

DRAFT SEAWEED POLICY STATEMENT 2013

COMHAIRLE NAN EILEAN SIAR CONSULTATION RESPONSE

Comhairle nan Eilean Siar has prepared the consultation response within the framework of the recent Our Islands Our Future initiative.

Under the Our Islands Our Future initiative the Outer Hebrides, Orkney and Shetland recognise that Islands by their very nature are special places with special requirements and call for a commitment that the needs and status of the island areas are clearly recognised.

The three islands group believe that the principle of subsidiarity should be at the heart of policy development across the islands. Applying the principle of subsidiarity will give the three islands group the opportunity and responsibility to provide the services and carry out the functions appropriate to their communities. It will also give the power to develop initiatives and introduce strategies to meet the special needs of their areas and ensure sustainable economic growth.

The current consultation on the National Marine Plan has been preceded by proposals for Scottish Marine Regions which would see each of the three island groups have a distinct Scottish Marine Region for their surrounding inshore waters (0-12 nautical miles). Under the Marine Act, planning powers may be devolved to Regional Planning Partnerships

At the same time the three islands group wish an active part in the planning and managing of development and exploitation of resources in and around their respective shores in order to ensure they benefit their communities without compromising the local environment.

1. Do you agree with policies 1-6?

State any you agree or disagree with, and your reasons.

The Comhairle is in general agreement with policies 1-6.

2. Should policy 2 require local provenance, i.e., stock must originate from the water body the seaweed is to be grown in? YES

State your reasons:

The requirement for stock of local provenance would be desirable both from a local biological perspective and to maximise growth rates.

3. Do you agree with policy 7? YES

State your reasons:

4. Do you agree with policies 8 and 9?

State any you agree or disagree with, and your reasons:

The Comhairle is in general agreement with policies 8 and 9. However, in the case of production of sea urchins care must be exercised to ensure over-grazing of seaweed does not occur.

Policy 9 reads as a statement rather than as a policy.

5. Do you think that the size scales (shellfish (small), medium, and extensive), are appropriate? YES

Give your reasons

6. Which consenting option would be most appropriate for seaweed cultivation? Option 3 or 4 is preferred

Give your reasons

While there is no commercial seaweed cultivation occurring at present in the Outer Hebrides, the Comhairle would recommend that, of the four consenting options, the preference would be for option 4 i.e. that the Comhairle would be the consenting authority where the proposal forms part of an IMTA development.

Otherwise, consents should be issued under the Marine Act, responsibility for which may in time be delegated to the Regional Marine Partnership.

7. Should guidance be developed for the harvesting of wild seaweed? If not, what (if any) alternative arrangements would you suggest?

Yes, in relation to present proposals for significant increase in harvesting activity, the Comhairle agrees with the statement in the SEA (para. 8.4.3) regarding need for development of guidance such as a Code of Practice. Further, the Comhairle wishes to see the introduction of marine licensing for existing and new seaweed harvesting, supported by a system of GIS based monitoring. The reasons for this are detailed in paragraphs 5.1 – 6.8 of the attached Committee Report, to be considered as part of this consultation response.

The Comhairle is disappointed by the statement made in the consultation document "Given the lack of evidence regarding negative impacts this draft policy statement does not consider a new regulatory regime necessary." Wild harvesting of kelp to the west of the Uists, were it to happen, could be catastrophic for the machair coastline.

8. Should the 1997 Act be amended to provide the flexibility to farm other species or specifically named species? YES/NO

State what named species should be included, and provide your reasons.

9. Do you have any comments to make on the BRIA content?

Additional comments

The Comhairle would ask that the following comments are also taken into account in finalising the Policy statement to improve the usability of the document for assessment purposes and to provide clearer guidance to developers as the factors that will be taken into account in determining applications for consent.

