



Coastal Futures Conference 2024

An inclusive future for our seas



24th & 25th January, 2024

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Dr Natasha Bradshaw *on behalf of the OCF team*



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Keynote speaker

Helen Wakeham

Director of Water Transformation,
Environment Agency

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Blackpool 1990

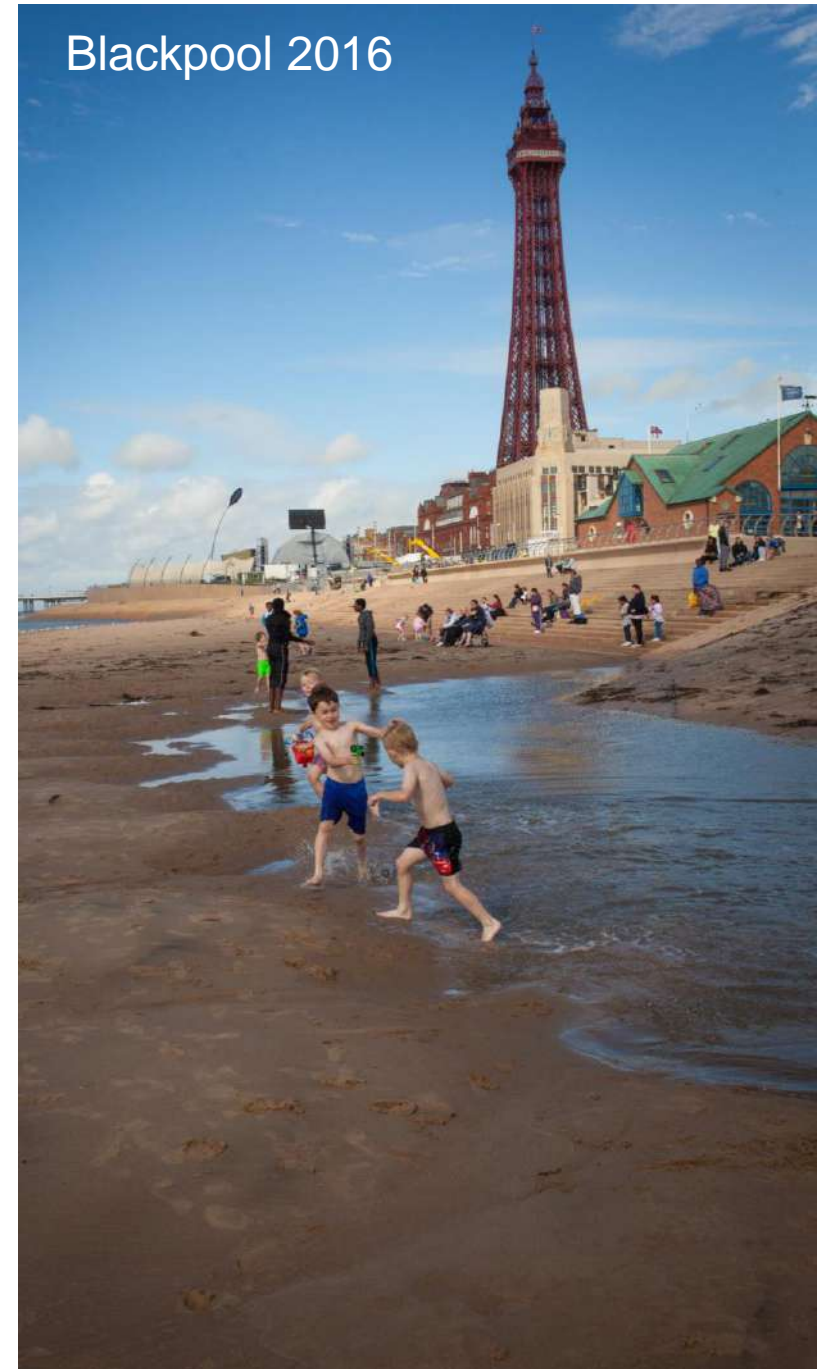


Source: The Guardian. Photos: Vanessa Miles / Greenpeace

Water Transformation Source to Sea

Helen Wakeham
Director of Water Transformation
25th January 2024

Blackpool 2016





270 million recreational visits



Woolacombe Bay

We have lost 85% of saltmarsh, 99% of native oyster reefs, and seagrass meadows from up to 50% of historic locations over the last 150 years.

