

Restorative Aquaculture

A CES Perspective

30th November 2023

INTEGRITY, COLLABORATION, COMMERCIALISM, EXCELLENCE

Demonstrate viable business

Why;- (“when we’ve got salmon...”)

- Economic diversity, local business hubs, societal and env. compatibility = future resilience

Development Needs;

- Farming scope - scale, location, and co-existence.
- Supply chain development– markets & scale, processing & logistics.
- Recognition – restorative function and so value available ‘both in & out of the water’

CES Support;

- Enabling research
- Funding posts with relevant industry organisations
- More? – e.g. measures to enable seaweed-specific supply chain

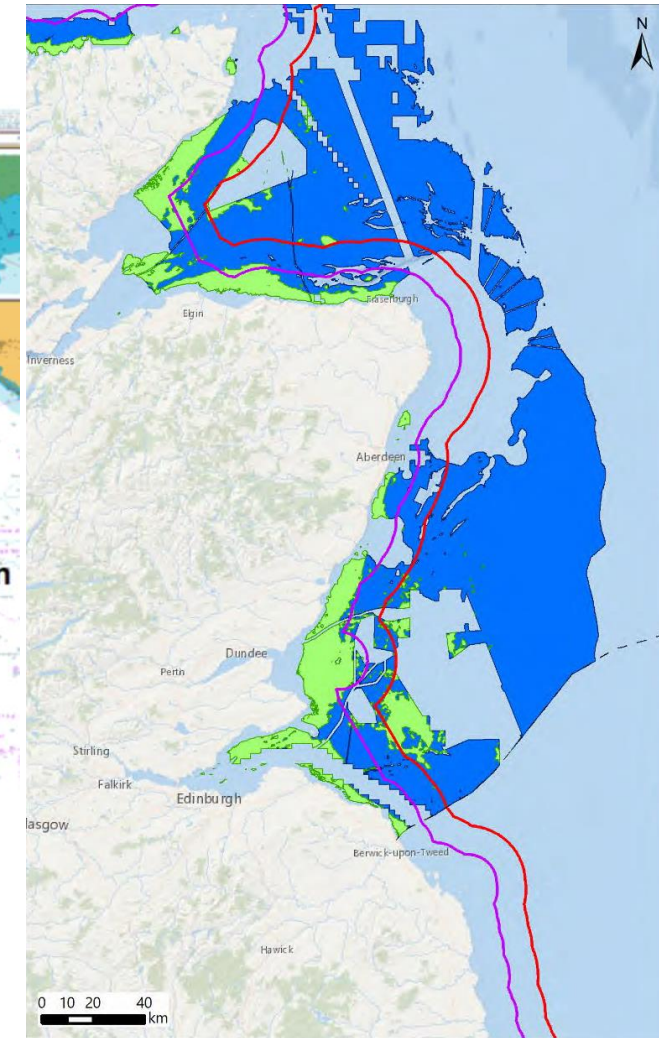
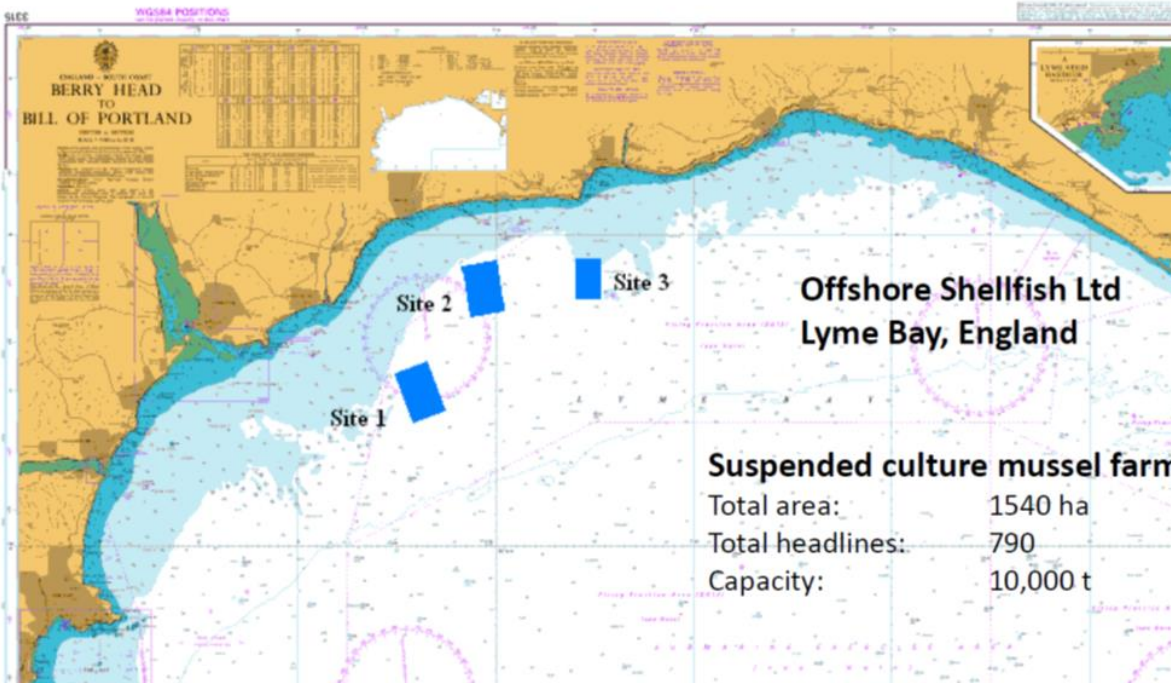


