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# Seaweed Cultivation Policy Statement

marinescotland

# **SEAWEED CULTIVATION POLICY STATEMENT**

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## **Introduction**

## **Background**

The Scottish Government (SG) is fully supportive of the sustainable growth of aquaculture, with due regard to the wider marine environment. The sector underpins the sustainable economic growth that supports both employment and the economic wellbeing of many fragile rural communities across Scotland. This includes the support and development of traditional aquaculture sectors, as well as possible diversification into other species, such as seaweed cultivation.

This policy statement covers:

- Commercial seaweed cultivation development size
- Integrated Multi Trophic Aquaculture (IMTA) development

## **Policy summary and purpose**

This policy statement aims to help facilitate the growth of the sector by setting out SG policy on the suitability of seaweed cultivation in different scenarios. This will provide those wanting to operate in this sector with a better understanding of the type of development that may be given approval. The overall benefit will be to provide greater certainty for the industry, while ensuring that activities which may have an environmental impact are understood and mitigated.

## **Scotland's National Marine Plan (NMP)**

Scotland's NMP was adopted on 25 March 2015 and published and laid before Scottish Parliament on 27 March 2015. All authorisation and enforcement decisions by a public authority must be taken in accordance with the Plan, as must any other decisions which are capable of affecting the marine area. The application of the General Policies within Chapter 4 of the Plan will be particularly relevant in relation to seaweed issues. <http://www.gov.scot/Topics/marine/seamanagement/national>

## **Policy development**

The Seaweed Cultivation Policy Statement (SCPS) has been informed through consultation in 2013 with various public bodies with an interest in seaweed cultivation and harvesting, including the Food Standards Agency in Scotland, the Scottish Environment Protection Agency (SEPA), Scottish Natural Heritage (SNH), Historic Scotland (HS), and The Crown Estate. A consultation report [www.scotland.gov.uk/publications/2014/11/5316](http://www.scotland.gov.uk/publications/2014/11/5316) and Strategic Environmental Assessment (SEA) Environmental Report [www.gov.scot/publications/2013/08/6786/0](http://www.gov.scot/publications/2013/08/6786/0) were also completed.

## **SEAWEED CULTIVATION POLICY STATEMENT**

### **Commercial cultivation**

Different species of seaweed have differing habitat requirements, but all require good water flow to provide nutrients. The west coast of Scotland has suitable inlets and sea lochs for seaweed cultivation, with many already used for aquaculture production. There may also be potential for seaweed growing in other areas.

Commercial seaweed cultivation is considered to have the potential to take place at a number of different production scales. For the purpose of the SCPS two scales have been identified: 1) small-medium and 2) large.

Seaweed cultivation may result in positive or negative impacts on the marine environment and other users of marine waters. Table 4.1 of the SEA Environmental Report details the potential effects of seaweed cultivation on the landscape and seascape, climate, biodiversity, human health, water quality and the marine environment, marine geology, air quality, cultural heritage, and marine assets.

Amendments to the Wildlife and Countryside Act 1981 under the Wildlife and Natural Environment (Scotland) Act 2011 make it an offence for a person to plant or cause any plant species to grow out with its native range. This includes species of seaweed which can grow in the marine environment.

While there is currently a lack of evidence to suggest that releases of sewage and other effluent pose a risk to human consumers of farmed or wild harvested seaweed, those involved in growing seaweed should be aware that a contamination risk may exist, depending on current flow characteristics, historic discharges and accumulation in the environment (i.e. for heavy metals). As such, the seaweed sector should locate in designated shellfish waters, where water quality is already protected for harvesting products for human consumption.

The SG does not intend to use the presence of seaweed production as a sole justification or driver for improvements to water quality or to impose additional requirements on operators of authorised activities making discharges to the water environment.

## **Policies**

The policies cover commercial seaweed cultivation either grown on its own or as part of an Integrated Multi Trophic Aquaculture (IMTA) system, will directly inform consenting decisions, and should be considered by developers in advance of submitting applications.

- **Policy 1 - In principle, the SG is supportive of small-medium farm seaweed cultivation, subject to regulatory consideration; the General Policies set out in Chapter 4 of Scotland's' National Marine Plan; and any other relevant policies within that Plan. Applications for such seaweed farms should demonstrate that mitigation measures have been considered to prevent adverse environmental impacts, and set out how these will be delivered.**
- **Policy 2 – Only species native to the area where seaweed cultivation will take place should be cultivated, to minimise the risk from non-native species.**
- **Policy 3 – Where seaweed is grown for human consumption, cultivators should site farms away from sewage outfalls and other potential sources of pollution.**
- **Policy 4 – Equipment used in seaweed cultivation should be fit for purpose to withstand damage from adverse weather conditions.**
- **Policy 5 - Other marine users and activities should be considered in the siting of farms.**
- **Policy 6 – Small-medium size farming is unlikely to be spatially limited, and may be located anywhere in Scotland, subject to agreement and appropriate local conditions.**
- **Policy 7 – The SG is supportive of IMTA.**

## Development size

### **Small-medium** (0-50 x 200m lines)

At the lower end of this scale, seaweed farms are a similar size to a typical mussel farm, with up to 30 x 200m lines. Anecdotal evidence suggests this sector may grow significantly in the short-to-medium term. The SEA Environmental Report indicated that there is likely to be limited environmental impact from such sites, but potential negative environmental impacts from larger sites of 30-100 200m lines, primarily in relation to benthic shading, but also in relation to visual impacts, collision risks, spatial issues, and coastal impacts. Such farms will be required to demonstrate mitigation measures, particularly in relation to sensitive areas. **(Policies: 1-6)**

### **Large** (>50 x 200m lines)

This scale refers to larger sites that may utilise different equipment to that used in shellfish production. Such sites would have the potential for development for biofuel production, but as the industry is very much in its infancy, there is currently no consensus over the size or viability of such sites.

Seaweeds have a high sugar and carbohydrate content which, through fermentation and bio-refining can produce bioethanol or biobutanol, a high energy fuel which burns in the same way as petrol. The attraction of marine origin biofuels over those of terrestrial origin is that the former do not impact on limited land and freshwater resources that could be used for food production.

As hundreds of thousands of hectares of seaweed are likely to be required to be cultivated for biofuel production, this industry is currently limited by technical feasibility and economic and environmental considerations. For this reason, these types of development were not considered in the SEA Environmental Report.

### **IMTA**

The SG is supportive of IMTA, the co-culture of species for environmental and economic benefit. 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. Operators should be aware that equipment for the entire operation should be fit for purpose and that equipment for shellfish or seaweed aspects must be installed and maintained so as to not compromise the integrity of the whole system. *A Technical Standard for Scottish Finfish Aquaculture\** was published in June 2015 and applies to all finfish operations, including IMTA. All equipment expected to meet the requirements by 2020. **(Policies: 2,3,4,5,7)**

\* available at: [www.gov.scot/Publications/2015/06/5747](http://www.gov.scot/Publications/2015/06/5747)



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