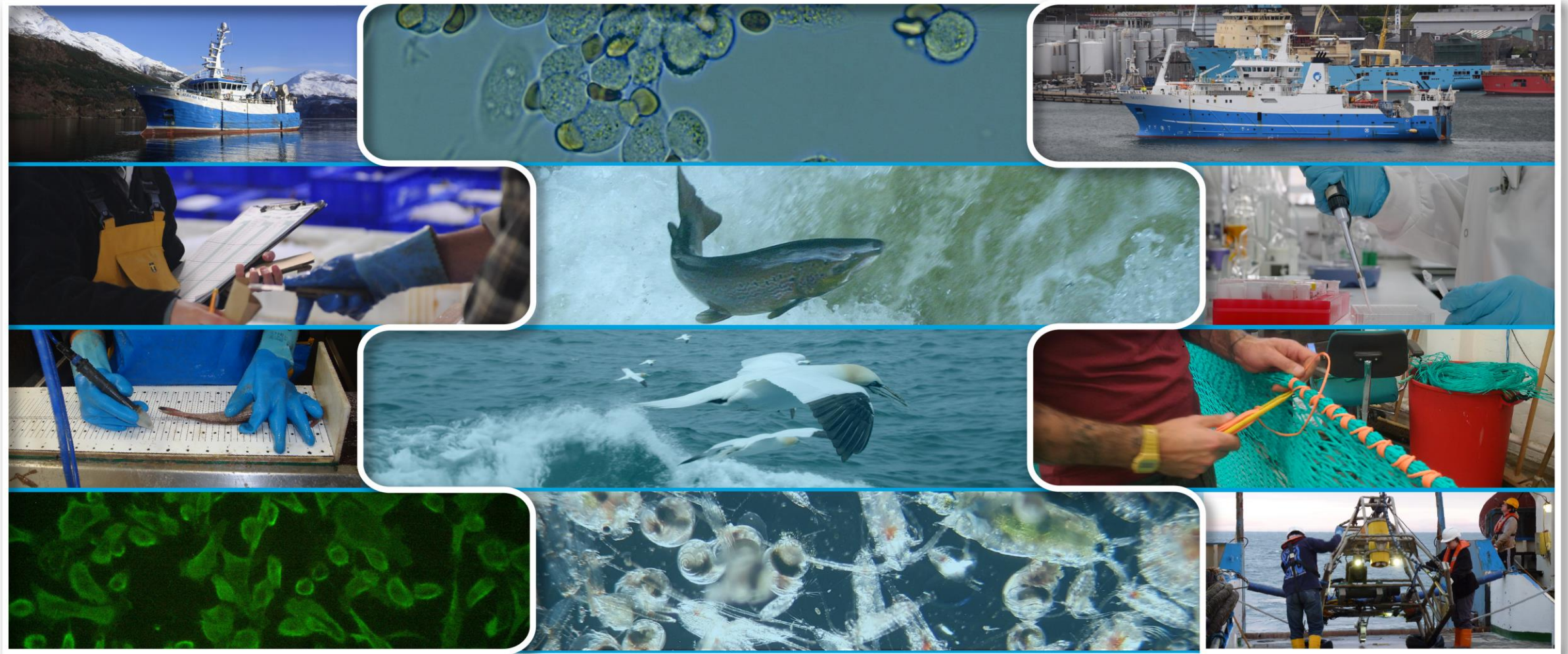


Prof. Mark Inall, CSA Marine.

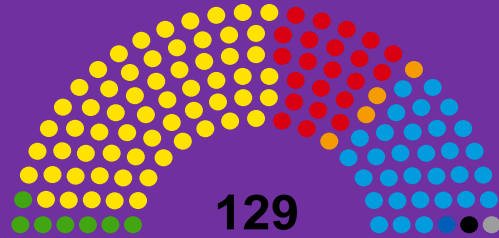
MEDIN Open Meeting 2025: Unlocking the oceans: managing emerging and established marine data.

