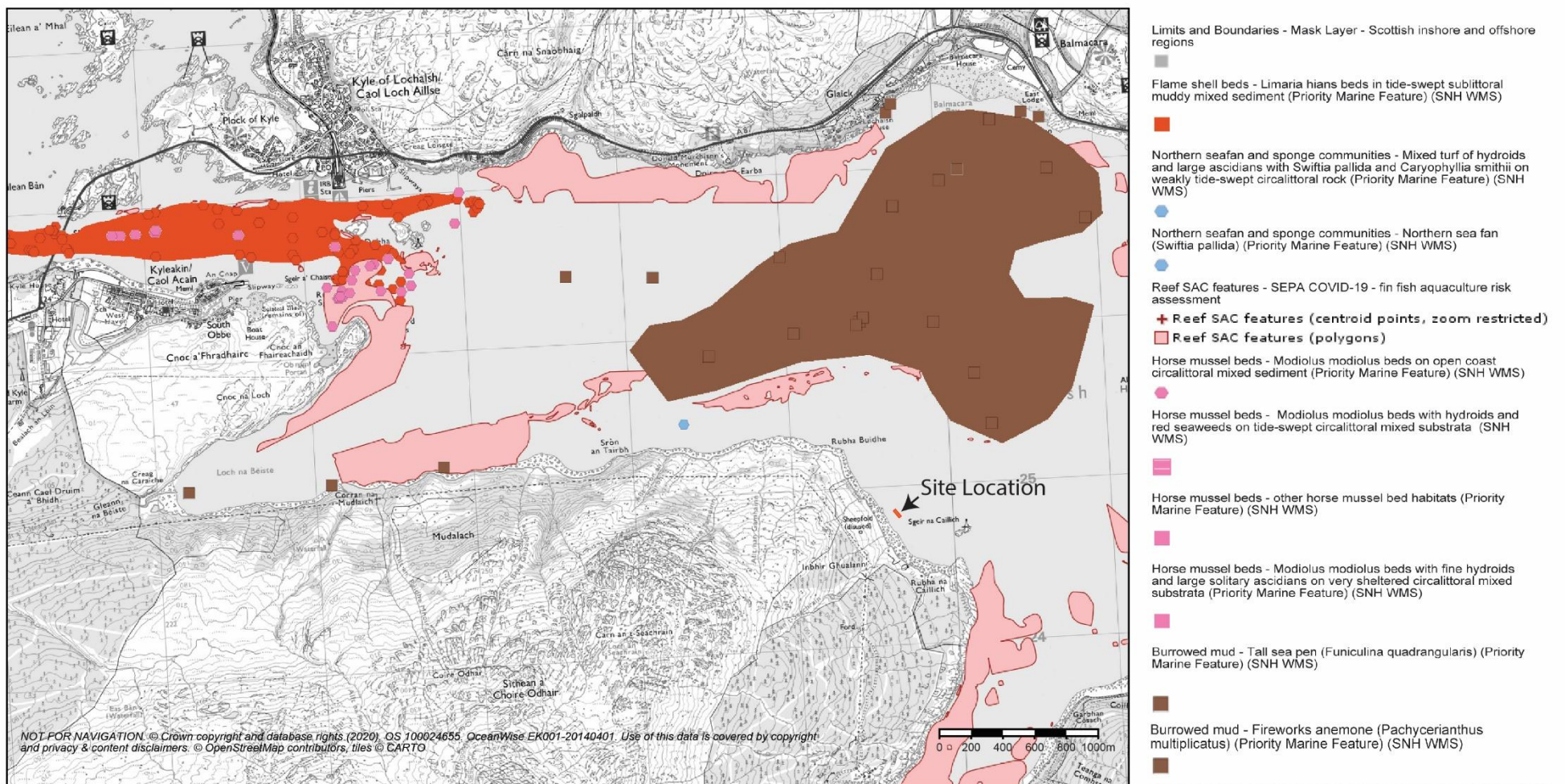