- A number of policies (e.g. Policies 1 and 8) are statements rather than Policy that could be used for determining applications for consent or for providing good guidance to developers.
- “In principle” statements (e.g. Policy 7) do not provide certainty for either those assessing applications or for prospective developers
- Policy 3 could be improved by stating; “.....cultivators **could** site farms away from sewage outfalls...” or “... **farms must be located away** from sewage outfalls...”
- Policy 5 should refer to the need to **accord with the National Marine Plan and take account of relevant Regional Marine Plan policies.**
- Policy 7 could be improved by amending to read “..... *that mitigation measures have been **identified** to prevent*” These measures could then be required to accompany any application for consent which would make assessment of the proposal more meaningful.

The Comhairle also asks that the contents of the **attached Committee Report** are recognised and taken into account where applicable as part of the response to the consultation on the draft Seaweed Policy Statement.

Comhairle nan Eilean Siar

November 2013



DRAFT SEAWEED POLICY STATEMENT 2013

Report by Director of Development and Director of Technical Services

PURPOSE OF REPORT To agree a Comhairle response to Scottish Government's consultation on the draft Seaweed Policy Statement 2013

COMPETENCE

- 1.1 There are no legal, equalities, financial or other constraints to the recommendations being implemented.

SUMMARY

- 2.1 The Scottish Government is inviting views on a draft Seaweed Policy Statement (SPS). The objective of the consultation is to seek comments on the Scottish Government's consideration of the possible different consenting regimes for seaweed cultivation. It also seeks views on a number of related issues including the regulation of wild seaweed harvesting, and the future diversification of cultivated species. The full document can be viewed at Appendix 1.
- 2.2 The SPS will be used to inform the National Marine Plan which is the subject of a concurrent Report, Regional Marine Plans, more detailed marine spatial work, and related locational guidance.
- 2.3 The draft SPS contains nine policies for assessing proposals for Commercial seaweed cultivation and, as production can occur at different scales, proposes that cultivation is considered within a framework of three distinct scales: 1) shellfish (small), 2) medium, and 3) extensive.
- 2.4 The document also reviews current consenting regimes and seeks views on four options as to how this should be carried out in future. Related issues including wild seaweed harvesting and future diversification are also covered in the consultation.
- 2.5 Views are sought through a set of questions and proposed responses are set out in Appendix 2.
- 2.5 The closing date for responses is 17 November, however an extension to 22 November has been agreed to allow the response to be considered at this series.

RECOMMENDATIONS

- 3.1 **It is recommended that the Committee:**
- a) **agrees the proposed response to the draft Seaweed Policy Statement consultation as set out in Appendix 2;**
 - b) **agree to determine the above matter on behalf of the Comhairle in accordance with Paragraph 17 of the Scheme of Administration to enable submission to be made by the response deadline.**

Contact Officer: Diane McPherson / David Muir

Appendix: 1. Draft Seaweed Policy Statement
2. Draft Seaweed Policy Statement Consultation Response

DRAFT SEAWEED POLICY STATEMENT CONSULTATION

- 4.1 The Scottish Government is inviting views on a draft Seaweed Policy Statement (SPS). The objective of the consultation is to seek comments on possible different consenting regimes for seaweed cultivation. It also seeks views on a number of related issues including the regulation of wild seaweed harvesting, and the future diversification of cultivated species. The full document can be viewed at Appendix 1.
- 4.2 The draft Policy Statement contains three sections:
1. Stand-alone commercial seaweed cultivation; and Commercial seaweed cultivation within Integrated Multi Trophic Aquaculture (IMTA) systems
 2. Consenting regimes: Current regulatory regime and Future options
 3. Related Issues: Wild seaweed harvesting and Future diversification.

Commercial seaweed cultivation

- 4.3 Scottish aquaculture is a growing and increasingly important industry which helps to underpin sustainable economic growth in rural and coastal communities, especially in the Highlands and Islands.
- 4.4 This section of the document contains a set of nine policies for the consideration of seaweed cultivation proposals at each of three defined scales.
- 4.5 Commercial seaweed cultivation is considered to have the potential to take place at a number of different production scales. For the purpose of the SPS, development has been divided into three distinct scales: 1) shellfish (small); 2) medium; and 3) extensive.
- 4.6 Cultivation of seaweed is seen as a complementary activity requiring similar conditions as for aquaculture and these may occur together in Integrated Multi Trophic Aquaculture (IMTA) systems. In IMTA systems, species which are fed or farmed (for example Atlantic salmon) are grown alongside species whose culture results in nutrient (or energy) extraction (for example sea urchins, mussels or seaweeds). The aims are for greater efficiency in resource use such as feedstuffs, space, and labour, with a consequent reduction in negative environmental impacts. Seaweed grown in such systems will therefore be co-located in areas of aquaculture production.