4th December 2025



Institutional Framework

Scottish Parliament



12 Committees



Scottish Government

First Minister

10 Cabinet Secretaries

1 Permanent Secretary

14 Ministers

8 Director-Generals (e.g. DG Net-Zero)

55 Directorates (e.g. Marine Directorate)

Divisions (e.g. Corporate, Strategy & Marine Planning Portfolio)

Units (e.g. Corporate, Strategy &) Marine Planning Portfolio

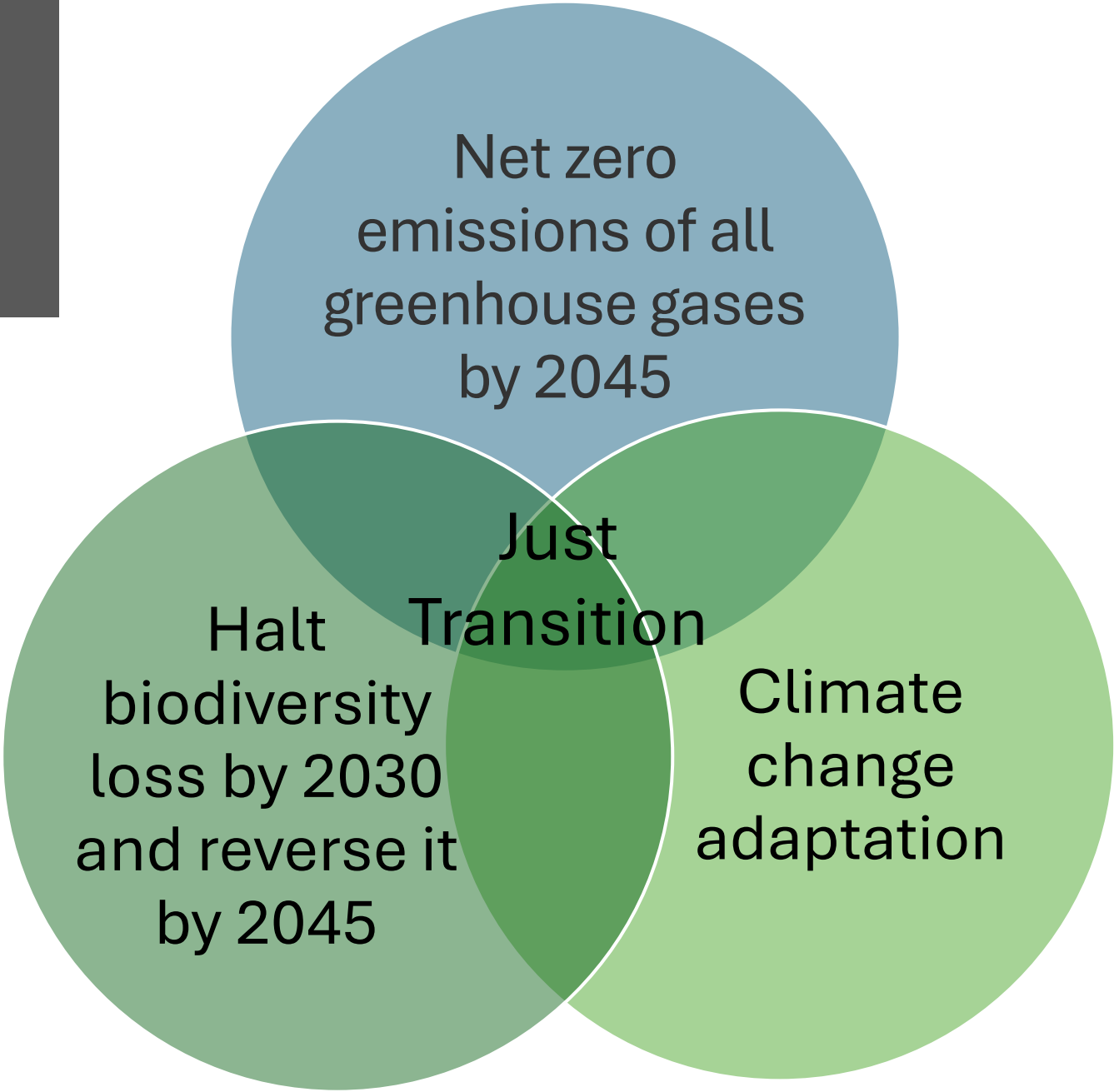
Branches (e.g. Office of the CSAM)



Scottish Government Commitments

The collage features the following elements:

- Scotland's National Marine Plan**: A Single Framework for Managing Our Seas. Includes a teal map of Scotland and the **marinescotland** logo.
- Scottish Government** logo (The Scottish Government / Riaghaltas na h-Alba).
- Marine Science and Innovation Strategy**: January 2024. Includes images of wind turbines, a ship, fish, and a scientist.
- Renew**: A blue button at the bottom left.
- Implement**: A blue button at the bottom right.



