



Loch Bay Kelp Farm

PUBLIC MEETING 2ND FEBRUARY 2023

Lockdown - 23rd March 2020





Independent marine science organisation

Research how the marine environment works

Provides education and engagement with society

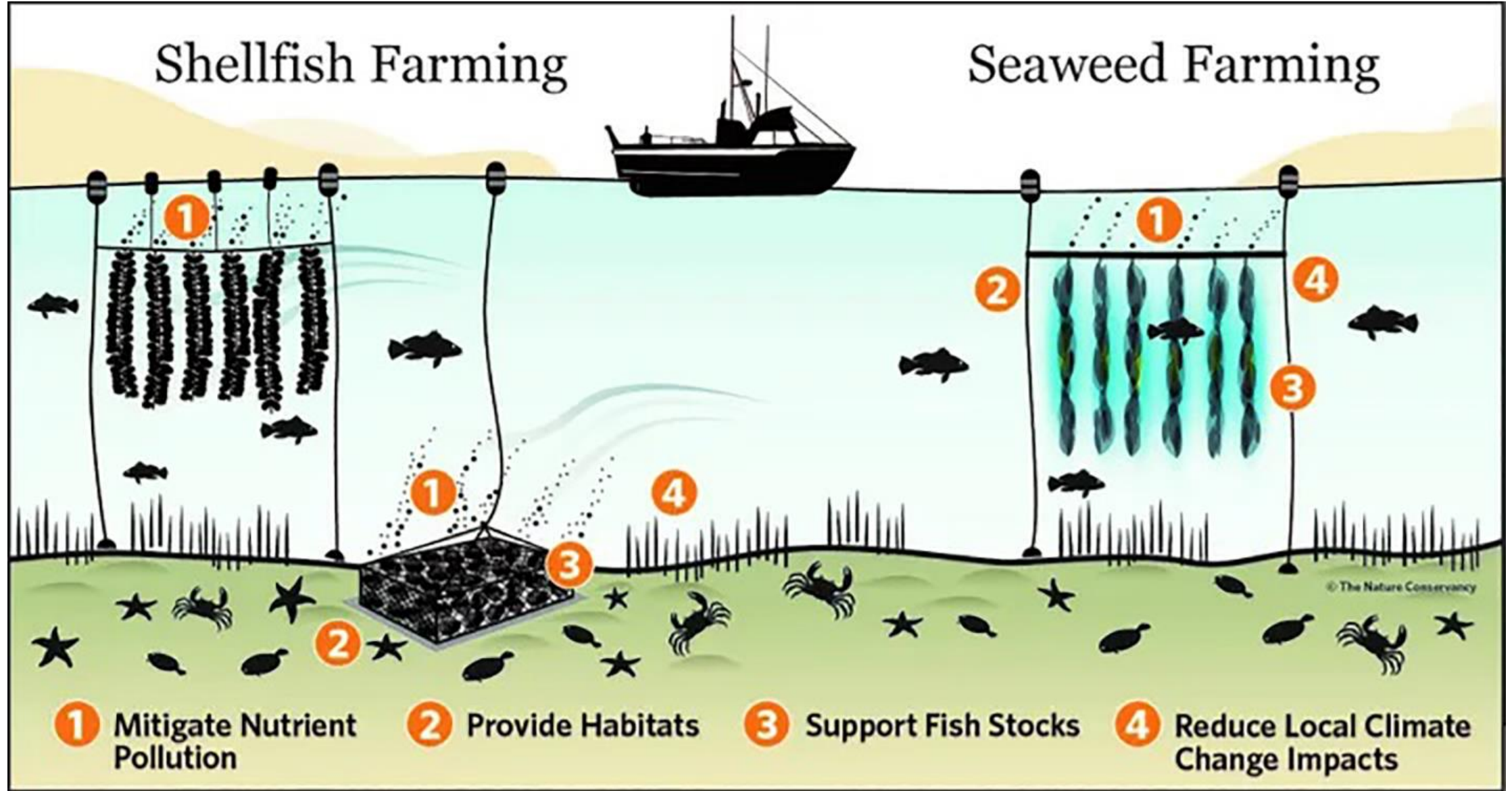
Creates new knowledge through scientific enquiry

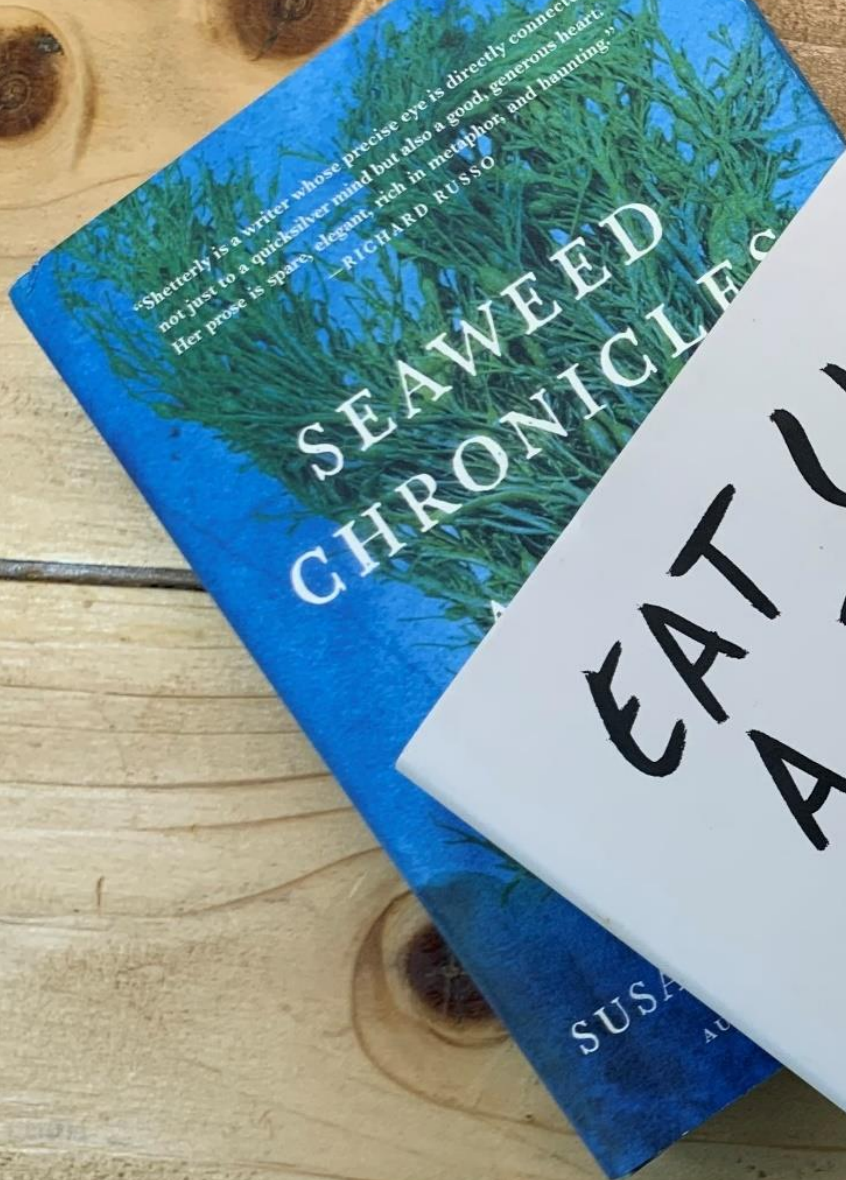
Science areas:

- Ocean systems
- Dynamic coasts
- Blue economy

Shellfish Farming

Seaweed Farming





Bren Smith

Founder of GreenWave

My Hero!

- Born in Newfoundland
- Former commercial fishermen
- Pioneer of restorative 3d farming
- Owns thimble island ocean farm
- Grow kelp - feed the world
- Create millions of jobs
- Protect our planet
- Change how we think



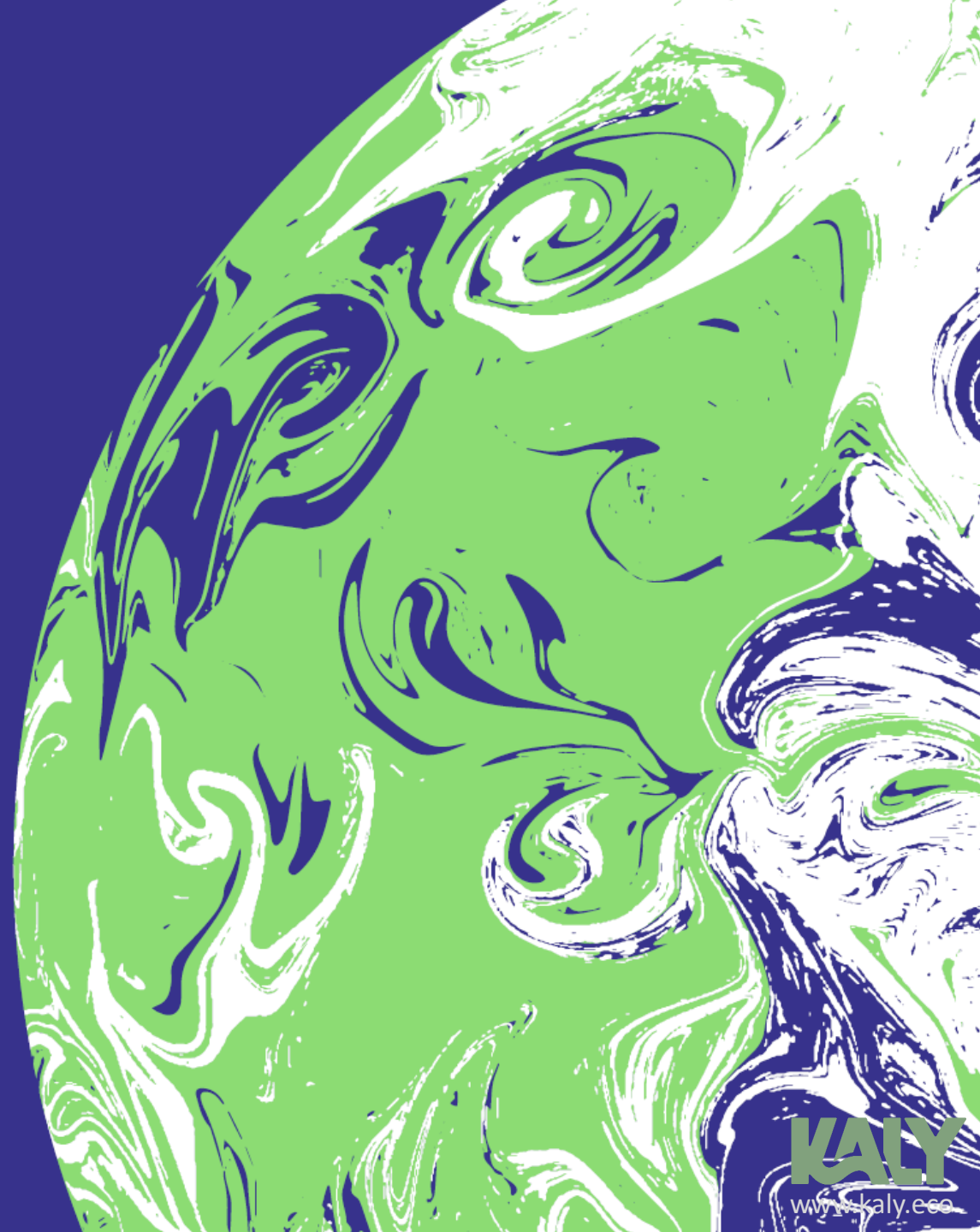


- Breath life back into our planet
- Train and support ocean farmers
- Work with coastal communities
- Create a blue economy
- Grow seaweed
- Scale demand for kelp
- Digital farm design
- Kelp climate fund