Consenting regimes

- 4.7 There are some anomalies in the current consenting regimes that Government wish to address. At present seaweed farms are consented under the Marine (Scotland) Act while marine fish farming is consented under the Town and Country Planning (Scotland) Act. As stated above often these activities occur within the same areas and on occasions as part of the same development.
- 4.8 Four alternatives are suggested for considering farmed seaweed proposals:
- 1 No change to the current consenting arrangements
 - 2 Provide main consent through terrestrial planning regime
 - 3 Use both planning and marine licensing regimes but differentiate by scale
 - 4 Transfer seaweed to planning only if it is part of IMTA development

Related Issues

- 4.9 Views are sought on two main issues:
- What arrangements should be in place for the harvesting of wild seaweed; and
 - Whether legislation should be amended to provide flexibility to farm other species.

ISSUES OF CONCERN FOR OUTER HEBRIDES

Commercial Seaweed Cultivation

- 5.1 There is little or no commercial seaweed cultivation in the Outer Hebrides although limited harvesting of particular species is undertaken for eventual processing (off island) for the food manufacturing industry. If commercial cultivation of seaweed were to begin then, due to its static nature the Comhairle would prefer regulation through the Town and Country Planning Act 1997 similar to other forms of aquaculture notably salmon farming.

Integrated Multi Trophic Aquaculture (IMTA)

- 5.2 The two principle objectives of integrated aquaculture are to reduce pollution and to increase productivity and trials are currently underway of an integrated multi-trophic aquaculture (IMTA) system at the Scottish Salmon Company's Loch Roag site. In conjunction with its salmon farming operation, the company has introduced seaweed on its mooring ropes with the objective of reducing the level of nutrients coming from sites entering the water column.
- 5.3 While there is no commercial seaweed cultivation occurring at present in the Outer Hebrides, the Comhairle would recommend that, of the four consenting options, the preference would be for option 4 i.e. that the Comhairle would be the consenting authority in line with consenting for marine fish farming, where the proposal is part of an IMTA development. Otherwise, consents should be issued as part of the Marine consenting regime, a responsibility which may in time be delegated to the Regional Marine Partnership.

Wild Seaweed Harvesting

- 5.4 The two main species of seaweed that are of commercial interest which grow in the intertidal and sublittoral zones around the coast of the Outer Hebrides are *Ascophyllum nodosum* (knotted wrack or rockweed) and *Laminaria hyperborean* (kelp).

Ascophyllum

- 5.5 The Scottish Association for Marine Science (SAMS) and the Hebridean Seaweed Company (HSC) were commissioned by Scottish Enterprise and Highlands and Islands Enterprise in March 2010 to assess the intertidal seaweed resources of the Outer Hebrides: the rockweed *Ascophyllum nodosum*. (<http://www.hie.co.uk/about-hie/news-and-media/archive/mapping-the-seaweed-resources-of-the-outer-hebrides.html>)
- 5.6 The agreed field methodology was used in shore surveys between April and October 2010 and combined with habitat modelling to deliver map-based estimates of *Ascophyllum*. Biomass estimates from this study, in 1,000s of metric tonnes (t), are summarised here:

Island	Total biomass		Harvest scenarios			
	All	>60 t/km	<3km from landing sites		25% annual harvest	
			Current	Full	Current	Full
Barra	3.9	3.1	0.0	3.1	0.0	0.8
Harris	26.7	25.4	12.3	14.7	3.1	3.7
Lewis	69.0	67.9	33.1	37.7	8.3	9.4
North Uist	37.7	36.6	13.0	13.0	3.3	3.3
South Uist	31.6	30.4	2.2	28.7	0.6	7.2
West Uist	1.4	1.3	0.1	0.1	0.0	0.0
Total	170.5	164.7	60.7	97.4	15.2	24.3

5.7 90% of *Ascophyllum* biomass was in high yield harvestable areas (>60 t/km). The largest percentage of the best estimate of total biomass was predicted to be found on Lewis (41%), followed by North Uist (22%), South Uist (19%) and Harris (16%), Barra having very little (2%).

