



netalgae

INTER-REGIONAL NETWORK TO PROMOTE SUSTAINABLE
DEVELOPMENT IN THE MARINE ALGAL INDUSTRY

Regulation of the Macroalgae Industry in the UK and Norway

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ATLANTIC AREA Transnational Programme
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Overview

This short presentation will provide an overview of the regulation of the UK and Norwegian seaweed industry. The description of regulation will be broken down according to:

i) Activity

Wild Harvesting

Seaweed Aquaculture

Integrated Multi-trophic Aquaculture

ii) Geographical Region

- England
- Northern Ireland
- Scotland
- Wales
- Norway



Note that different regions of the UK are covered by different laws and regulations due to political devolution.

Upstream - UK Seaweed Harvesting



- **Seaweed harvesting in the UK is a small-scale industry** concentrated on areas such as the Northern Isles (Orkney & Shetland), the Outer Hebrides, Northern Ireland and South Wales.
- There is **no specific legislation covering seaweed harvesting** in the UK. **Regulation is undertaken through general legislation** (e.g. UK Food and Environment Protection Act, Town and Country Planning Act, Marine and Coastal Access Act 2009, The Marine Scotland Act 2010, EU legislation).
- To begin harvesting it **is necessary to contact the landlord of the coastline**. This will be:
 - i) **The Crown Estate**, which usually manages the shoreline from MHSW to 12 nautical miles offshore on behalf of the UK government, or
 - ii) **A private landlord** who may own the coastline between MHSW and MLSW.
- With the permission of the Landlord it is then necessary to **approach the appropriate regional regulator** to secure a harvesting licence.

Wild Harvesting - England

Seaweed production areas

-  Wild harvesting
-  *Seaweed Regulator/Consultee*



- In England, the relevant regulator is the **Marine Management Organisation (MMO)**, based in Newcastle. The MMO will refer the application to the local Inland Fisheries Conservation Authority (IFCA).

- A licence may be **granted after consideration of applicable environmental legislation**, Special Sites of Scientific Interest, local planning regulations, EU Directives, other users etc.



- The applicant **may need to provide an Environmental Statement (ES)** or Environmental Impact Assessment (EIA). If issued, any licence may have **specific restrictions** included in it (e.g. harvest quantities, species types and times).

Current Status

- There is very little seaweed harvesting in England - small amounts are collected in the southwestern counties of Devon and Cornwall.

Wild Harvesting - Northern Ireland

Seaweed production areas

-  Wild harvesting
-  Seaweed Regulator/Consultee



- In Northern Ireland, the relevant regulator is the **Department of Environment** - in particular a subsection of the department - the **Northern Ireland Environment Agency (NIEA)**, based in Belfast.

- A licence may be **granted after consideration of applicable environmental legislation**, Special Sites of Scientific Interest, local planning regulations, EU Directives, other users etc.


- The applicant **may need to provide an Environmental Statement (ES)** or Environmental Impact Assessment (EIA). If issued, any licence may have specific restrictions included in it (e.g. harvest quantities, species types and times).