COP26 **THE GLASGOW** **CLIMATE PACT**

OCTOBER 31ST 2021

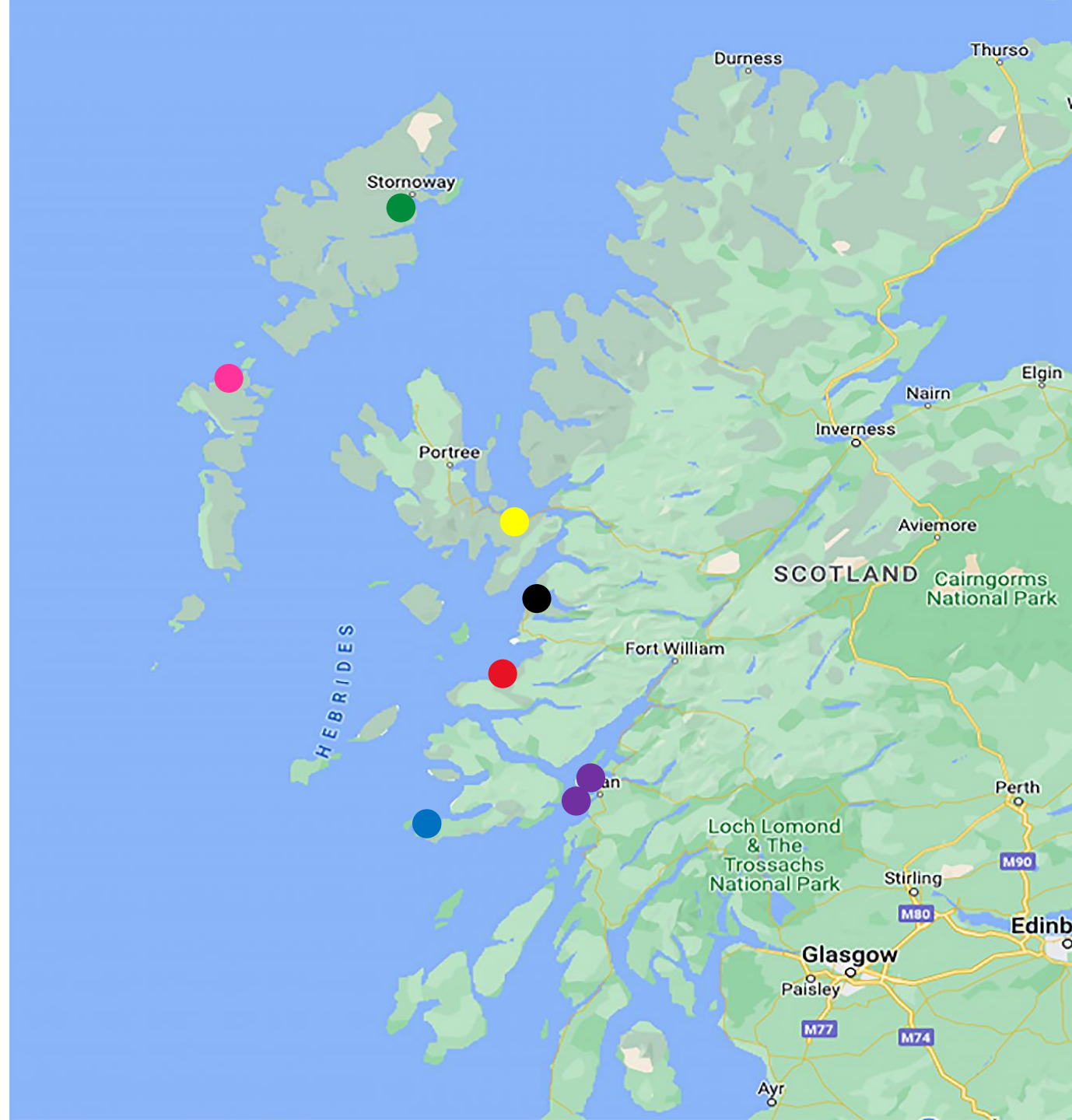


Kelp History in Scotland

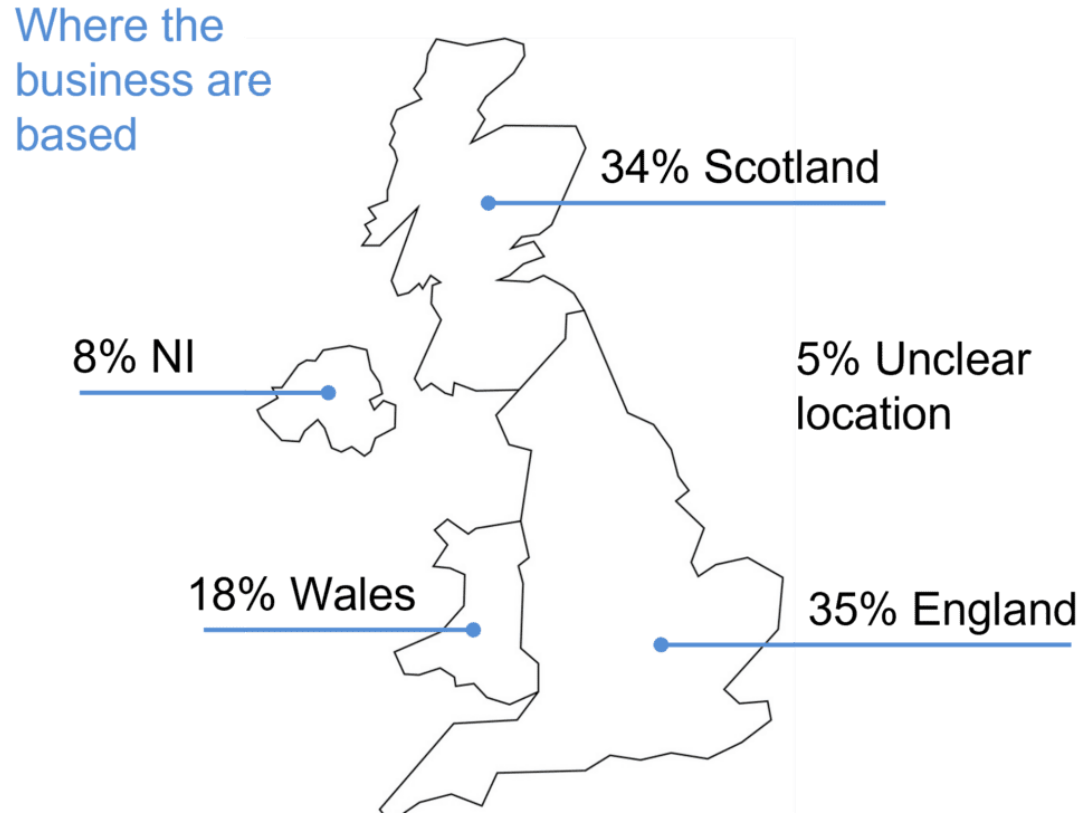
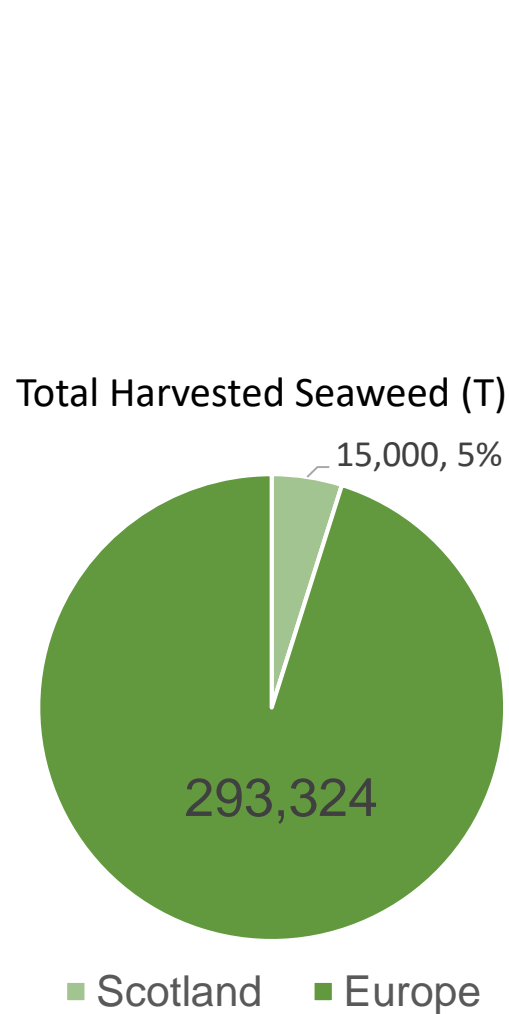


Seaweed Farming and Wild Harvest in Scotland

- **Kelp Crofting**, 13 hectares
- **Kilchoan Estate**, <5 hectares
- **Atlantic Mariculture**, 15 hectares
- **SAMS Research Farms**, c. 35 hectares
- **SWMID (Aird Fada)**, 50 hectares
- **Hebridean Seaweed**, wild harvest
- **Uist Asco**, wild harvest

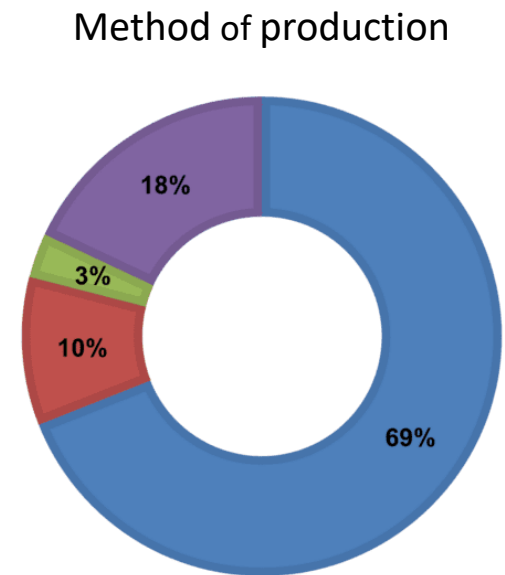


Seaweed Farming and Wild Harvest in Scotland



Sources:
Marine
Scotland
FAO, 2020

TOTAL CULTIVATED IN SCOTLAND 510 TONNES



Legend: ■ Wild harvest & aquaculture ■ Not specified
■ Wild harvest ■ Aquaculture