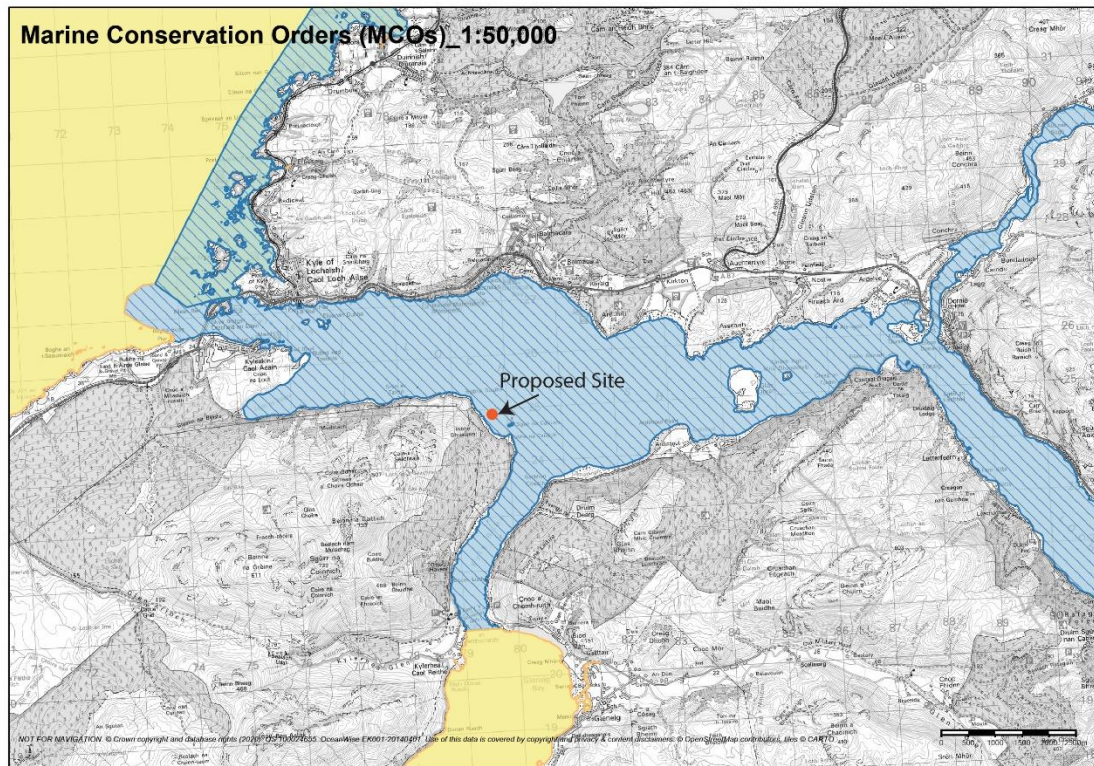