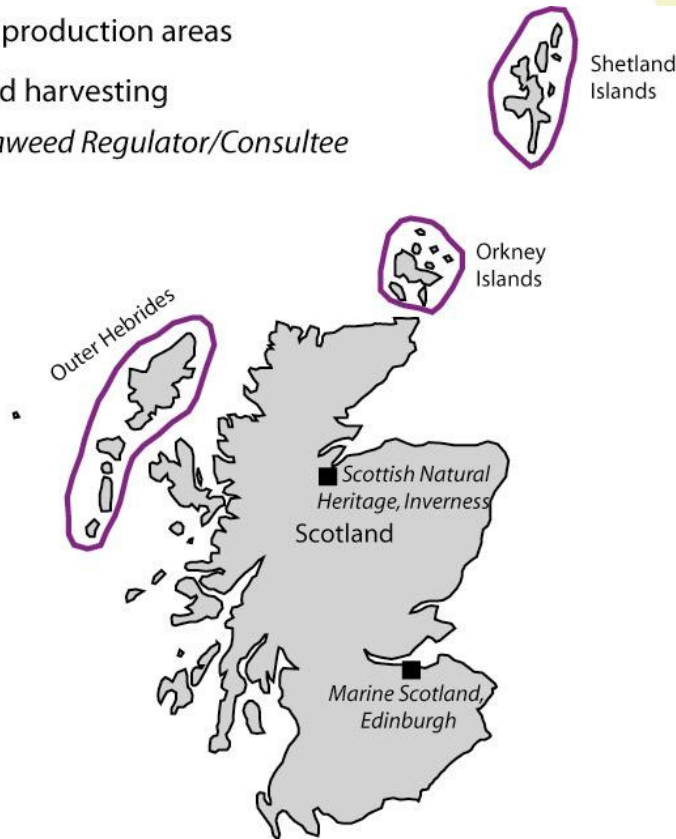
Current Status

- Seaweed harvesting is currently focused on areas such as the Antrim and Down coastlines.

Wild Harvesting - Scotland

Seaweed production areas

-  Wild harvesting
-  Seaweed Regulator/Consultee



- In Scotland, the relevant regulator is a subsidiary of the **Scottish Government - Marine Scotland**, based in Edinburgh. Marine Scotland will refer the application to **Scottish Natural Heritage**, a government-funded conservation agency based in Inverness.

- A licence **may be granted after consideration of applicable environmental legislation**, Special Sites of Scientific Interest, local planning regulations, EU Directives, other users etc.



- The applicant **may need to provide an Environmental Statement (ES)** or Environmental Impact Assessment (EIA). If issued, any licence may have specific restrictions included in it (e.g. harvest quantities, species types and times).

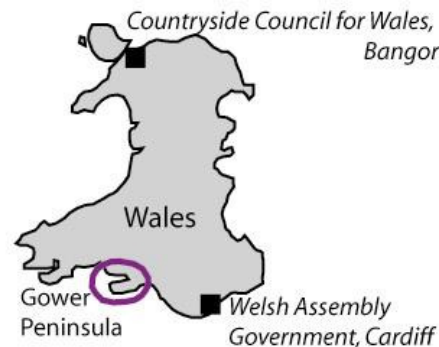
Current Status

- Wild harvesting in Scotland is concentrated in the Northern Isles (Orkney and Shetland) and the Outer Hebrides.

Wild Harvesting - Wales

Seaweed production areas

-  Wild harvesting
-  Seaweed Regulator/Consultee



- In Wales, the relevant regulator is the **Welsh Assembly Government, based in Cardiff**. The Welsh Assembly will refer the application to **Countryside Council for Wales**, a conservation agency, based in Bangor.

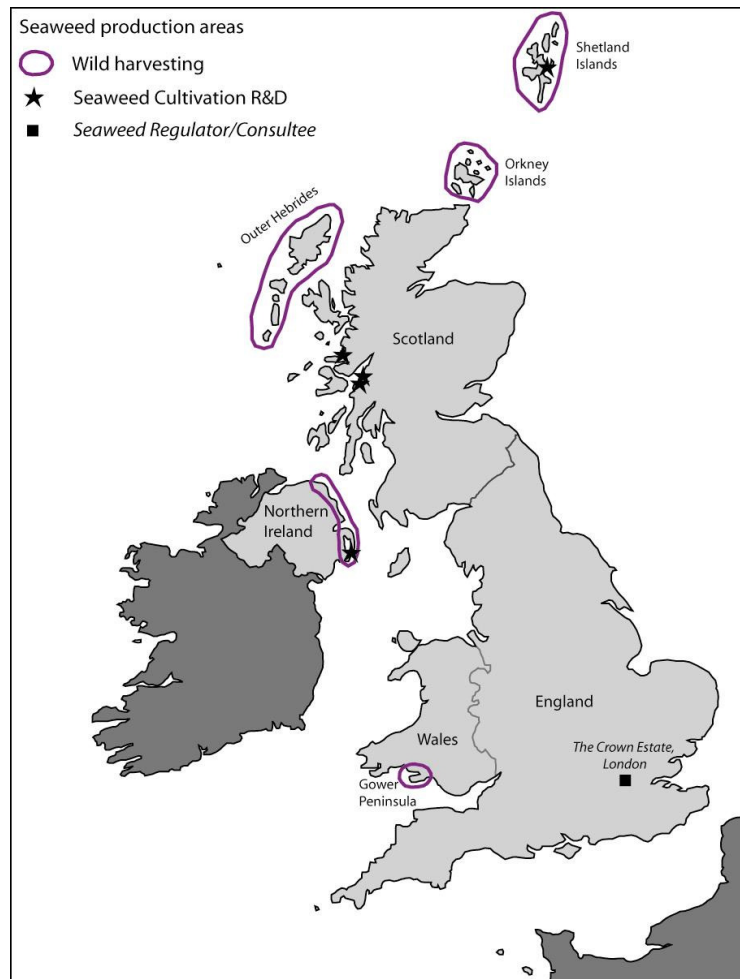
- A licence may be **granted after consideration of applicable environmental legislation**, Special Sites of Scientific Interest, local planning regulations, EU Directives, other users etc.