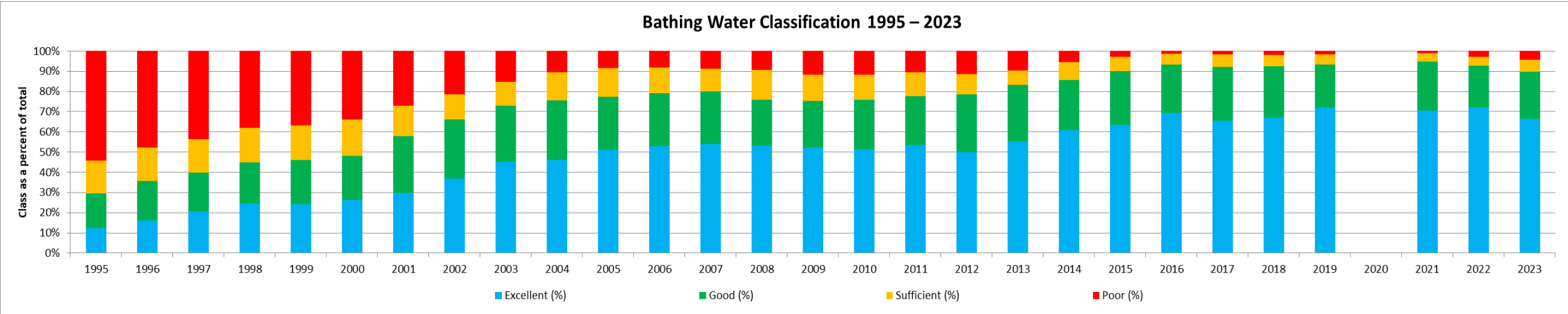


Vessel damage to intertidal seagrass beds, Tamar Estuary

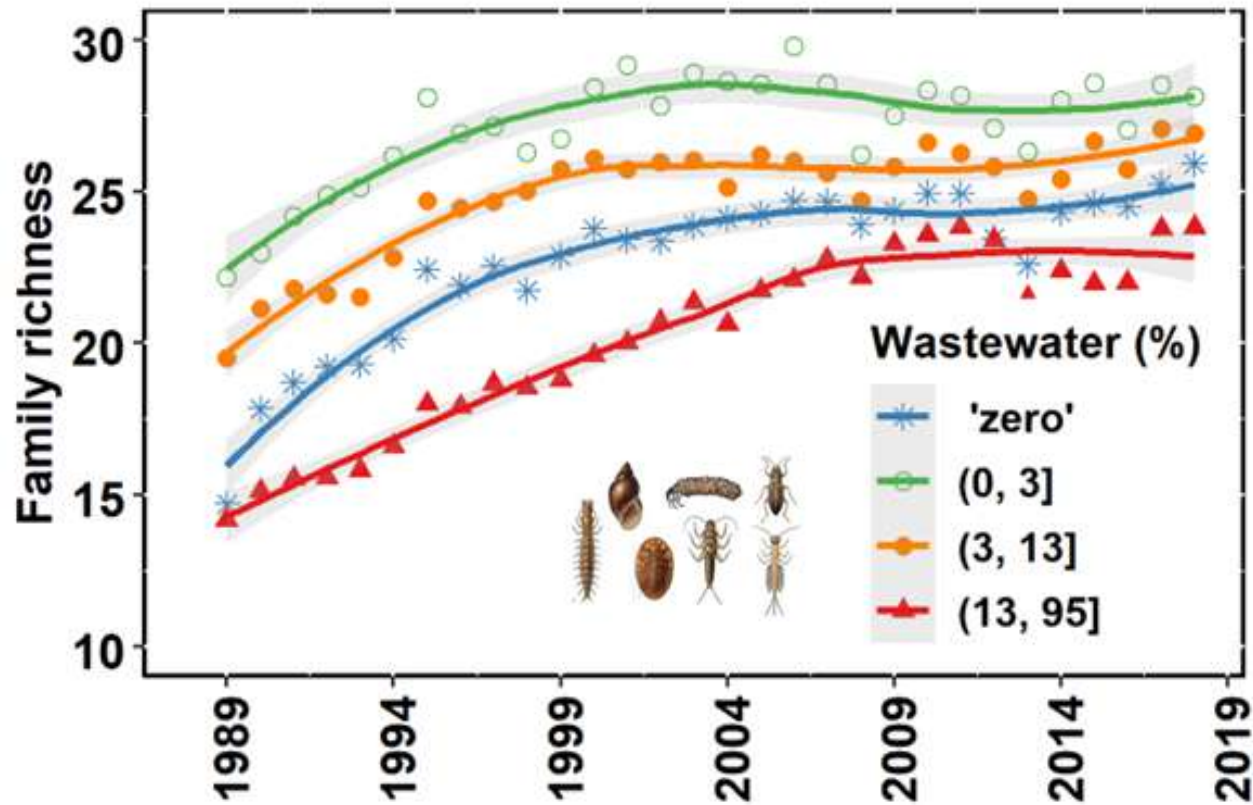