Figure 6: Location of Priority Marine Features within the the Lochs Duich, Long and Alsh MPA/SAC, in relation to the location of the proposed site (red box). Data downloaded from National Marine Plan Interactive (NMPI).



Limits and Boundaries - Mask Layer - Scottish inshore and offshore regions

Marine conservation orders (MCOs) and fisheries management measures (MPAs and SACs) - with effect May 2019

- Fishing prohibited
- Prohibitions for bottom trawling, and/or dredging
- Seasonal prohibitions for bottom trawling, and/or dredging
- Prohibitions for bottom trawling, dredging, passive gear, and/or other specified methods
- Seasonal prohibitions for bottom trawling, dredging, and/or other specified methods

Figure 7: Marine Conservation Orders and fisheries management measures that restrict fishing activities within and around the proposed site.



Figure 8: AIS vessel traffic data over a 1-year period (Jan 2019 - Jan 2020), showing proposed site location is not in a busy vessel traffic area. Obtained from Vessel Finder.

3. Method Statement

Sgurr Services Ltd (the Applicant) would like to apply for a marine licence for a small area of the seabed (50m x 20m = 1000m²) to trial wild/natural 'seeding' of kelp on rope. The area proposed has been identified as having good potential for wild seeding based on the large amounts of kelp that foul fishing gear in the location each year.

See Figures 1-3 above for site drawings and location. Deployment of ground works will be from a Kyleakin fishing boat, during November 2020. The anchors will be connected to ground chain prior to deployment. At low tide, the first anchor will be positioned and lowered onto seabed using boats hauler, the ground chain then stretched out and the other anchor lowered into position. The same method will be used for the other set of anchors and ground chain. Local scallop divers will then be employed by the Applicant to connect the 3 longlines to the ground chain by the pre-positioned shackles. Once all connected the mooring system will be tensioned and set using trip lines.

Wild seeding of kelp on rope would naturally take place over the autumn and winter months (~October to January), and growth of the juvenile kelp (sporophytes) on rope will be monitored regularly during this period, and species composition assessed. The site will be used to assess the success/opportunities for wild seeding the juvenile stages of kelp (0 – 3 months) in the area. If wild seeding is successful, the kelp may be grown to a marketable size, and options will be explored for onward sale of the kelp, these include use in biodegradable packaging and human food and nutrition products.

For removal of the mooring structure, the Applicant will employ local scallop divers to attach trip lines to the anchors, which will then be removed by a fishing boat at low tide, using the hauler to raise the moorings from the shallow water.

4. Potential impacts of the works, and mitigations:

Protected Areas: The site proposed is within the Lochs Duich, Long and Alsh Marine Protected Area (Figure 4) which was designated for the protection of flame shells and burrowed mud. The MPA also overlaps the Lochs Duich, Long and Alsh Special Area of Conservation (SAC), designated for the protection of extensive areas of tide-swept reefs, extremely sheltered rocky reefs and horse mussel beds. The current conservation objective is to conserve the protected features of this MPA. The site is also located within the Inner Hebrides and Minches SAC designated for the protection of harbour porpoises, and this is a very large SAC that spans much of the west coast of Scotland (see Figure 5). However, available data (obtained from the National Marine Plan interactive) indicates that the site is not located above known records of flame shells, tide-swept reefs, extremely sheltered rocky reefs, horse mussel beds or burrowed mud Priority Marine Features (PMFs), as can be seen in Figure 6. Therefore, impact on these sensitive features has been avoided.

Little is currently known about the risk of megafauna entanglement in relation to seaweed farming in Scotland, and Europe more widely, as it is a very new industry. Factors that could increase the risk of entanglement in aquaculture developments include moorings and lines that have low tension, and that are not strong enough to withstand the force of a marine mammal encounter. Poor water visibility may also increase the risk of entanglement, as would use of nets to cultivate algae. The Applicant will mitigate the risks of entanglement by ensuring growing and mooring lines are fully tensioned and secure, and there is no loose or abraded rope at the site. The relatively shallow site and good visibility may also reduce the risk of entanglement. The Applicant will also give consent for monitoring and reporting of any entanglements, and adapt management of the site based on evidence of incidents.

In terms of general benthic health, shading of marine life that require light to grow (e.g. seagrass and maerl) may occur below seaweed farms. However, these habitats are not found below the proposed site, and so shading is not considered to be an issue.

Biosecurity and genetic diversity/integrity: The ropes/longlines at the site will be naturally seeded by wild kelp growing in the vicinity. Therefore, as per SEPA guidelines, all kelp reproductive material will be locally sourced (and not transferred more than 25km from the proposed site, or outside the same water body). In addition, a biosecurity

plan will be developed to prevent spreading of invasive species and disease, and a “check, clean, dry” protocol will be followed.