Programme for Government

Marine Planning and Renewable Energy:

- Developing the second National Marine Plan
- Publishing an updated Sectoral Marine Plan for Offshore Wind Energy
- Supporting ScotWind and Innovation and Targeted Oil and Gas leasing and consenting
- Supporting offshore wind sector development with up to £500 million investment over 5 years

Marine Protection:

- Consulting on further protection measures for Marine Protected Areas and Priority Marine Features to meet conservation objectives

Maritime Transport:

- Delivering three new major ferries for services to Arran and Islay
- Progressing procurement of seven new electric ferries through Phase 1 of the Small Vessels Replacement Programme

Marine Industries:

- Improving the consenting process for fish farming in Scotland
- Building on consenting pilot projects in the Highlands and Shetland Islands
- Ensuring environmental limits are respected while giving businesses confidence
- Protecting community input in the process

Crown Estate Scotland:

- Reviewing Crown Estate Scotland's governance and operating model
- Optimising its role in value creation particularly around offshore renewable energy expansion
- Focusing on benefits to communities while mitigating climate change and biodiversity loss

Marine Environmental Protection:

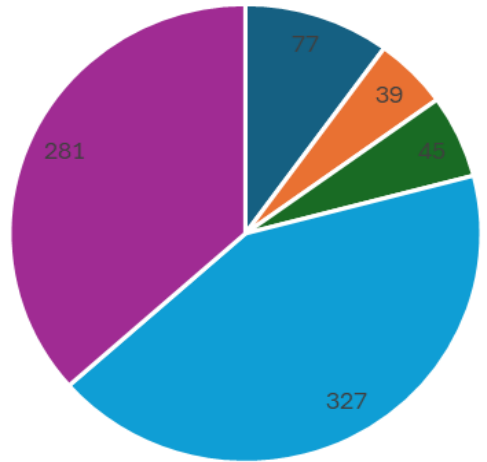
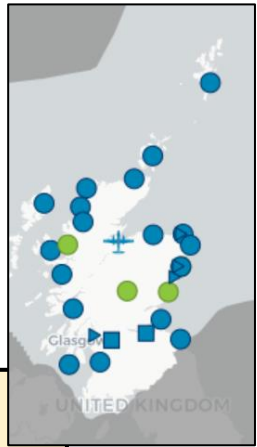
- Addressing biodiversity decline in seas as part of tackling the twin nature and climate crisis
- Working towards protecting 30% of seas for nature by 2030