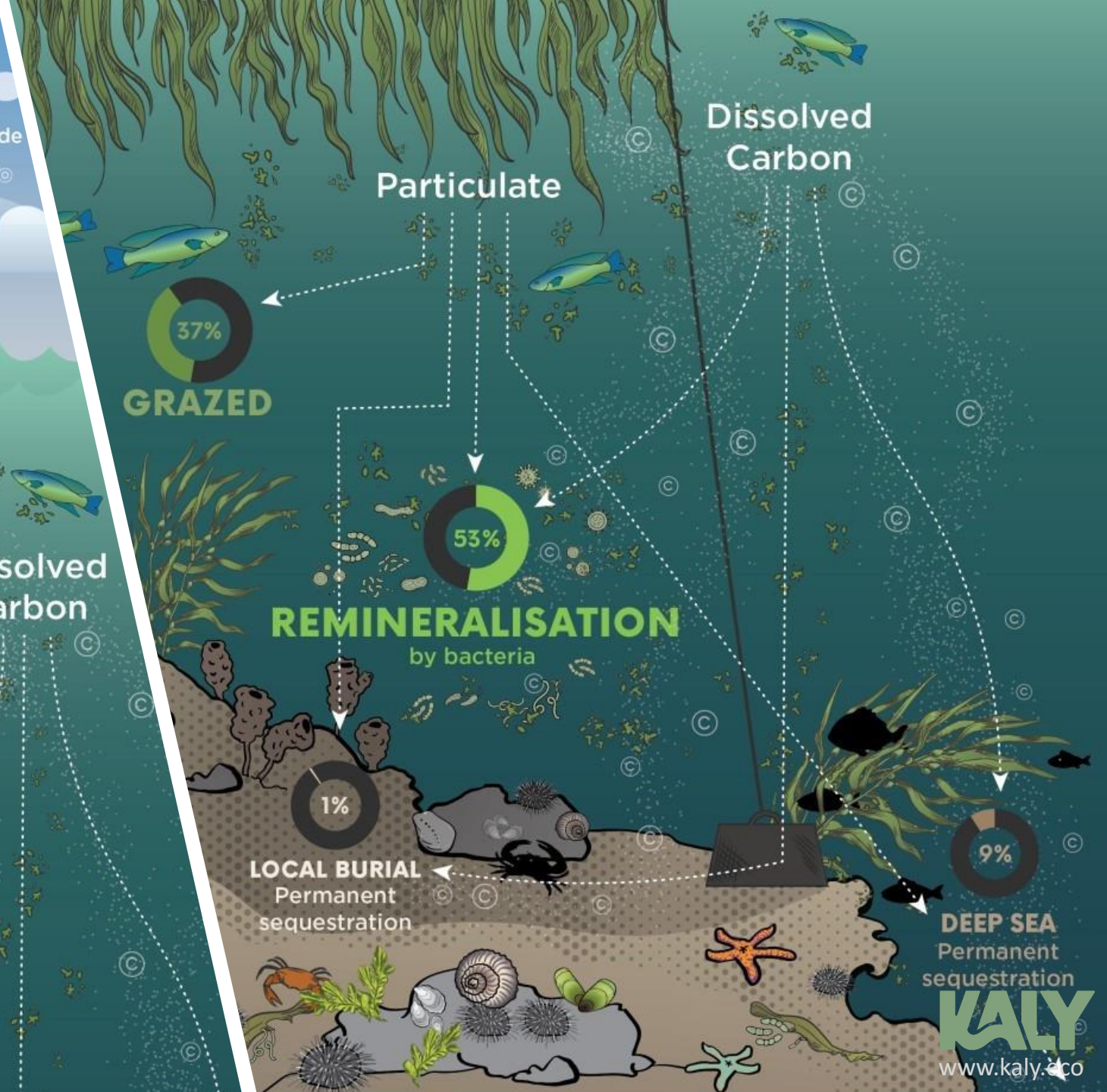
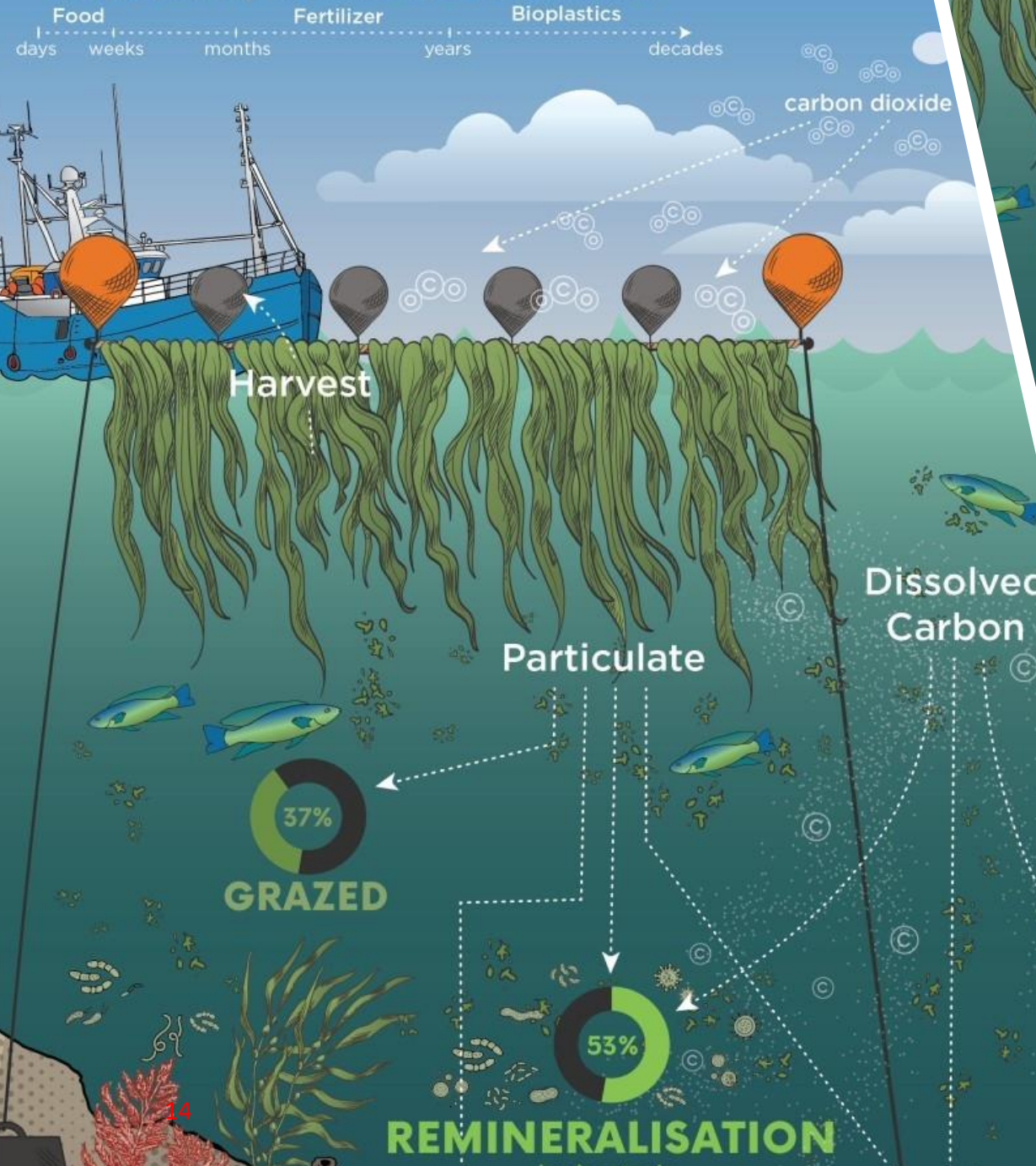
The Idea



Grow Kelp



Sequestering from harvested seaweed



SAMS Academy

- Scientific collaborators
- Continuous training
- Study at SAMS
- Knowledge of marine
- Mitigate climate change
- Mitigate habitat destruction
- Sustainable blue economy
- Marine environment to benefit people

The logo for Seaweed Academy SAMS Enterprise is displayed against a background of seaweed underwater. The text 'Seaweed' is in a white, sans-serif font, with a green horizontal line underneath. To its right is a circular logo consisting of several concentric green and white rings. Further right, 'SAMS' is written in a large, white, sans-serif font, also with a green horizontal line underneath. Below 'Seaweed' and 'SAMS' are the words 'ACADEMY' and 'ENTERPRISE' respectively, in a white, bold, sans-serif font.