- The applicant **may need to provide an Environmental Statement (ES)** or Environmental Impact Assessment (EIA). If issued, any licence may have specific restrictions included in it (e.g. harvest quantities, species types and times etc).

Current Status

- Most seaweed harvesting in Wales takes place along the southern coastlines of Gower and Pembrokeshire

UK Seaweed Aquaculture

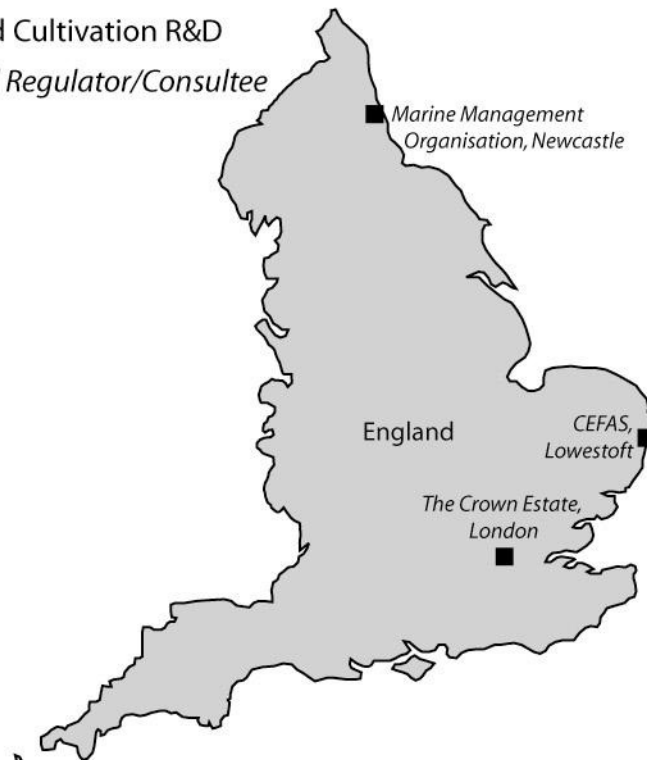


- At present there are **no commercial seaweed aquaculture operations in the UK**. However, research and development is being undertaken at a number of sites in Scotland and Northern Ireland.
- Current UK aquaculture legislation is **specifically aimed at fish and shellfish** and **does not cover** seaweed production
- However, **any development in a marine area** in the UK, for aquaculture purposes or otherwise, is subject to **Marine Acts across the UK**, which require that the development hold a **Marine Licence**
- To obtain a **Marine Licence** a **prospective seaweed farmer** must:
 - 1) Approach **The Crown Estate** (as the relevant landlord at the UK level) to obtain a lease covering an area of the seabed.
 - 2) If there are no objections from The Crown Estate, it is then necessary to contact the relevant **Marine Licencing Authority (MLA)** at the regional level.

Seaweed Aquaculture - England

Seaweed production areas

- Wild harvesting
- ★ Seaweed Cultivation R&D
- *Seaweed Regulator/Consultee*



- In England, this is the **Marine Management Organisation (MMO)** in Newcastle, which is responsible for all English waters (inshore and offshore).

- During the Marine Licence application process the MLA will undertake a **pre-screening consultation** to determine what further information, such as an Environmental Statement (ES) or EIA, is required.

- On receipt of the formal application, the **MLA will consult with relevant stakeholders**. For the MMO, in England, the **consultees will include their technical advisors at the Centre for Environment, Fisheries and Aquaculture Science (CEFAS)** in Lowestoft.




- **MLAs take a full life-cycle approach** - they consider construction, operation & decommissioning

Current Status

- There are currently no seaweed aquaculture operations in England

Seaweed Aquaculture - N. Ireland

Seaweed production areas

-  Wild harvesting
-  Seaweed Cultivation R&D
-  *Seaweed Regulator*



- In Northern Ireland, the MLA is the **Marine Assessment and Licensing Team of the Northern Ireland Environment Agency (NIEA)** based in Lisburn, for inshore waters (from 0-12 nautical miles) and **the Marine Management Organisation (MMO)**, Newcastle, for offshore waters (12-200 nautical miles).