Marine Directorate

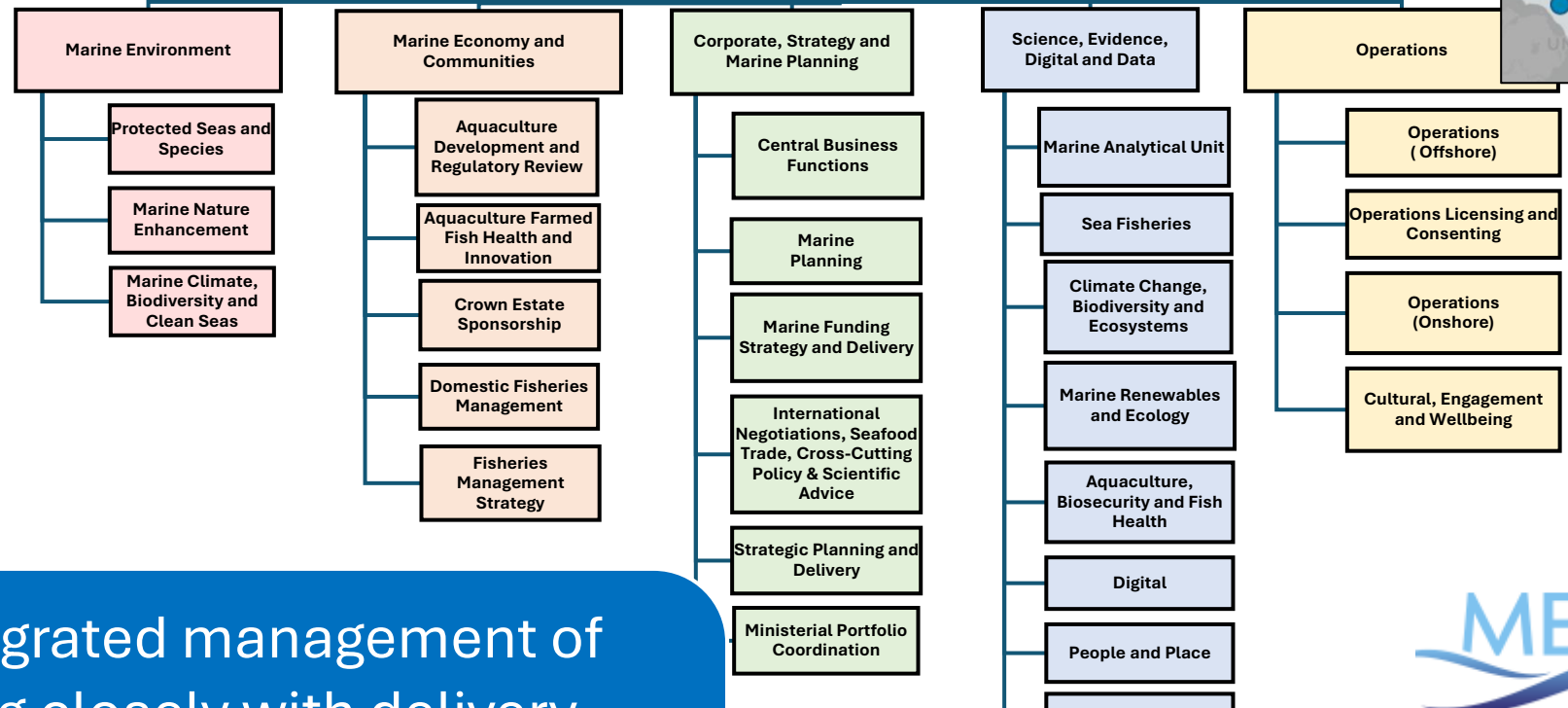
Cabinet Secretary for Rural Affairs, Land Reform and Islands (Mairi Gougeon)

Director General Net Zero

Director Marine Directorate



■ CSMP ■ MEC ■ MEC ■ Operations ■ SEDD



Responsible for the integrated management of Scotland's seas, working closely with delivery partners NatureScot, Joint Nature Conservation Committee (JNCC) and the Scottish Environment Protection Agency (SEPA).



DATA COLLECTIONS

Choose a provider to browse their metadata collection.

UKHO		DASSH		Cefas	
TCE		BODC		MDSG	
NRW		BGS			

Function and Purpose of CSAs

Directorate/Department-specific CSAs (e.g. SG Marine, UKG DEFRA): **Dual Role**

1. Provide independent challenge
2. Ensure that science and engineering evidence and advice is robust, relevant and high quality
 - Deliver mechanisms to ensure that policy making is underpinned by science and engineering.
 - Bring scientific and engineering evidence to the centre of decision-making in government
 - Provide oversight and assurance of science & engineering capability and activities in their Directorate.
 - Oversee processes for providing or commissioning science and engineering advice.

Under GCSA leadership, CSAs:

- Work together (SG and UKG), and with Research Councils and others to address and advise on issues which cut across government.
- Engage thoroughly with the GCSA and the CSA Network. This cross-government working group is crucial to ensuring that scientific advice in government is appropriately communicated and actioned.
- **Maintain Areas of Research Interest (ARIs)**