Seaweed  SAMS
ACADEMY ENTERPRISE

Barriers to Grow Kelp





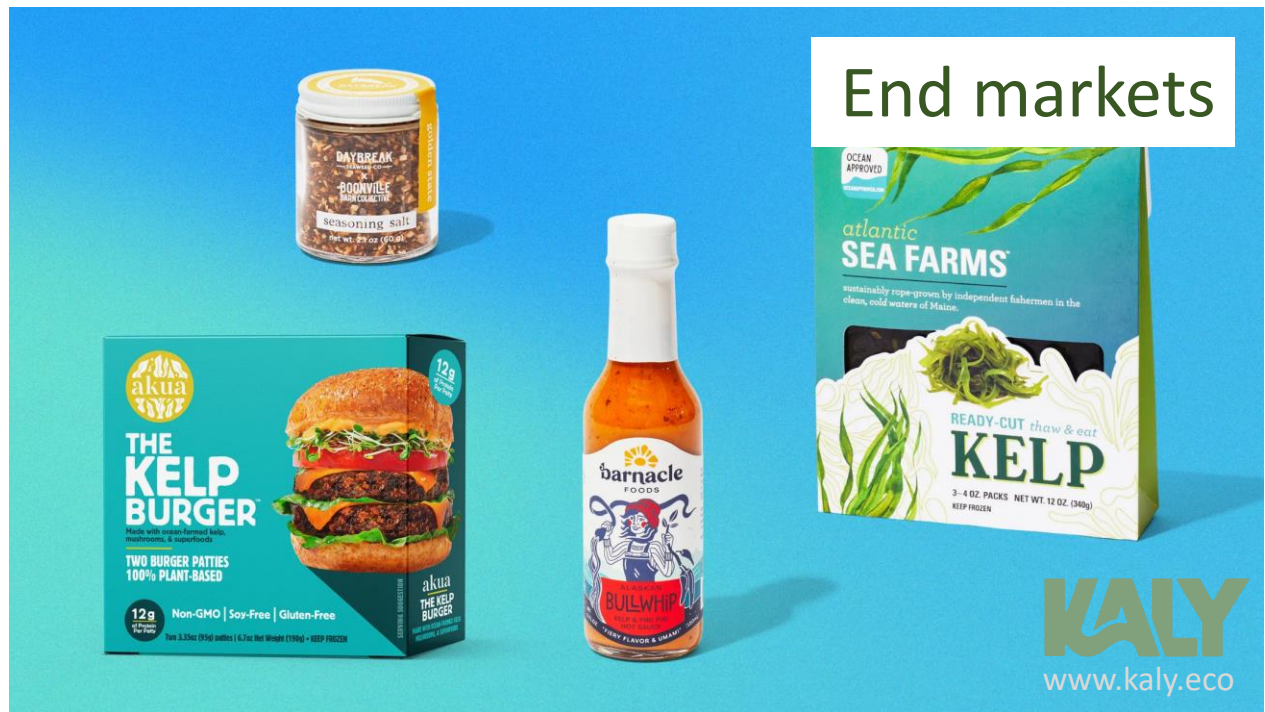
Cottage scale



Cost of starting



Processing Cost



End markets

KALY Team to Test the Idea



KALY Formed - 18th January 2022

TRICAPITAL
angel investors

KALY

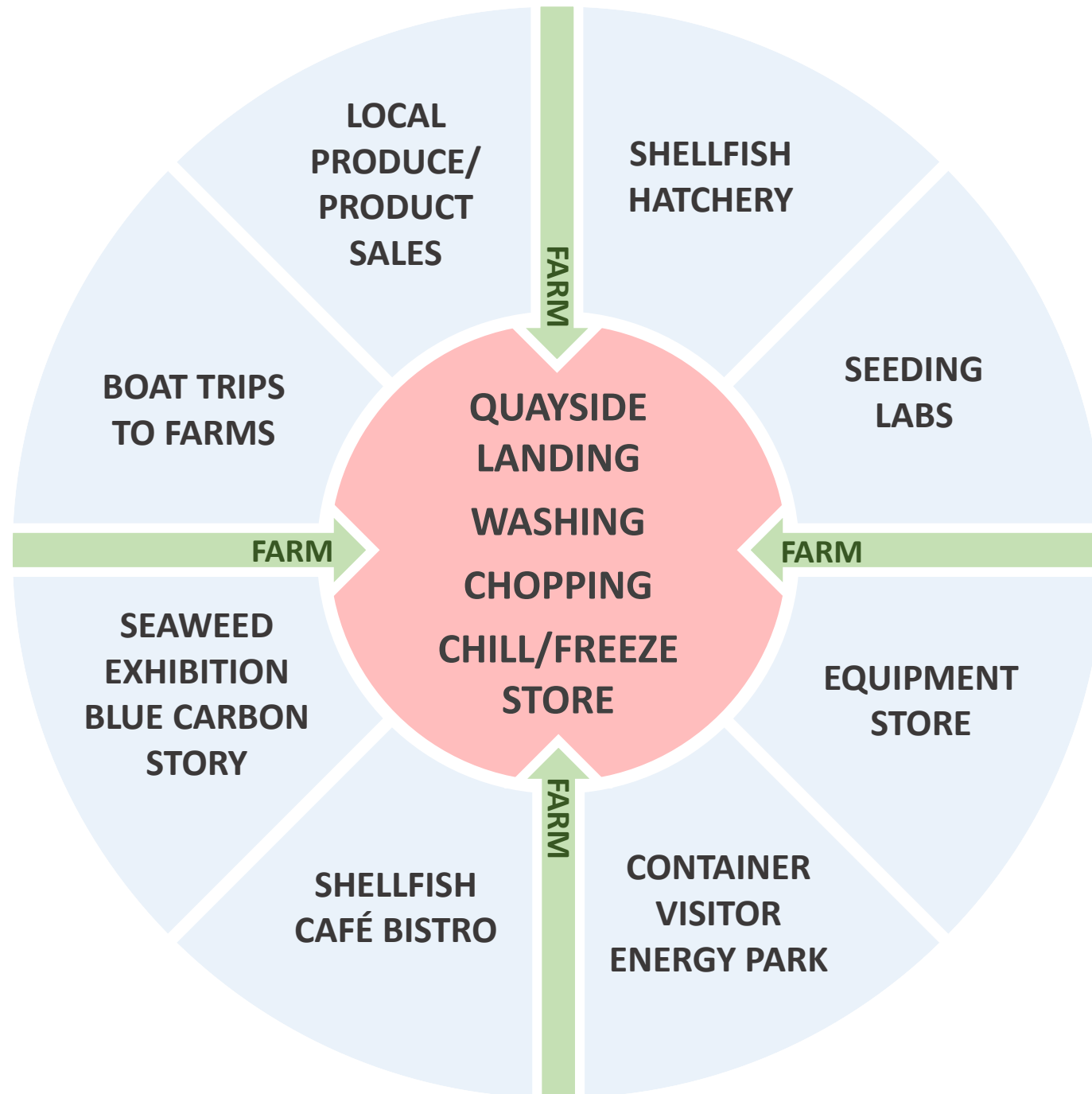


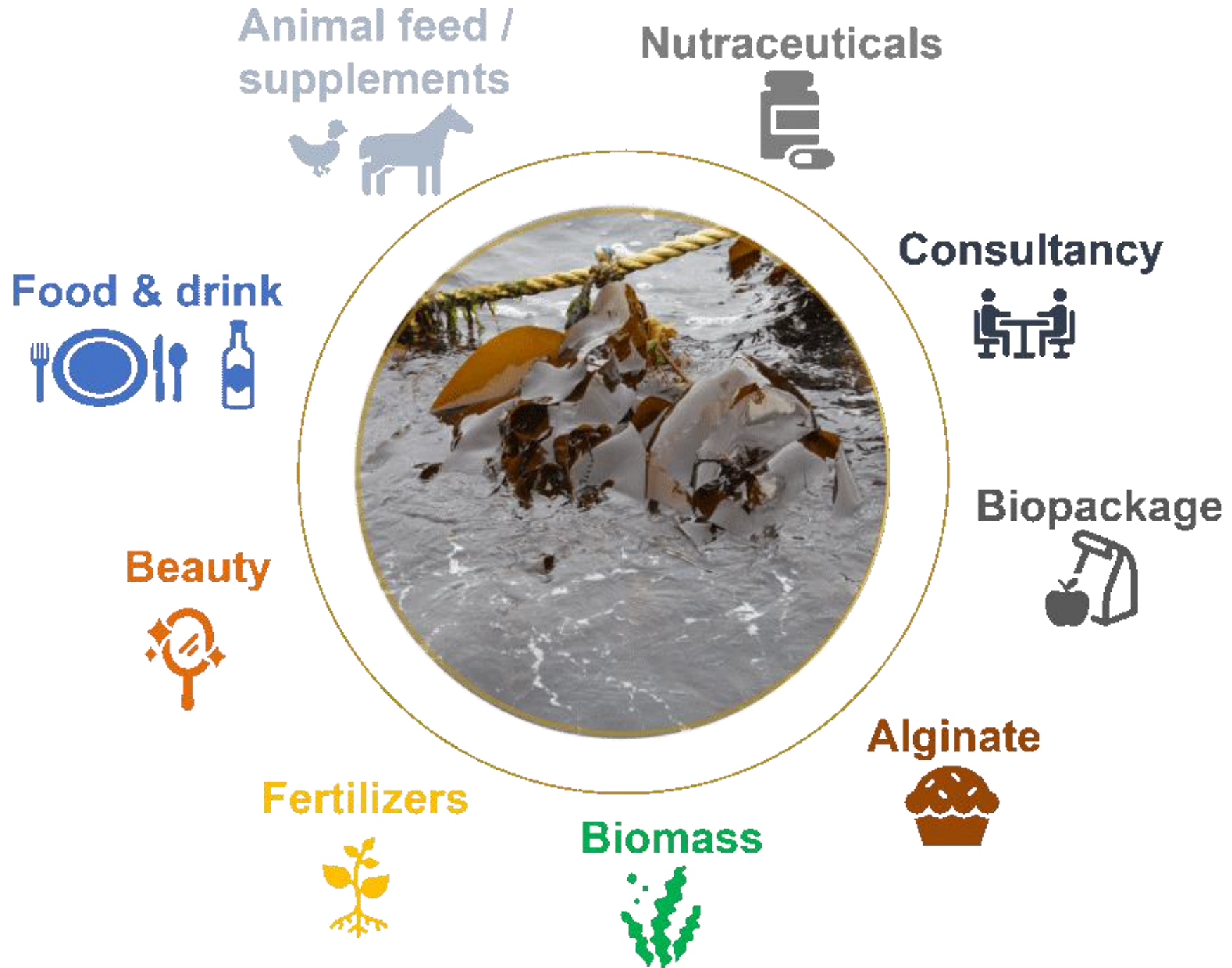
Scottish Enterprise

Our Vision is simple

Grow Seaweed
Involve Local Communities
Improve our Marine Environment

Loch Bay Farm Model



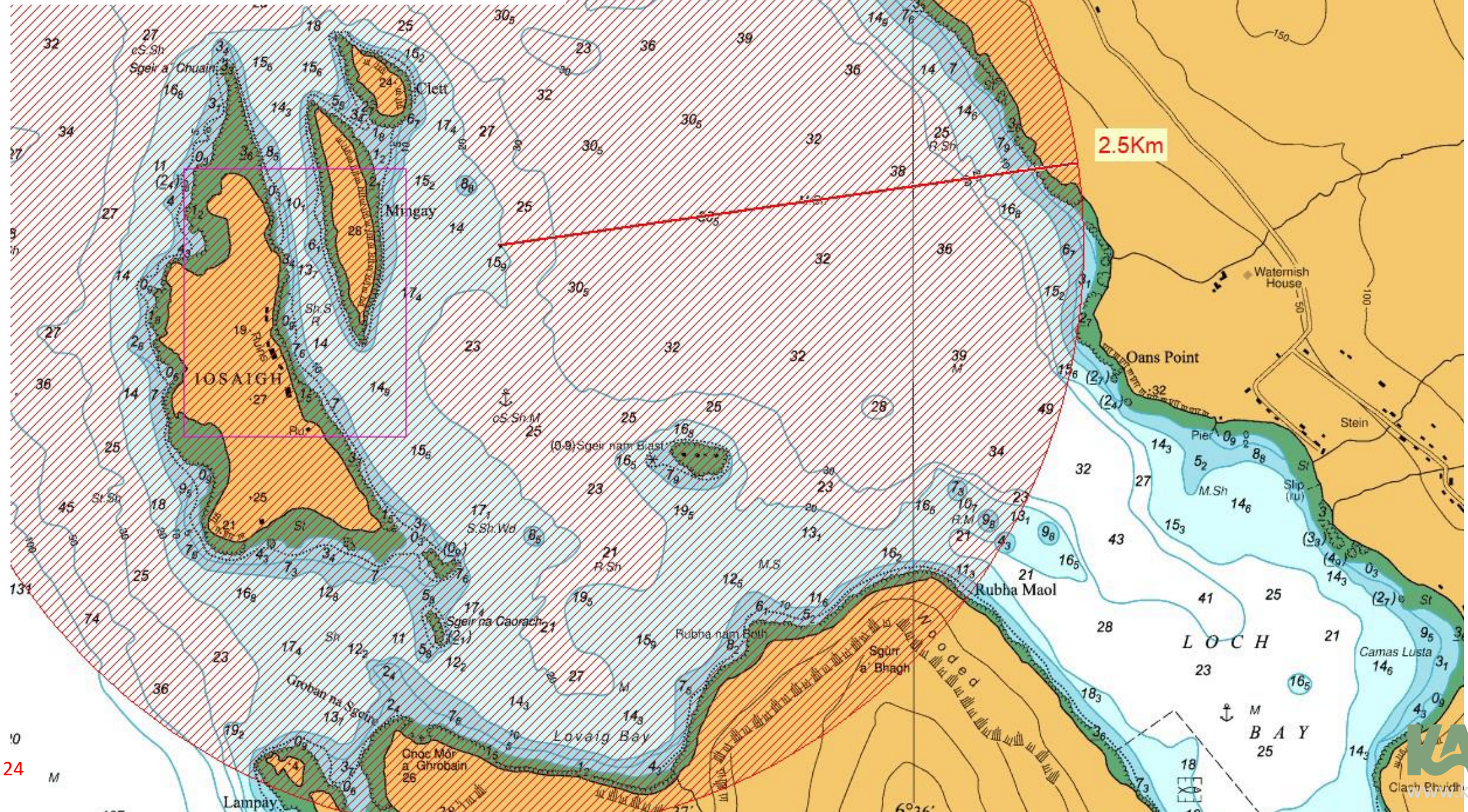


Where to grow?