- On receipt of a formal **Marine Licence application**, **NIEA will consult with relevant stakeholders.**

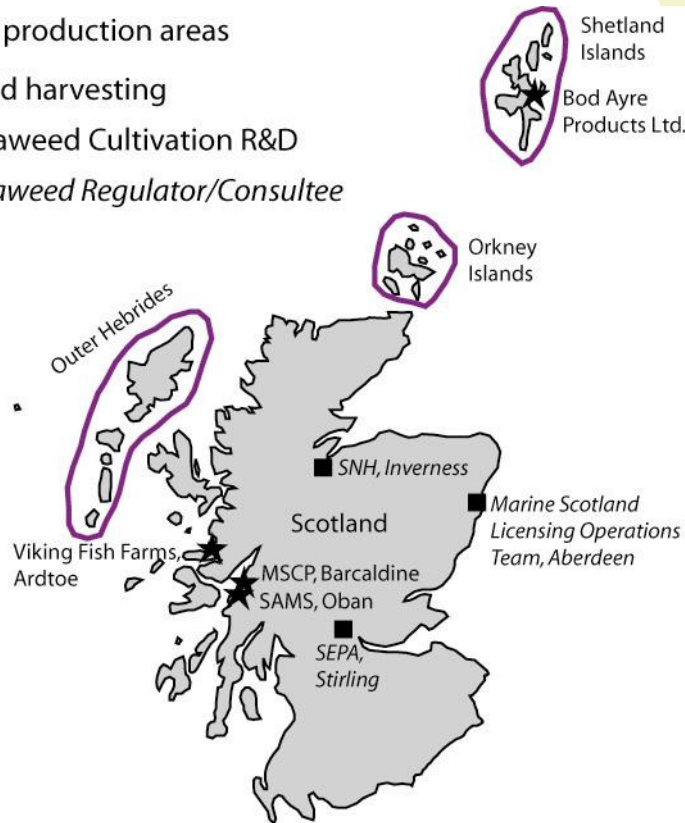
Current Status

- Seaweed aquaculture R&D is currently taking place at Queen's University Belfast, Portaferry.

Seaweed Aquaculture - Scotland

Seaweed production areas

-  Wild harvesting
-  Seaweed Cultivation R&D
-  Seaweed Regulator/Consultee



- In Scotland, the MLA is **Marine Scotland**, which has its **Marine Scotland Licensing Operations Team (MSLOT)** based in Aberdeen. Marine Scotland is responsible for issuing Marine Licences for all Scottish waters (inshore and offshore)




- On receipt of a licence application, MSLOT will consult with relevant stakeholders which are likely to include **Scottish Natural Heritage (SNH)**, Inverness and the **Scottish Environment Protection Agency (SEPA)**, an environmental regulator based in Stirling.

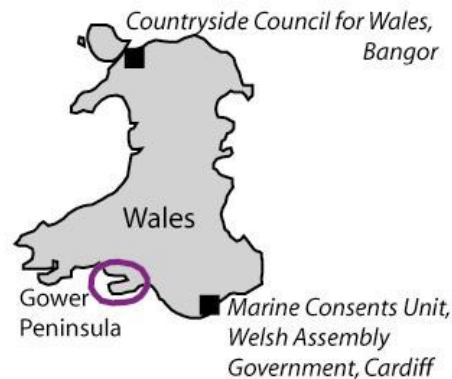
Current Status

- Scotland is the most advanced area of the UK in terms of seaweed aquaculture. R&D is underway at:
 - Bod Ayre Products Limited, Shetland
 - SAMS, Oban
 - Viking Fish Farms, Ardtoe
 - Macroalgae Supply Chain Project (MSCP), Lismore, nr Oban