5.8 Harvest scenarios were made on the basis of accessible resources, within 3 km of landing sites. The present harvesting industry (as of October 2010) can access 60,700 tonnes of *Ascophyllum*, 36% of the total (Current above). With a larger range of landing sites (Full above), this could rise to 97,700 tonnes or 59% of the total available. For sustainable harvest, areas should be left for at least four years between cutting events to allow regrowth. The sustainable annual harvest should be no more than 25% of the total accessible biomass: giving 15,000 tonnes for the current industry and 25,000 tonnes if a larger network of landing sites were developed.

5.9 *Ascophyllum* is presently harvested in Lewis and Harris by the Hebridean Seaweed Company Ltd, and they are soon to be joined by Uist Asco Ltd and likely by another seaweed harvesting company operating in North Uist and South Uist respectively.

Laminaria

5.10 The source of much of the following information is from **Wilkinson, M.** 1995. Information review on the impact of kelp harvesting. Scottish Natural Heritage Review No. 34.

5.11 Much of the shallow sublittoral in temperate parts of the world is dominated by forests of large brown seaweeds of the order Laminariales, colloquially known as kelps. In north-west Europe the major species is *Laminaria hyperborean* and this is the species which grows from bedrock up to several metres tall in dense stands known as “kelp forests” in the seas to the west of the Outer Hebrides.

5.12 Although kelp is harvested in many parts of the world, for example, in Norway in the past by Protan and now by SES (Seaweed Energy Solutions AS), harvesting of kelp has never been done in the Outer Hebrides apart from gathering storm cast seaweed from beaches.

5.13 Kelp is of both ecological and commercial importance. Alginate is extracted from the cell walls of the plant and is used in a wide range of applications in food, textile, nutraceutical, pharmaceutical and other industries, and recent research has shown that kelp may be suitable for the production of biofuels. However, with the exception of limited export of the dried stipe for processing, and extensive use by crofters of

storm cast kelp as fertilizer, there is no history of processing fresh *L. hyperborean* from the Outer Hebrides.

- 5.14 It is reported that *L. hyperborean* forests occur all around the south, west and north coasts of the Hebrides to a depth of 20 metres. Usually the lower limit would be set by lack of light except where there is severe grazing by sea urchins, or where the substratum becomes unstable boulders, favouring *L. saccharina*. Research from other regions has found the greatest density from 3 to 6 metres with plants becoming smaller and sparser with reduced light deeper than 6 metres. The exact state of kelp forests to the west of the Outer Hebrides, in particular the Uists, is uncertain and further research may be required to be undertaken.
- 5.15 As it is the stipe and not the frond that is required for processing harvesting must be close to the plants' holdfasts and these would be left to rot away as they do not regenerate. Regeneration would need to rely on smaller plants not being harvested so that they could regrow. Also, it should be desirable for the harvester not to take stones which could complicate processing.
- 5.16 Kelp forests form a rich habitat for a diverse range of fauna and several species of fish and seabirds use the areas for feeding and they are a nursery area for gadoid species such as cod and hake. Research has shown that other species were found associated with the holdfasts such as shrimps, lobsters, and crab. These were absent from recently cleared areas and only appeared well established in the 10 year plant field. Conclusions are that an area is not ecologically restored until at least 6 years after harvesting and that even after 6 years the full richness of a mature kelp forest has not developed.
- 5.17 The contribution the kelp forests which grow to the west of the Uists make to protection of the soft coastline cannot be overstated. A notable feature of the inshore seabed to the west of the islands is its shallow gradient which plays a critical role in protecting the soft coastline of the Uists from wave action. The wave base makes contact with the seabed and the vast forests of kelp seaweed which grow over a considerable distance offshore, so that by the time the waves make contact with the coast a significant proportion of their energy has been lost. This phenomenon is demonstrated by comparing wave heights recorded by the West of Hebrides WaveNet Buoy located 30 to 40 kms west of South Uist and the same waves as they break on the coast. Wave heights of over 11 metres recorded by the buoy are transformed to around 1.5 to 2 metres in height by the time they reach the shore. The combination of shallow gradient and roughness created by the kelp forest greatly dissipate wave energy. Any depletion of the kelp forest could result in major loss of protection of the coast in terms of erosion, flooding and loss of land.
- 5.18 Relative sea level rise over recent decades has been recorded as almost 6mm per year in the Outer Hebrides. The soft sandy low-lying coasts of the Uists and Barra are particularly vulnerable and erosion may be expected to accelerate over coming years. As the wave base rises above the seabed and kelp in line with relative sea level rise, more energy will reach the shore than over past years thereby increasing vulnerability of the coast to erosion. The machairs of the Uists and Barra are almost unique in terms of biodiversity as well as having socio-economic importance to the population and to increase risk for this ecosystem for the sake of short-term gain would be unwise.