a	2010	Full
b	1952	1:1
c	1906	1:1
d	1852-53	1:2

Loch Bay Screening Area



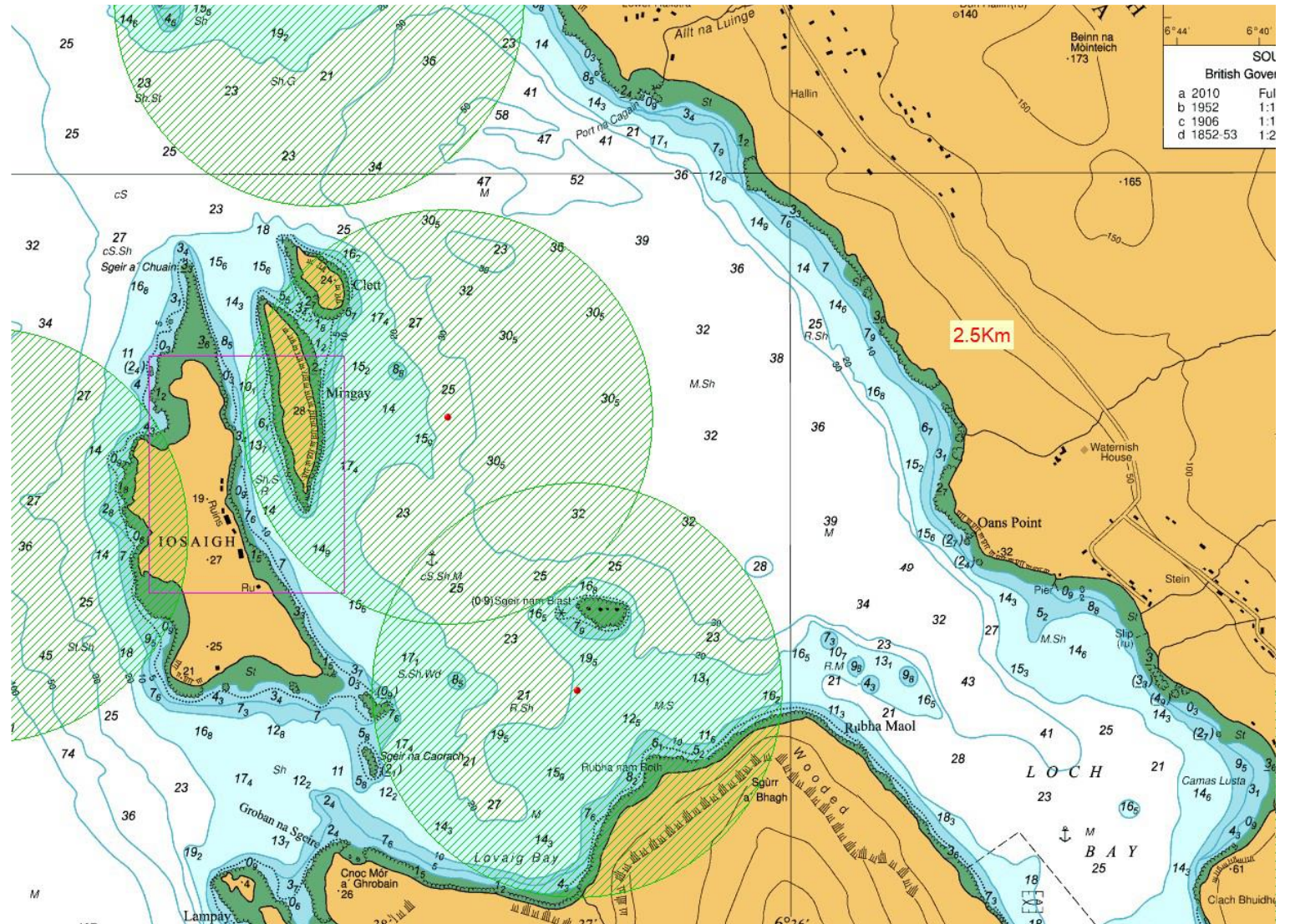
Loch Bay Potential Sites

We Consulted With

Crown Estate Scotland
Marine Scotland
Nature Scot
Royal Yachting Association
Northern Lighthouse Board

... And Also

Local Fishermen
Loch Bay Users
Marine Biologist
Kelp Farm Designer
Residents



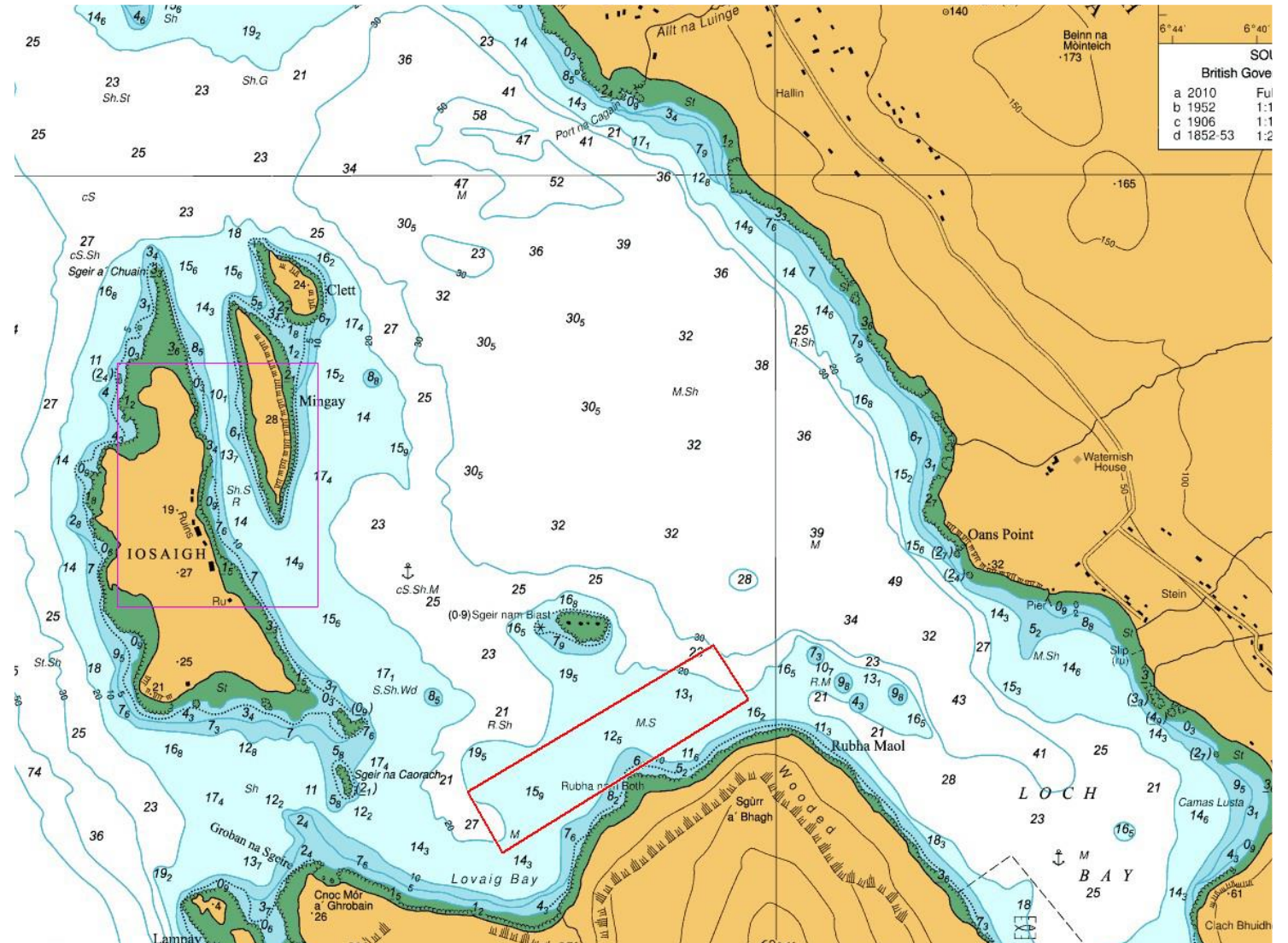
Site Selected

- Prototype Farm
- Training
- Research & Development
- Centre of Excellence

Dimensions

W 300 m

L 1350 m



Lease Option Agreement

Extent

Site Area 40.5 Ha

Growing Area 16 Ha

Kelp Yield

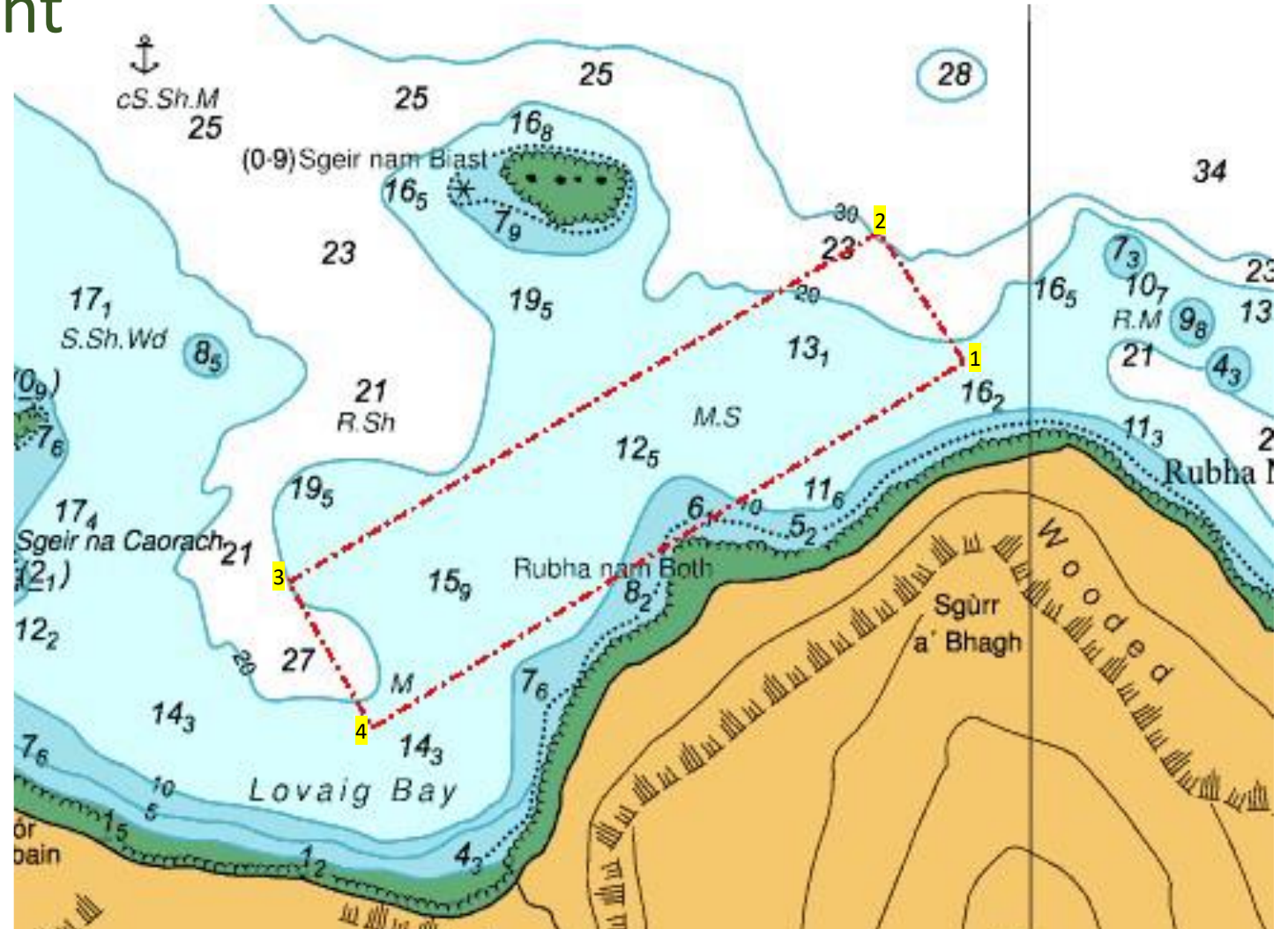
Year 1 344 Tonnes

Year 2 1118 Tonnes

Boat Trips

Year 1 20

Year 2 65



Marine Scotland License Application



Statutory Bodies



marinescotland



KALY

Kelp Farming at Loch Bay.

Join us at the Waternish Hall on the
2nd of February from 6pm-8pm, for
our Public Consultation Event.