Seaweed Aquaculture - Wales

Seaweed production areas

-  Wild harvesting
-  Seaweed Cultivation R&D
-  Seaweed Regulator/Consultee



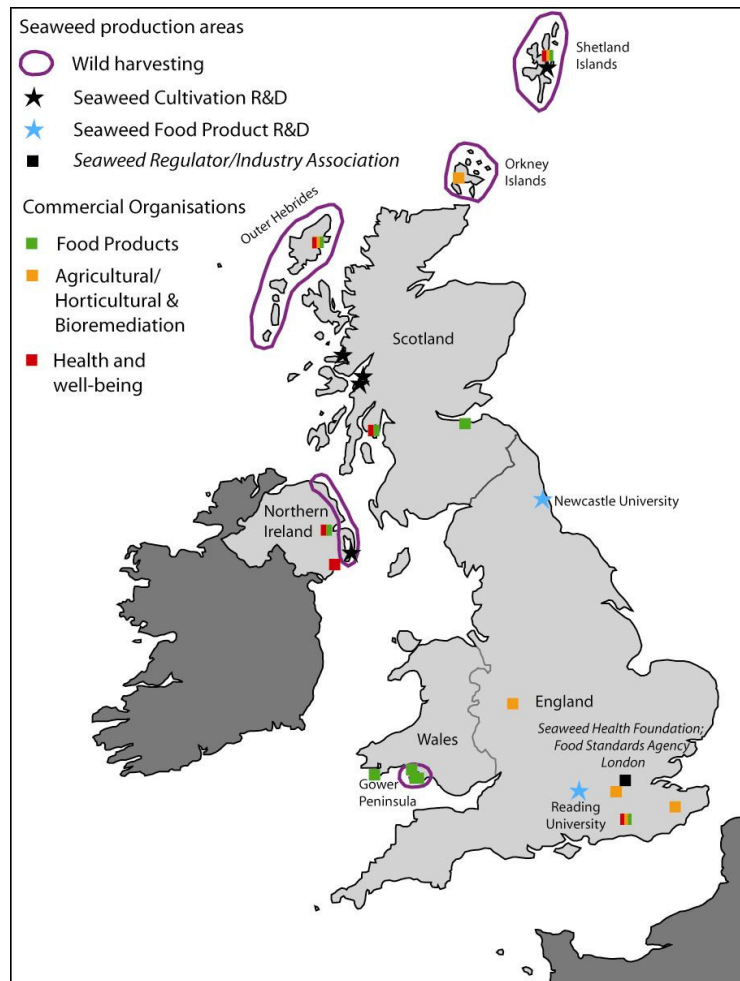
- In Wales, the MLA is the **Welsh Assembly Government**, which has its **Marine Consents Unit (MCU)** based in Cardiff and can issue Marine Licences for Welsh **inshore waters**. The **Marine Management Organisation (MMO)**, Newcastle, is responsible for administering licenses for Welsh **offshore waters**.

- On receipt of a licence application, the MCU will consult with relevant stakeholders which are likely to include **Countryside Council for Wales (CCW)**, based in Bangor and the **Centre for Environment, Fisheries and Aquaculture Science (CEFAS)**, in Lowestoft.

Current Status

- There are currently no seaweed aquaculture operations in Wales

Integrated Multi-trophic Aquaculture



- The regulations in the UK seaweed industry **do not cover :-**

- **Conversion** of a site with a current Marine Licence from its existing use (e.g. shellfish longlines) to seaweed production **provided that the basic structure is unchanged.**

- The **additional culture of seaweeds with fish and/or shellfish on a licenced site, provided that the basic structure is unchanged.**

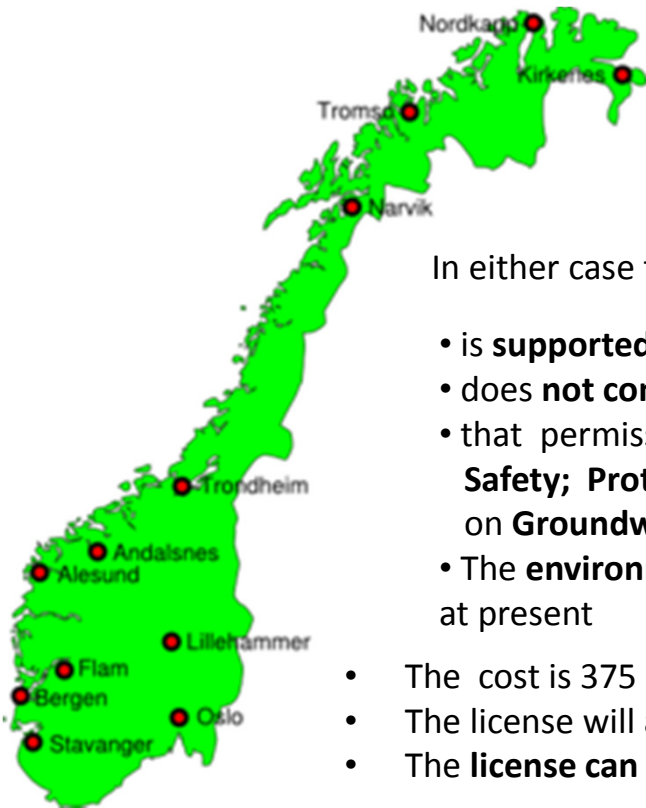
- However if the seaweed is destined for **human consumption**, rather than as biomass, consultation with the **Food Standards Agency (FSA)**, based in London, is required as the **waters may need to be classified as 'Class A'**