CONCLUSIONS

- 6.1 Currently in the Outer Hebrides there is one commercial company harvesting and processing *Ascophyllum*. Cutting is mostly by hand with some mechanical cutting where sea conditions permit. However, there are proposals for another two companies to begin operations in the Uists which hold the prospect of new jobs being created. The potential for growth of the industry is welcomed by the Comhairle, however, sustainable development is key to the long-term viability of the industry.
- 6.2 From the harvest scenarios for *Ascophyllum* presented in the table, if Full scenarios are realised by greatly increasing the number of landing sites (and associated access roads), a maximum of 3.3k tonnes from North Uist and 7.2k tonnes per annum from South Uist could be harvested. However, an industry source has said these estimates are thought to be conservative.
- 6.3 Harvesting activity is set to greatly increase which may result in increased pressure on the available resource. The current situation regarding consents for harvesting is that the operator is required to gain the permission of the land or seabed owner, e.g. the estate owner for the intertidal area and The Crown Estate for the seabed below the low water tide level. It is likely that for large scale processing of seaweed, viability will require high volumes of throughput of raw material.
- 6.4 The vast kelp forests to the west of the Uists play a vital role in the protection of the vulnerable west coast and should not be depleted in any way. Harvesting of kelp from this area could lead to changes in coastal processes resulting in erosion, flooding and loss of land.
- 6.5 It is recommended that a system of marine licensing is introduced for the regulation of existing and new commercial harvesting of seaweed. However, a difficulty arises in relation as to who would be the applicant. Seaweed is routinely cut by both self-employed part-time cutters as well as being cut by the processing company. Although the Comhairle recommends that cutting seaweed is regulated by marine licensing, it is not intended that each individual self-employed cutter would be required to apply for a licence. What is intended is that the main processing company would be the applicant and that it would be their responsibility to ensure cutting is carried out within the terms of the licence.
- 6.6 A requirement for monitoring of harvested areas should form part of the licence and could be undertaken using GIS techniques. The precautionary principle should be applied until sufficient scientific evidence dictates otherwise.
- 6.7 There should be a presumption against granting of marine licenses for harvesting of seaweed (*Laminaria*) in the area of sea to the west of the Uists and that a “no-take” zone is established to ensure that harvesting activities do not encroach on kelp forests.
- 6.8 Traditional gathering of stormcast seaweed in the main by crofters should be allowed to continue as the present situation in the Uists allows. Seaweed gathered from the foreshore is used as an organic fertilizer and binding agent which is of significant importance for the biodiversity of the machair. Stormcast seaweed is also important in trapping windblown sand thereby helping to build up sand deposits on beaches. There is more than enough seaweed left on beaches after gathering for use as fertilizer.