All are welcome. Please RSVP to hello@kaly.eco.

www.kaly.eco

TODAY

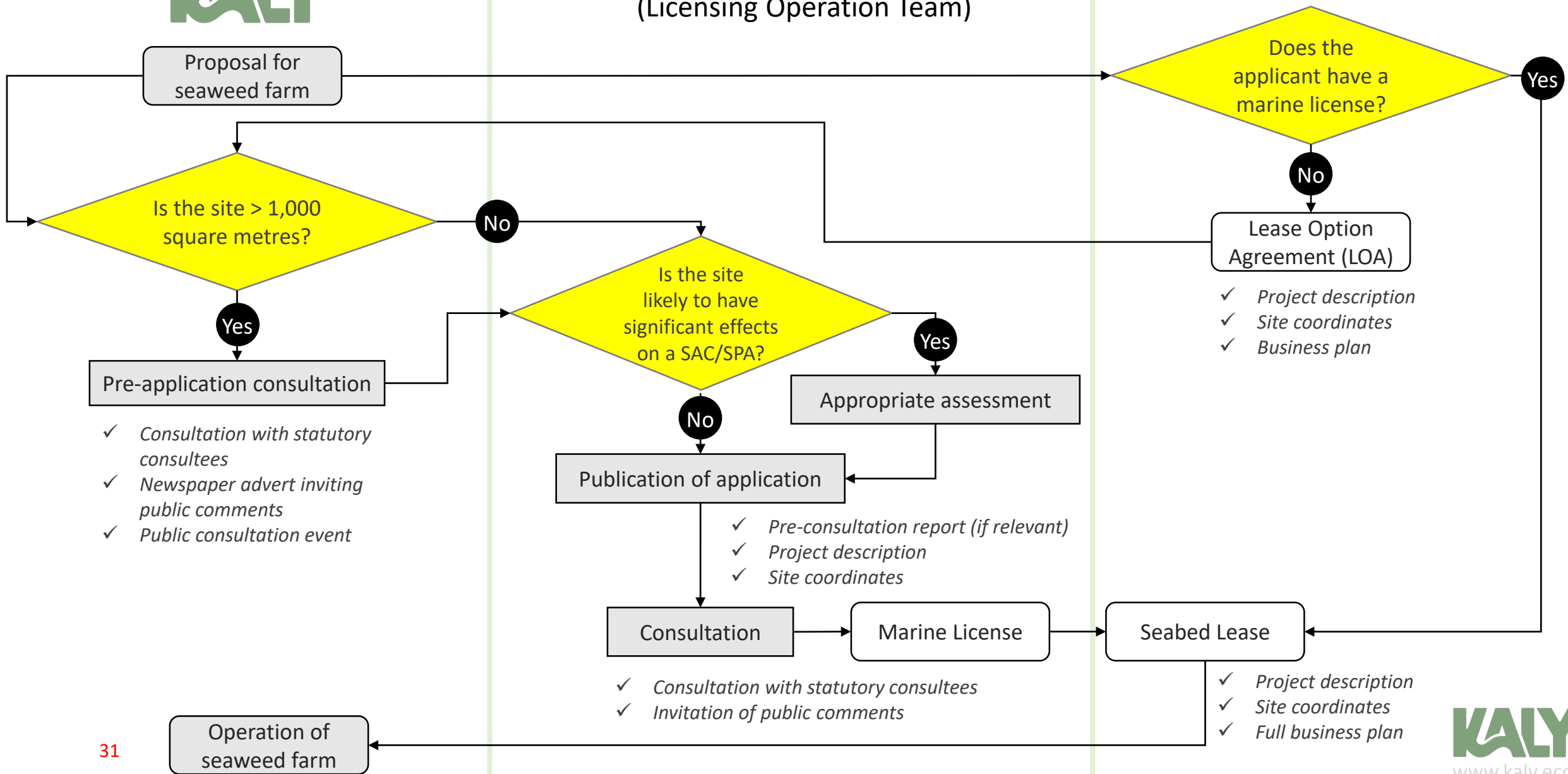


JUNE 2023

Marine Scotland
(Licensing Operation Team)

AUGUST 2023

Crown Estate Scotland



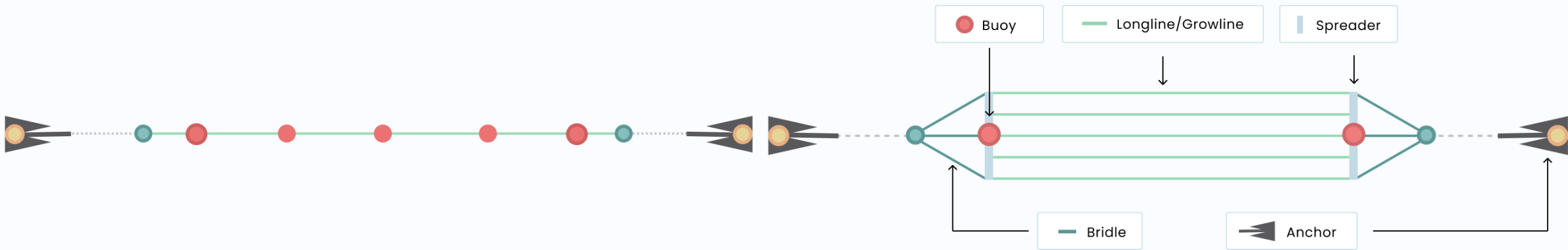
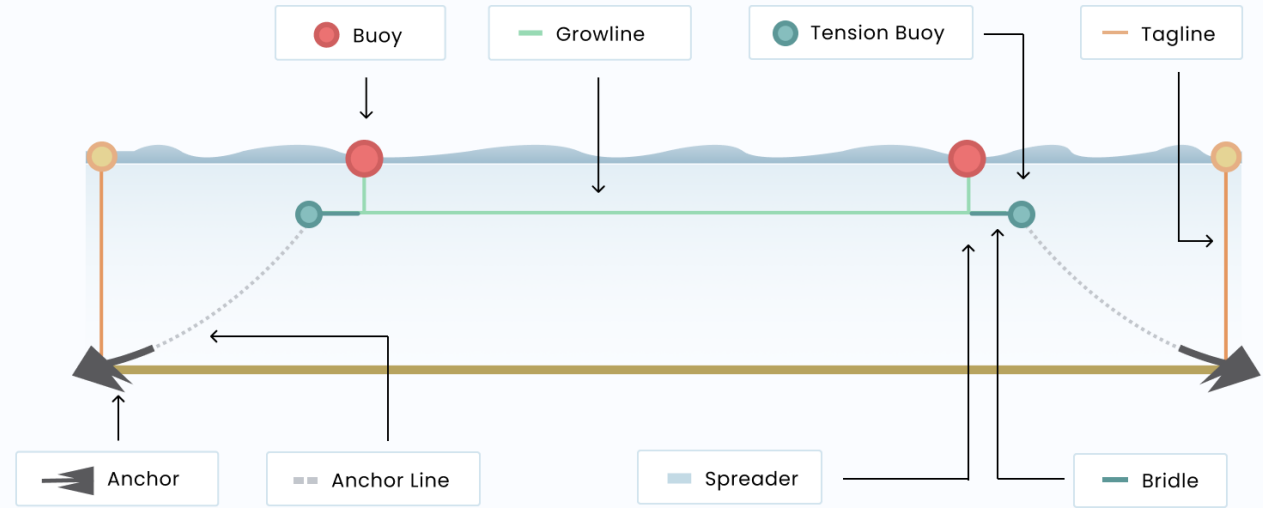
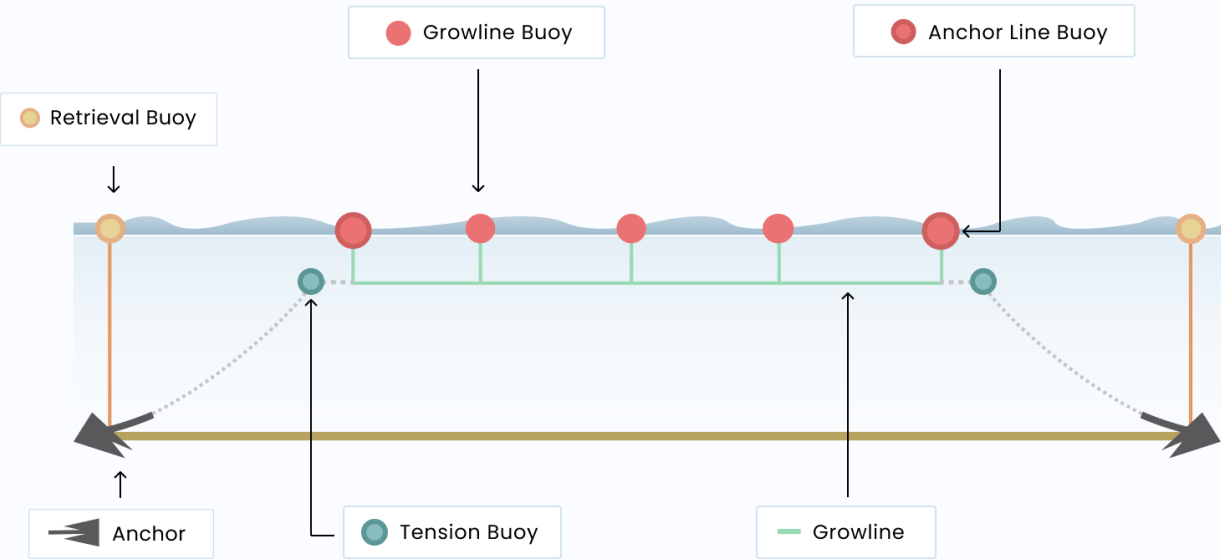
Public Consultation Tonight



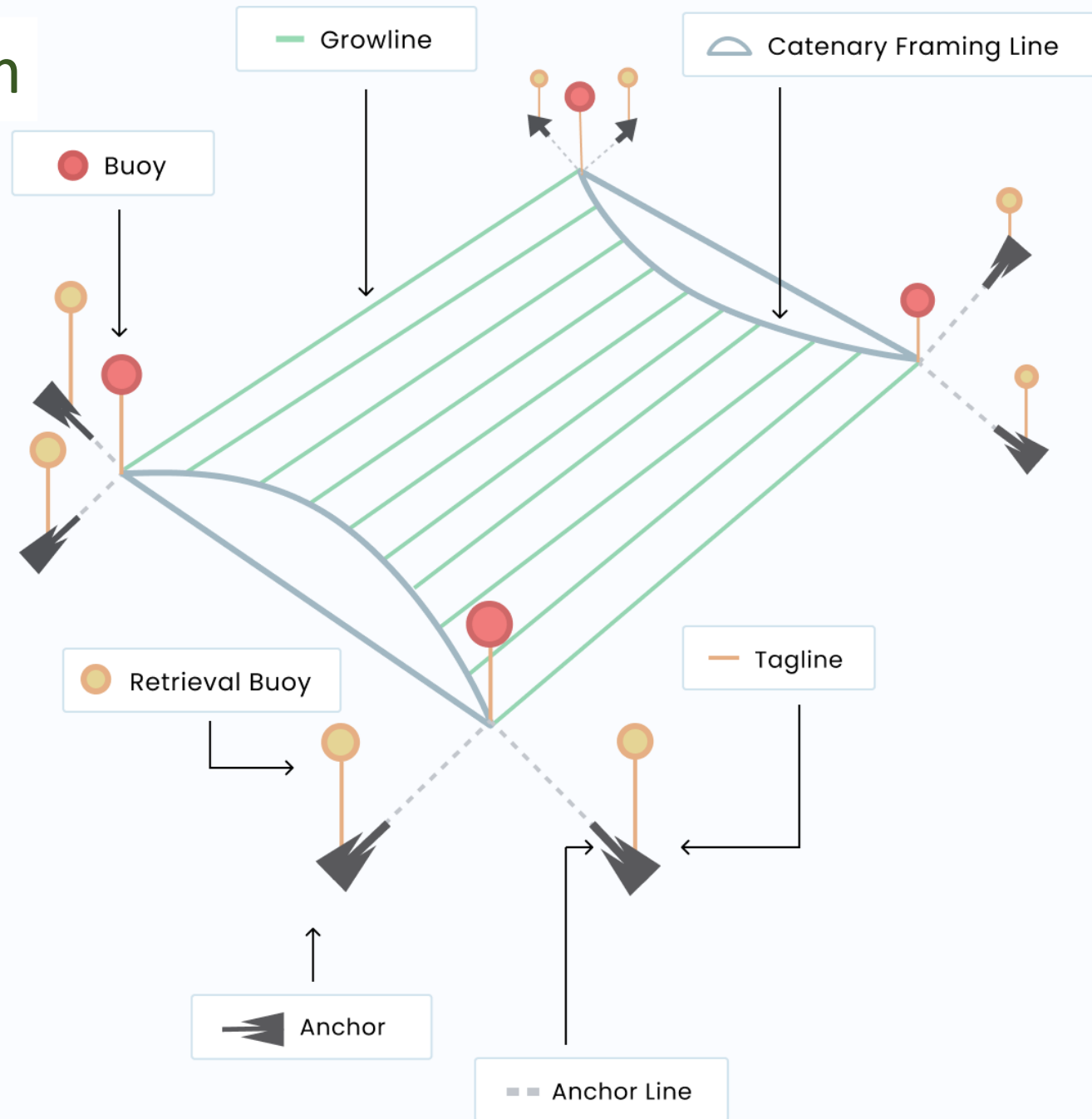
What does it look like?