Water quality, marine litter, air and noise pollution: According to SEPA classification, the current status of water at the proposed site is “Good”. Seaweed cultivation requires no freshwater, no fertilizer and no chemicals, so is considered to have minimal impact on water quality and can actually improve it through absorbing excess nutrients that have been released from anthropogenic activities.

In terms of marine litter, single-use plastic will be avoided where possible, and recycled, long-lasting materials will be used. The site will also be checked regularly for any loose/ abraded/floating rope, and any waste generated will be disposed on land via the local authority. There will be some boat noise generated during setup and management of the farm; it will be visited by a small fishing vessel approximately every 1-2. However, any boat noise at the site would be similar to that generated from fishing activity in the local area, and not significantly above current background levels. The only potential air pollution would be emissions from a small vessel travelling to/from the site, however this will be insignificant/negligible relative to total emissions from all vessels and vehicles in the area.

Impact with other users of the Sea:

Fishing: The proposed site will have negligible impact on fishing activities within the Skye and Lochalsh area, and this is on account of its very small footprint (1000m²), and the fact that certain fishing activities are prohibited already within Loch Alsh (see Figure 7). The proposed site falls within the “Southern Inner Sound Protected Area”, and fishing methods that are prohibited in the area include; dredging, beam trawl, demersal trawl or demersal seine net. All fishing of horse mussels is also prohibited (The Inshore Fishing (Prohibition of Fishing and Fishing Methods) (Scotland) Order 2015, 2015 No. 435).

Static gear fishing is known to take place within Loch Alsh (targeting *Nephrops* and crabs with creels), as is scallop diving, with the majority of these inshore vessels measuring 12m and under. The exact footprint of these fishing activities is unknown within Lochalsh as vessel tracking data is not routinely collected for vessels 12m and under. However, preliminary conversations with local fishermen indicate that the small area being proposed to trial wild seeding of kelp will have negligible impacts on overall creel fishing in the area. The Director of Sgurr Services (the Applicant) is a static gear fisherman himself, and has a long-standing positive relationship with the local fishing community, and will work to maintain close contact with local fishermen, and resolve any issues that may be identified.

Other marine users and vessel traffic:

AIS vessel traffic data over a 1-year period (Jan 2019 – Jan 2020) shows that the site is not within a busy traffic area (see figure 8), and that the vast majority of traffic passes to the east of the proposed site (travelling through Kyle Rhea). The proposed site is considered to be very small relative to the available sea area used by other interest groups, such as diving, kayaking, pleasure crafts (sailing), and therefore the proposed site/project should not impact legitimate use of the sea. A conflict check has been conducted by the Crown Estate, and the proposed site is currently not leased to any other party (no conflict anticipated).

Visual Considerations:

It is anticipated that the visual impact of the proposed site will be low/negligible. Surface buoys at the perimeter of the site will be barely discernible from the nearest road-accessible public viewpoints (Balmacara / Reraig), over 2.8 kilometres away, and any perceived visual impact will be reduced by use of grey or green buoys. In addition, the visual prominence of the buoys is reduced by the relatively low elevation of the public viewpoints, resulting in a linear foreshortening of the site elements and their visually coalescing with the Isle of Skye.

5. Scotland’s Marine Plan

General policies:

Chapter 4 of Scotland's Marine Plan details 21 general policies, all of which have been given consideration in reference to this application.

(GEN 1) General planning principal of sustainable development: The site will be managed in a sustainable manner that protects & enhances Scotland's natural / historic marine environment. Seaweed cultivation will provide an alternative to wild harvesting natural populations, which play an important role in coastal ecosystems. In addition, recycled materials will be sourced and used where possible. The proposed site will research wild seeding techniques for seaweed farming, which may assist with organic certification, and increase value of end products.

Achieving a sustainable economy:

(Gen 2, 3 and 4) Economic and social benefit, and co-existence: Seaweed farming in general may provide new/alternative income streams to coastal communities, help maintain population levels and economic prosperity, and bring new skills to the Highlands. The site has been selected to avoid conflict with other marine users and allow co-existence, particularly with the fishing industry, as the site avoids key fishing grounds.