Pathway for science-policy engagement

Hours- Days

1 -3 months

3 – 12 months

1 – 5 years

Rapid Advice

Policy Development

Science-Policy Engagement

Marine Science & Innovation Strategy

MD Science,
Evidence, Data &
Digital

CSA Marine

First Ministers
Environmental
Council

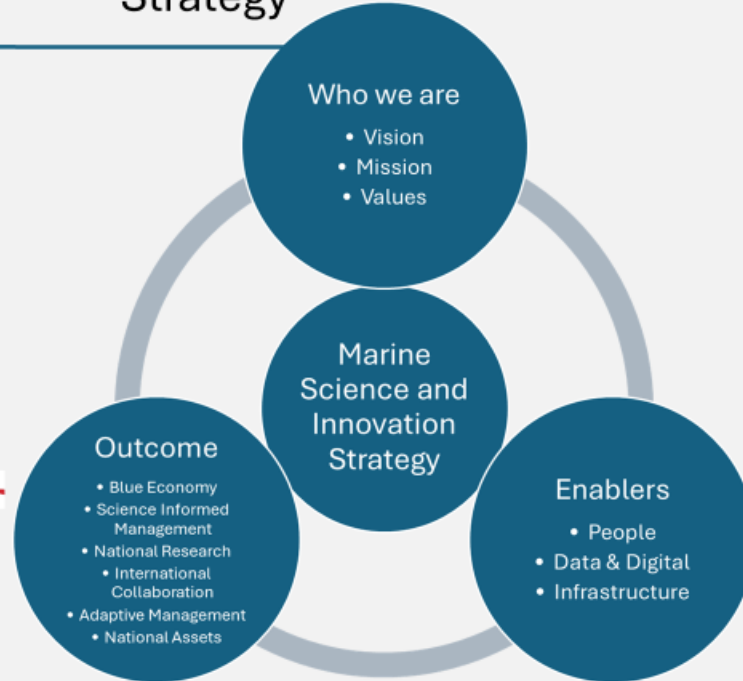
Marine Economy and
Communities

Marine Environment
Portfolio

Corporate, Strategy and
Marine Planning
Portfolio

Operational Delivery
Portfolio

Directorate Offshore
Wind



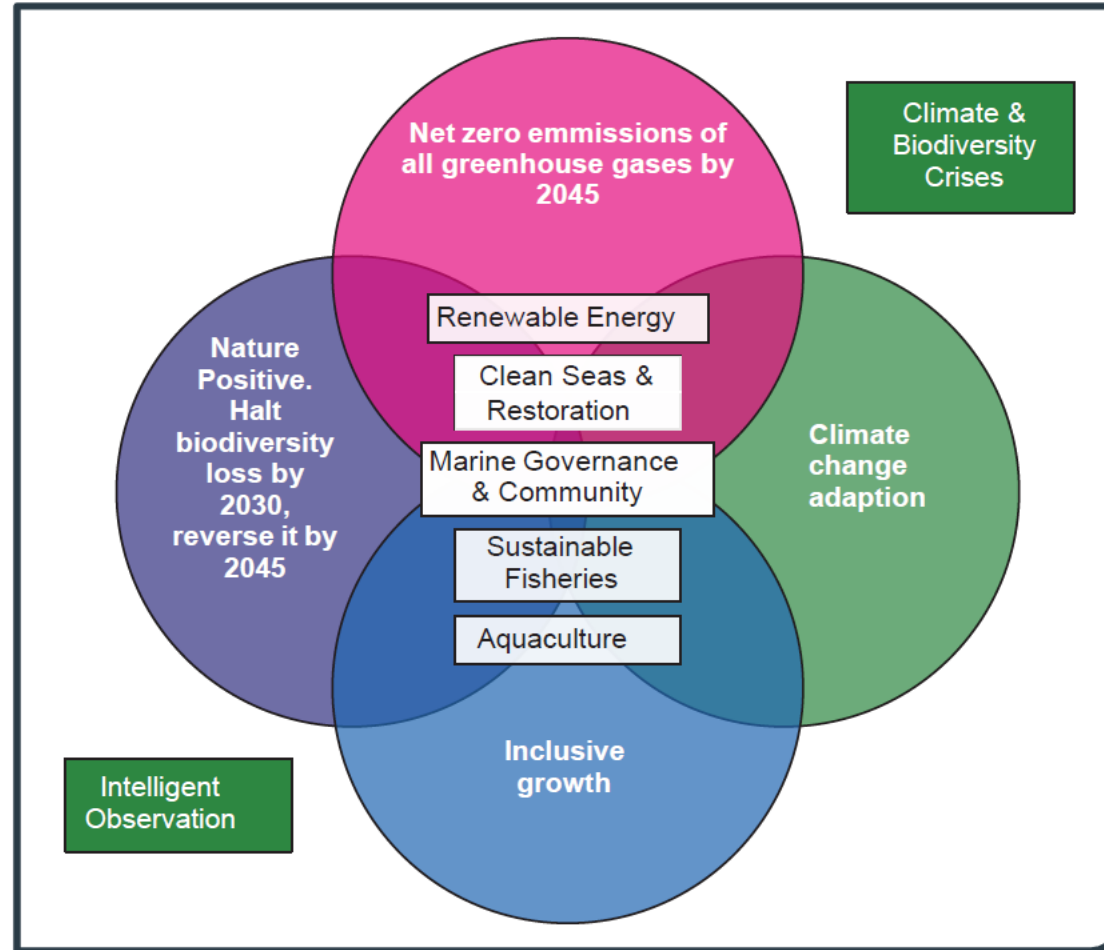
same evidence, varying policy

- **The Blue Economy Vision**
 - Clean, healthy, safe, productive and biologically diverse marine environments
 - Meeting long-term needs of nature and people
 - Aligned with UK Marine strategy
- **Legislative Framework**
 - Climate Change (Scotland) Act: Net Zero by 2045
 - Marine (Scotland) Act Balancing demands on Scotland's seas.
 - Nature Positive: Halt biodiversity loss by 2030, reverse by 2045

Seven ARI themes span the science evidence needs of the **Marine and Offshore Wind Directorates and Scottish Government agencies.**

Blue Economy Vision	ARI	CEFAS	ICES
Resilience to Climate Change	Climate Change & Biodiversity	Climate Change	Marine Ecosystems Science
Healthy Marine Ecosystems	Clean Seas and Restoration	Ecosystem Resilience Water Quality	Conservation & Restoration Science
Innovative & Competitive Marine Sectors Leadership in Sustainable Blue Foods	Renewable Energy Sustainable Fisheries Aquaculture	Energy Transition Aquatic Food Supply	Impacts of Human Activities Food From the Sea
Equal Access to Ocean Benefits	Marine Governance & Community	One Health	Sea & Society