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Farming Scope – Location & Scale

Future is offshore?

In new areas - East coast?



Eg. 10k tonnes farmed mussel capacity:
Scotland (100+ sites) v OSL (3 sites)



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Farming requires Co-Existence

- Fundamental for enabling a blue economy, probably more important than spatial planning
- **Marine planning policy**
 - a meaningful seafood sector approach with fisheries and aquaculture as complementary rather than competing elements, clearly rewarding confirmed co-existence measures
 - policy-based management of co-existence = ‘planning without lines’ (future-proofing)
- **Licensing** –enable co-location
 - Mussel farm
 - Scallop farm
 - Seaweed farm } a restorative ‘marine’ farm = single development cost, de-risks investment
- **Guidance & collaborative working** -
 - encourage and support technical solutions - access, contracting, shore-based synergies



Business Development – Priorities/Challenges

- Seaweed – achieving better clarity on supply chain options:
 - **what markets & requirements** – with nature and scope of markets, is supply chain likely to be more ‘bespoke’ or more commodity/co-operative orientated, or both?
 - **who will drive supply chain development** – processors or manufacturers, rather than farmers, with greater upstream integration (e.g. seaweed harvesting businesses) – “pull not push”
 - **year-round availability** - key (scale-able) process priority for market development
- Shellfish – scope for viable growth
 - **marketing** – reception for strong health/ecosystem service/planet-friendly narrative
 - **quality & consistency** - farmed shellfish ‘product offer’ for current and prospective markets
 - **alternative** products and/or markets
- **Finance** – roles for public and private investment, former incentivising the latter?
- Farming and processing/market developments must **progress in tandem** to optimise prospects.



Ecosystem Services - Recognition

- Two value contributions/opportunities to support development;
 1. a clear restorative function providing enhanced environmental resilience
 2. financial prospects either for PES or tradeable credits in natural capital markets
 - Essential to identify, demonstrate and quantify restorative/enhancement value before any assessment and validation of tradeable NCM opportunity (ref. CES precautionary lease terms)
 - Collaboration necessary (with public funding support?) to explore the opportunities that ecosystem services recognition can bring e.g. can it support/justify public funding incentives?
 - Authorities and industry trade organisations should enable and encourage collection of real-time data that can support embedding of ecosystem services in industry value profile.
 - Must proceed with care to maintain and enhance credibility and confidence
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CES Support (“Recognition”)

- Research – projects aimed at commercial application and legacy
- Funded Industry Positions (3 years):
 - Scottish Seaweed Industry Association (SSIA) – co-funded with Scottish Government - **Business Development Manager**
 - Scottish Shellfish Marketing Group (SSMG) - **Farmed Shellfish Marketing Officer**
- Future - Supply Chain enabling?
 - E.g. Depending on just who will drive seaweed supply chain, should we be providing (provisional) seabed rights to complement shore-based processing/product development incentives- ie. further enable progress in tandem (the “pull”)?




CES Enabling Research Projects



Co-existence of capture fisheries and marine aquaculture

Review of measures for improved co-existence with recommendations for adoption in Scotland

Report
May 2022




Crown Estate Scotland

Prospects and Opportunities for Large-scale Restorative Aquaculture in Scotland
Final Report

December 2021



Innovative Thinking - Sustainable Solutions





Alternative markets for farmed Scottish shellfish and associated requirements

Crown Estate Scotland
August 2021
FINAL REPORT


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CROWN ESTATE SCOTLAND

Economic Feasibility Study on Seaweed
(Cultivation and Supply Scenario)



March 2021


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Review of the contribution of cultivated bivalve shellfish to ecosystem services

A review of the scientific literature commissioned by Crown Estate Scotland

July 2019



Douglas A McLeod and Catherine McLeod




Blue Economy Opportunities for Scottish Farmed Shellfish

Crown Estate Scotland
November 2022
FINAL REPORT

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Shellfish Critical Mass Development Plan Pilot - Clyde




Photo courtesy of Janet Brown

FINAL REPORT
SUBMITTED TO
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SEPTEMBER 2019

MARITEK

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Thank You!

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