Ensuring a strong, healthy, just society:

(GEN 5) Climate change: Seaweed farming is a low-energy process, in addition, growth of seaweed absorbs CO₂, which can help mitigate climate change.

(GEN 6) Historic environment: The proposed site is **not** within or near a Historic MPA, and there will be no disruption to heritage assets.

(GEN 7) Landscape / seascape: Visual impact on the landscape will be negligible/low. The majority of farm structure will be below the surface, and not visible, with the exception of surface buoys. In addition, the proposed farm is not within a National Scenic Areas, National Park or World Heritage Sites.

(GEN 8) Coastal process and flooding: There is no known risks of flooding and coastal erosion associated with seaweed farming.

Living within environmental limits:

(GEN 9 & 10) Natural Heritage & Invasive non-native species: The site has been located to avoid priority marine features / sensitive habitats, and measures will be taken to reduce entanglement risk to marine mammals within the Inner Hebrides and Minches SAC. In addition, a biosecurity plan to be developed (wash, clean, dry) to reduce risk of spreading non-native species, and biological material will not be transferred between different water bodies.

(GEN 11, 12, 13 and 14) Marine litter, water quality, noise and air quality: See Part 4 above.

Promoting Good Governance:

(GEN 15 & 16) Planning alignments (land & sea): Access to the sea from land will not be restricted by the site (access to shore maintained), and no additional infrastructure is required on land in order to operate the site.

(GEN 17 & 18) Fairness and engagement: The Applicant will engage with the public regarding the proposed site, and outcomes of wild-seeding research. Should any issue arise on the view of the public, then they will be fairly considered and responded to.

Using sound science responsibly:

(GEN 19, 20) Sound evidence: The site selection process based of available scientific evidence, e.g. through National Marine Planning Interactive, and consultation with SEPA and SNH. Gaps in evidence will be addressed through ongoing monitoring at the site (e.g. of marine mammals), and new data and information will be used in decision making / management of the farm.

(21) Cumulative Impacts: There are no other algal farms in the local area. Elsewhere seaweed farms have been shown to interact positively with other aquaculture developments, such as fish farms (e.g. through absorption of excess nutrients). Other 'beneficial' activities would not be disrupted in the local area by installation of this small site.

Marine Plan in relation to aquaculture activities:

Chapter 7 in the Marine Plan outlines 7 objectives and 14 policies relating to aquaculture, most of which are focused on finfish and shellfish aquaculture; however, where relevant, they have been given consideration as part of this process. Details are as follows:

(Aquaculture Policies 1 to 8): The location of the proposed site has been carefully considered and based on available evidence (e.g. through National Marine Planning Interactive Portal, nMPI), and is felt to be appropriate. Potentially sensitive areas have been identified in the local area, and avoided. Any potential visual impacts on the seascape and landscape will be limited/mitigated as far as possible. Impacts of the farm on wild seaweed populations is not deemed an issue, as all reproductive material will be sourced directly from the site, and a biosecurity plan will be developed.

(Aquaculture Policy 9): If given consent, and before installation commences, an emergency response plan will be put in place for all farm workers.

(Aquaculture Policy 10): Community engagement will be carried out as part of the project.

(Aquaculture Policy 11): Equipment specifications are based on the Applicants long working knowledge of mooring infrastructure, and all equipment will be fit for purpose at the site. There is a continued focus on reducing greenhouse gas emissions as part of our business plan.

(Aquaculture Policy 12): Not relevant to seaweed farming.

(Aquaculture Policy 13): A diversity of seaweed species will be cultivated at the proposed site.

(Aquaculture Policy 14): Community benefits would be either as a direct result of job creation or as part of a wider community engagement and education program, which will be developed if the Application is successful.