Ocean Literacy and Awareness	Intelligent Observation	System Monitoring	Observation & Exploration of the Seas & Oceans Emerging Techniques & Technologies

- Climate & Biodiversity Crises
- Clean Seas & Restoration
- Renewable Energy
- Sustainable Fisheries
- Aquaculture
- Marine Governance & Restoration
- Intelligent Observations



UK Marine Strategy & Good Environmental Status



Department
for Environment,
Food & Rural Affairs



Llywodraeth Cymru
Welsh Government



Department of
Agriculture, Environment
and Rural Affairs
www.daera-ni.gov.uk



Scottish Government
Riaghaltas na h-Alba
gov.scot

Marine Strategy Part One:

UK Updated assessment and Good Environmental Status

June 2025

“it is clear that more remains to be done”

“Monitoring does not holistically meet all needs for policy decision-making, assessments, and reporting”.

Key Science Challenges:

- Biodiversity loss continues despite protection measures
- Marine litter and benthic habitats remain problematic
- Underwater noise from shipping and OSW development
- Climate change impacts on species distribution

Assessment Cycle:

- Reviewed periodically (latest June 2025)
- Need for methodological overhaul increasingly recognised (inc. EU MSFD)

OEP and ESS responses to consultation are “robust” (and publicly available)

What are we to do?

CSA Marine leading UKMS Pt1 and 2 reboot starting with VQ workshop in Feb 2026

How do we *escalate* our concerns over GES

UK Marine Strategy & Good Environmental Status: June 2025

Partially Achieved



Achieved



Not Achieved



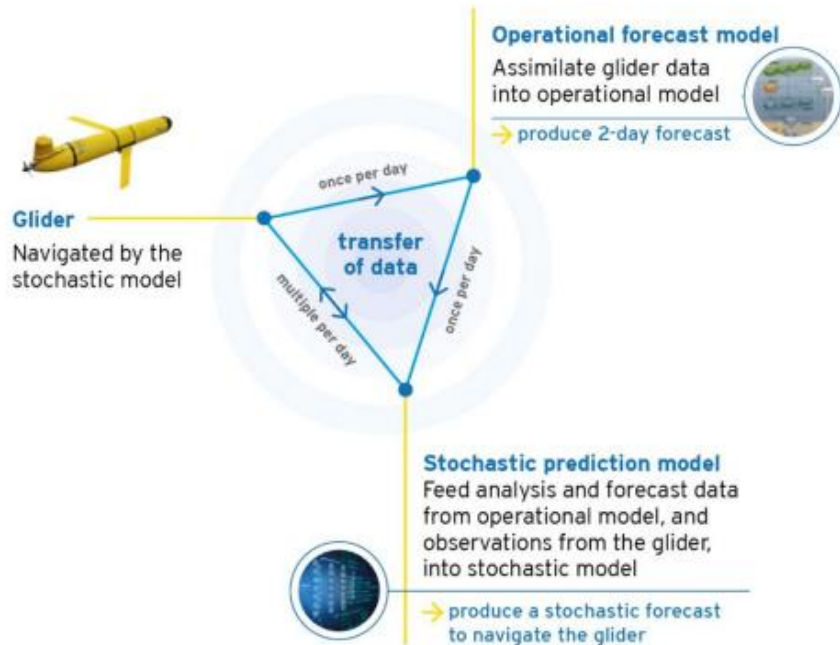
Challenge - can we chart a more technology-literate approach to the journey from measurement to policy assessment?