Prototype Farm

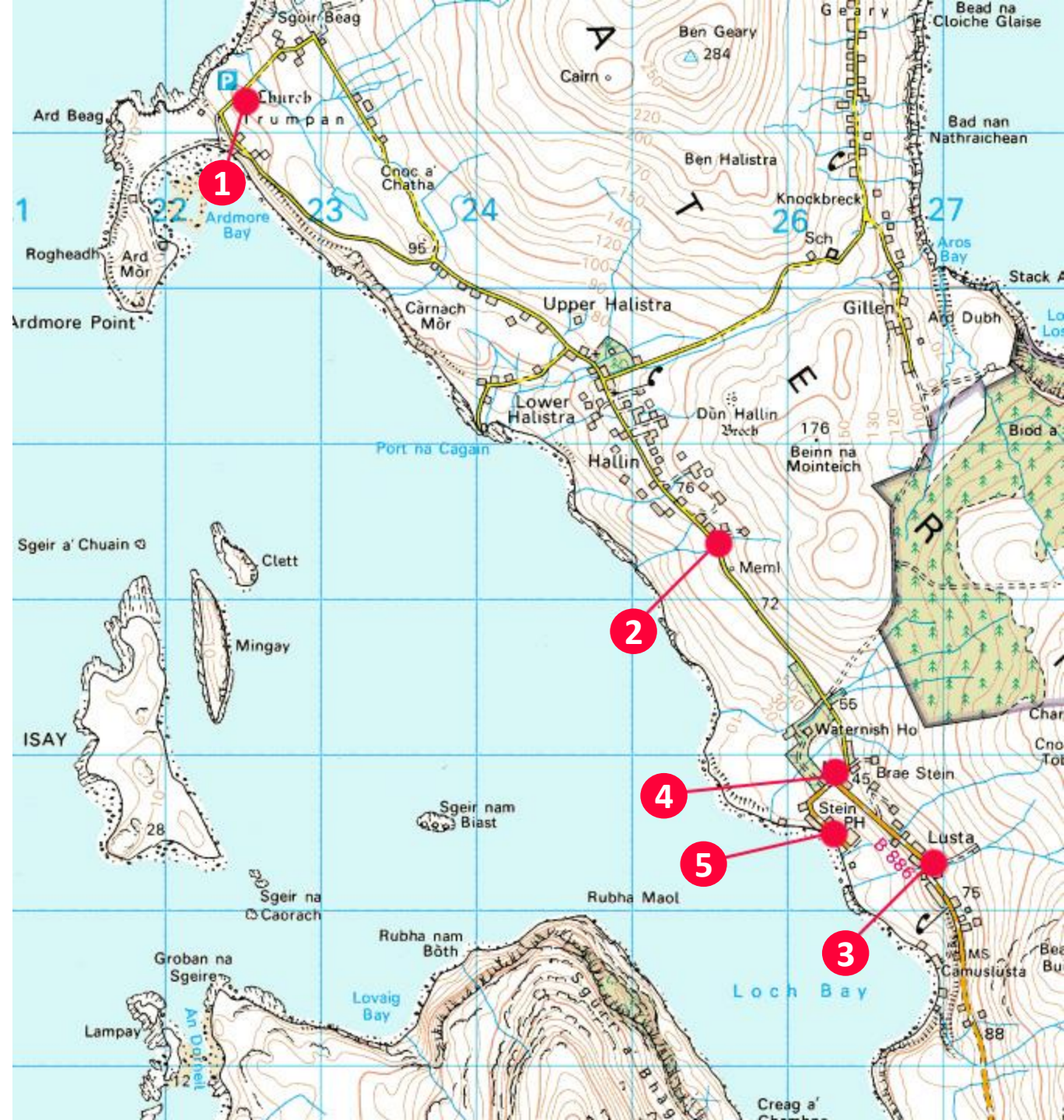


Prototype Farm



Viewing Points

- 1 Trumpan Churchyard
- 2 Waternish Hall, War Memorial
- 3 Lusta, by the Thatched Cottage
- 4 Skyeskyns Car Park
- 5 Stein Inn



Viewpoint 1: Existing View



Viewpoint 1: Proposed Extent



Viewpoint 1: Photomontage



Viewpoint 2: Existing View



Viewpoint 2: Proposed Extent



Viewpoint 2: Photomontage



Viewpoint 3: Existing View



Viewpoint 3: Proposed Extent



Viewpoint 3: Photomontage



Viewpoint 4: Existing View



Viewpoint 4: Proposed Extent



Viewpoint 4: Photomontage



Viewpoint 4: Zoom 3x



Viewpoint 5: Existing View



Viewpoint 5: Proposed Extent



Viewpoint 5: Photomontage



Viewpoint 5: Zoom 3x



Environmental Assessment



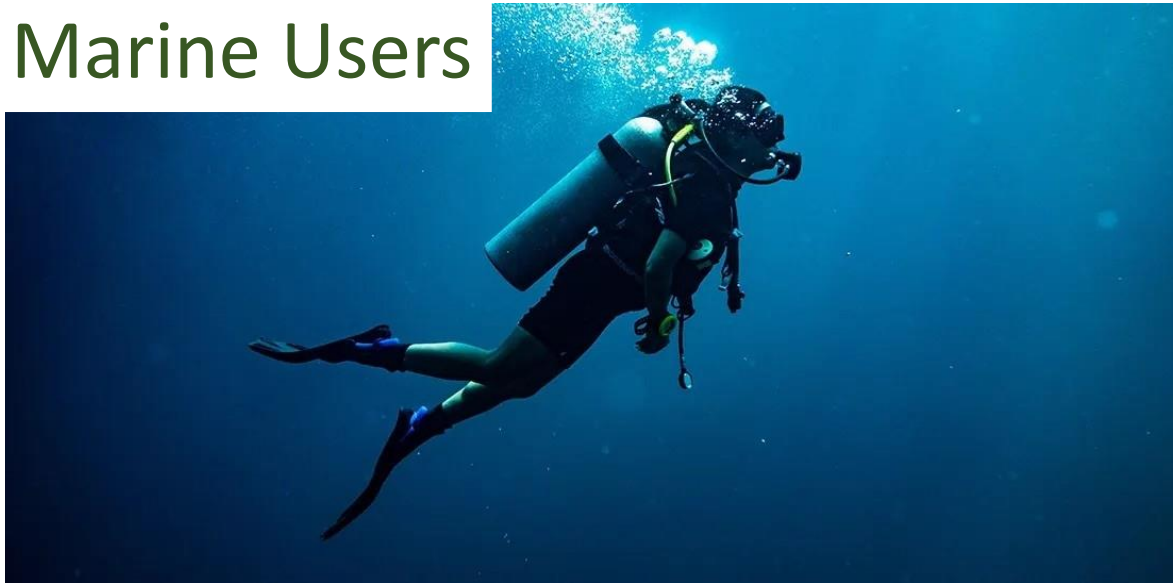
Marine Mammals



Marine Birds



Marine Users



Businesses



LOCH BAY

Michael Smith

Waternish Community



Community Involvement Loch Bay Custodians?



Visual Protection



MARINE ECOSYSTEM

Sun

Ocean acidification

Seabirds

Estuaries

Farm land run off

Crabs

Red cod

Dolphins

Commercial fishing

Bivalve molluscs

Phytoplankton

Fish

Cockles

Arrow squid

Zooplankton

Bryozoans

Seaweed

Sea stars

Bryozoan thickets

Bacteria

KALY Data Collection



KALY Seagrass Data



KALY Seaweed Data

KALY Oyster Data



KALY Lobster Data

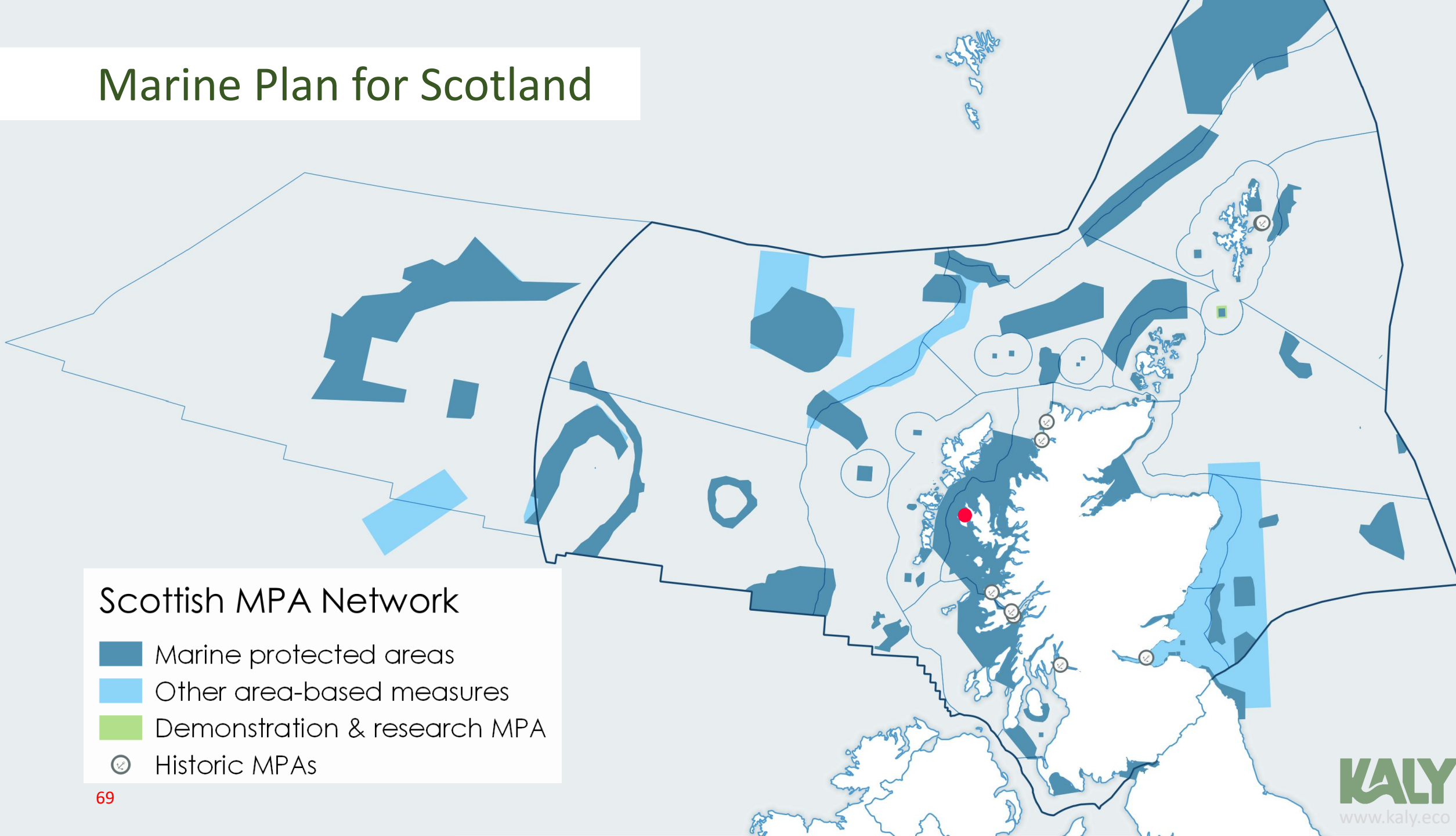
Dive into the world of lobsters at our award-winning Visitor Centre in Padstow.