Seaweed Regulations in Norway – Wild Harvest



- **The Ministry of Fisheries and Coastal Affairs (FKD)** is responsible for the fisheries and aquaculture industries, and formulates and enforces laws. FKD instructs the Institute for Marine Research to do yearly surveys of areas where *L. hyperborea* is harvested.
- **The Ministry of the Environment (MD)** is responsible for carrying out the environmental policies of the Government.
- **The Directorate for Nature Management (DN)** is the advisory and executive body of the MD which is responsible for environmental protection
- **The Directorate of Fisheries (FD)** is an advisory and executive body of the FKD, responsible for the regulation, supervision and resource management of fishing and aquaculture. FD initiates and finances the survey of *L. hyperborea* harvesting fields. The Coastguard executes control of the resource on behalf of FD.
- **County Governors** receive complaints from users when conflicts arise and resolve conflicts between various regulations
- **County Authorities** are since 2010 responsible for the practical aspects of the regulation of macroalgae harvesting.

Seaweed Regulations in Norway – Farming



- Licence applications are made to **The Ministry of Fisheries and Coastal Affairs (FKD)** - the process takes at least 5 months.

- In 2010 it was suggested that seaweed aquaculture should come under the “Regulation on licenses for aquaculture of other species than salmon and trout”, and applications made to **the County Authorities**.

In either case the **applicant must document that the proposed development :-**

- is **supported by local area plans**
- does **not conflict with environmental or cultural heritage protection.**
- that permissions are obtained according to the **Acts on Food Production and Food Safety; Protection against Pollution and Waste, Harbours and Waters ;** and the Act on **Groundwater and Waterways.**
- The **environmental impact has to be considered**, though specific EIAs are not required at present

- The cost is 375 EURO, plus a suggested security of 312 EURO/acre as “cleanup” insurance.
 - The license will allow production of **one species in a specified area.**
 - The **license can be withdrawn** if within two years the production is **<1/3 of that licenced.**
- In the new regulation that is under development, the licence will **still be by area** and the seaweed farmer will probably **have to keep records of stock and production, seedling and harvest times, and report the production annually.**

Summary of the Current UK and Norwegian Seaweed Industries

UK . Status of Wild Harvesting

- The current small UK seaweed industry, composed of c. small 15 SMEs is reflected in its estimated value of just over €1m and an annual harvest of 6,000 tonnes. The largest commercial harvesting operation, based in the Outer Hebrides, processes
 - 5,500 tonnes per annum

UK. Status of Seaweed Aquaculture

- There are no commercial seaweed aquaculture operations in the UK at present, though research and development is being undertaken at sites in Scotland and Northern Ireland.
- The Macroalgae Supply Chain Project (MSCP) is a pilot project due to be established near Oban at the end of 2012 which aims to investigate the economics of farming macroalgae on a large-scale in the UK.



Norway. Status of Wild Harvesting

- Currently two main companies wild harvest seaweed biomass, Algea AS and FMC Biopolymer with a combined total annual harvest of around 170,000 (20,000 tonnes *A. nodosum* and 150,000 tonnes of *L. hyperborea*).

Norway. Status of Seaweed Aquaculture .

- There are no commercial seaweed farms in Norway, though R&D on seaweed aquaculture is being carried out by SINTEF, and Bioforsk.
- It is understood that Statoil has sponsored work on seaweed aquaculture involving SINTEF, AkvaPlan-niva and SES



With special thanks to Celine Rebours and Marte Meland of Bioforsk for
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And

THANKS TO ALL FOR YOUR ATTENTION