Ocean Sci., 21, 1709–1734, 2025
 https://doi.org/10.5194/os-21-1709-2025
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Marine data assimilation in the UK: the past, the present, and the vision for the future

Jozef Skákala^{1,2}, David Ford³, Keith Haines^{2,4}, Amos Lawless^{2,5}, Matthew J. Martin³, Philip Browne⁶,



CHANGES IN HYDROGRAPHICAL CONDITIONS

- GES Achieved
- ↔ Stable situation since 2012



PELAGIC HABITATS

- GES Partially achieved
- ↔ Stable situation since 2012



BENTHIC HABITATS

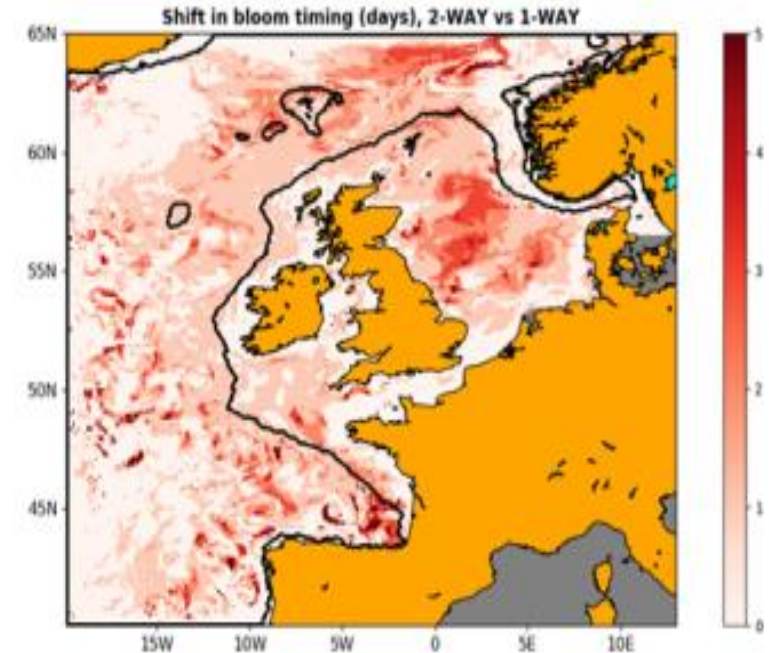
- GES Not achieved
- ↔ Stable situation since 2012



2.1 End-user applications

Real-time forecasts, initialised using MDA, are produced each day with various time ranges from a few hours to seasons ahead. Reanalyses are also produced which give information about the past state of the ocean. Ocean physics, sea ice, biogeochemistry, surface waves, and weather data are all made available routinely to both specific users and the wider public. Existing and potential applications include the following:

- *Marine environment monitoring and prediction.* This is of interest to national government departments (e.g. the Department for Environment, Food & Rural Affairs) and agencies (e.g. the Environment Agency), local





Working together

To improve access to and stewardship of marine data



Scottish Government
Riaghaltas na h-Alba

Marine Directorate

Browse Medin datasets

< Back to search

Reset all MDSG

Found 394 | Show (1-100) | Prev | Next

TITLE

FishDAC - 2014 West Coast International Bottom Trawl Survey (Scotland) - Quarter 4

FishDAC - SIAMISS - 2014 Northern Shelf Anglerfish Survey (Scotland) - Rockall and NE Atlantic

Marine Scotland Reports - Marine Environment - Scotland's Marine Atlas

FishDAC - North Sea International Bottom Trawl Survey (Scotland)

Thank You!
CSAMarine@gov.scot

SG data (and other's?) not organised in searchable format.

How to access and use for easier UKMS Pt1 assessment?

Making available for Automation routes – gathering, access, assessment.

Measurement → storage → QC → archiving → FAIR access → concatenation/synthesis → analysis → assessment

Is almost entirely manual and certainly not circular.