KALY Plastic Data



Marine Plan for Scotland



Scottish MPA Network

- Marine protected areas
- Other area-based measures
- Demonstration & research MPA
- Ⓞ Historic MPAs

Loch Bay : Special Protected Area

Special Protection Areas (SPAs) contributing to the MPA network (SNH WMS) (OSCP)



Sites of Special Scientific Interest (SSSIs) contributing to the MPA network (SNH WMS) (OSCP)



Special Areas of Conservation (SACs) contributing to the MPA network (SNH WMS) (OSCP)

STATUS

Candidate SAC - submitted to EC

Designated SAC

SCI (adopted cSAC)

Nature Conservation Marine Protected Areas (MPAs) contributing to the MPA network (SNH WMS) (OSCP)

STATUS

Current

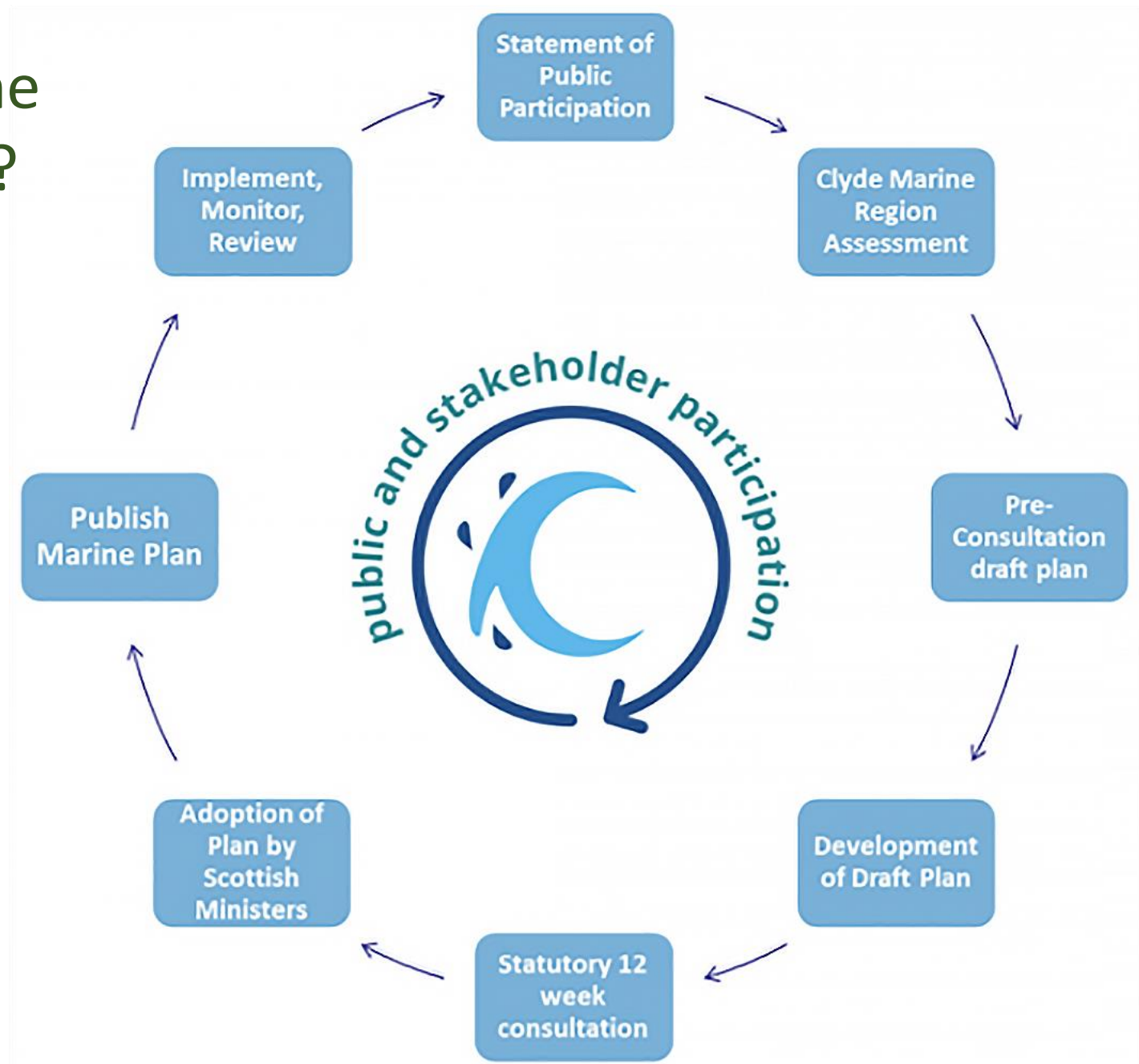
Approved by SG for designation

Special Protection Areas (SPAs) - all sites including terrestrial (SNH WMS) (OSCP)

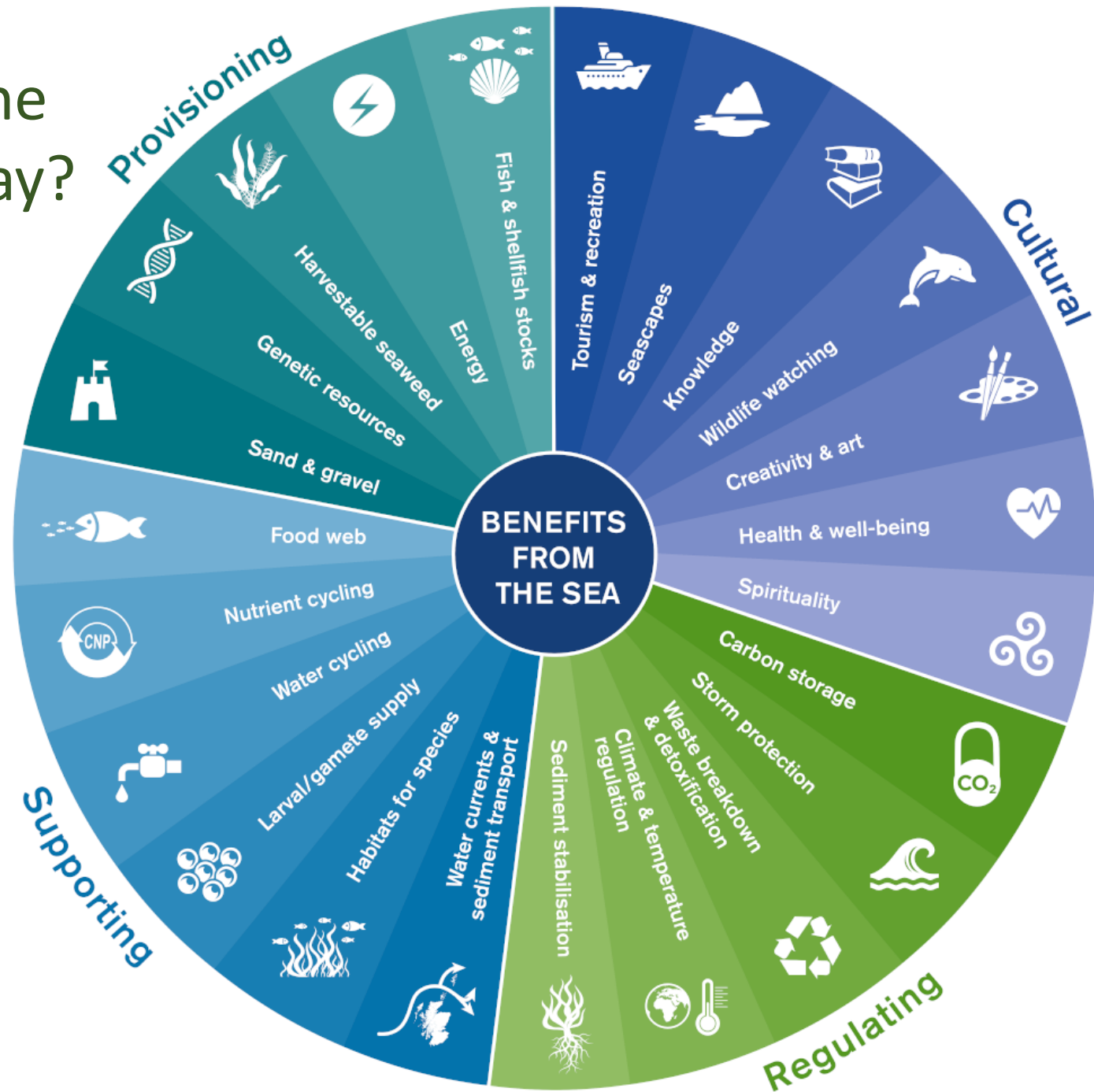
STATUS

Current

Community Marine Plan For Loch Bay?



Community Marine Topics For Loch Bay?





Publication - Consultation paper

Highly Protected Marine Areas (HPMAs) - site selection: draft guidelines

Published: 12 December 2022

From: [Minister for Environment and Land Reform, +3 more ...](#)

Directorate: [Marine Scotland Directorate](#)

Part of: [Environment and climate change, Marine and fisheries](#)

ISBN: 9781805252726

Guidelines describing the proposed process for identifying and selecting Highly Protected Marine Areas (HPMAs) in Scottish waters. These were drafted by our statutory nature conservation

advisors, NatureScot and the Joint Nature Conservation Committee (JNCC).

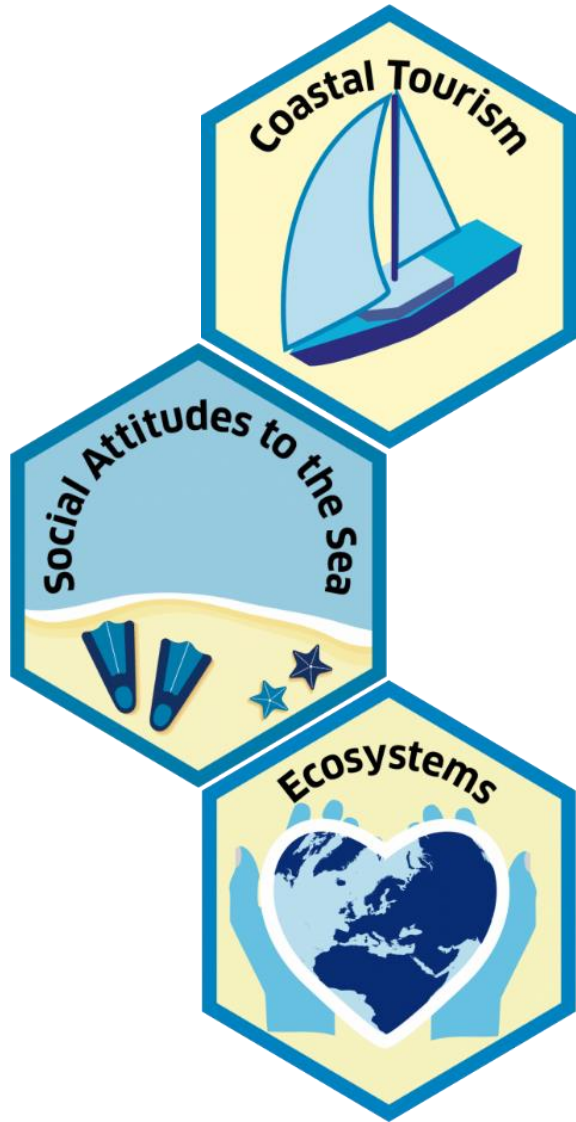
RESPOND BY
20TH MARCH 2023

Executive summary

- 1 Introduction
- 2 Background to Highly Protected Marine Areas (HPMAs)
- 3 Relationship with the existing MPA network
- 4 Site selection guidelines

Executive summary

The Scottish Government's vision for the marine environment is for clean, healthy, safe, productive and diverse seas, managed to meet the long-term needs of nature and people. To help achieve this vision, while addressing the twin biodiversity and climate crises, the Scottish Government and the Scottish Green Party have committed to an ambitious marine protection programme, under the Bute House Agreement^[1], that will "add to the existing MPA network by designating a world-leading suite of Highly Protected Marine Areas (HPMAs) covering at least 10% of our seas".



Next Steps . . . Suggestions



Support
Our Application!



Identify
a Joint Way
Forward



Protect and Restore
The Bay



Discuss
Community Response
to Scottish Government
HPMA?



THANK YOU

KALY