Eroding saltmarsh, Holes Bay, Poole Harbour

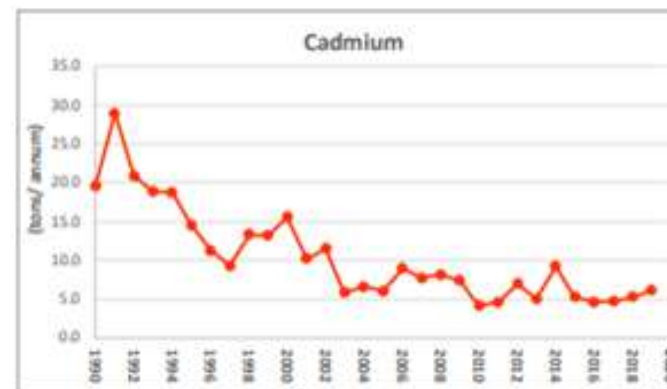
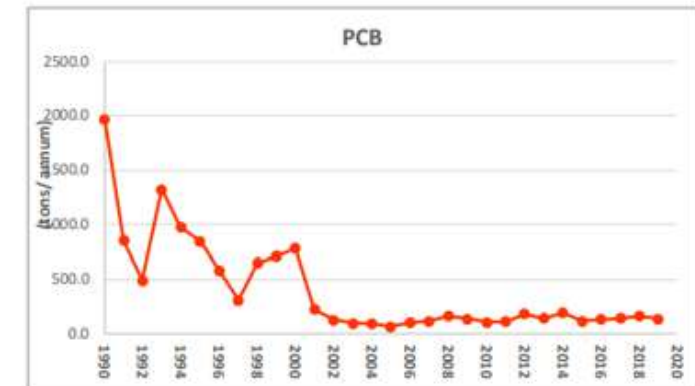
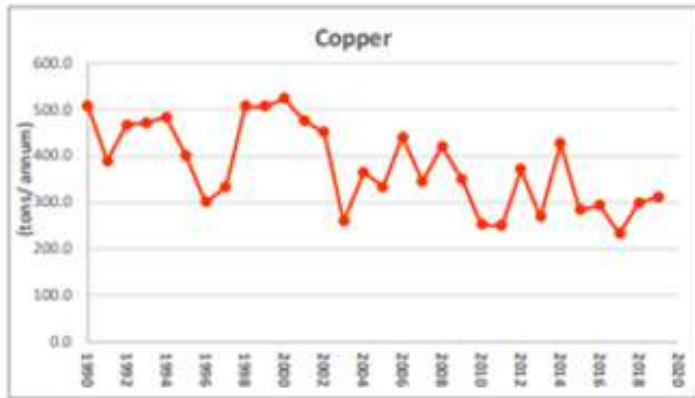
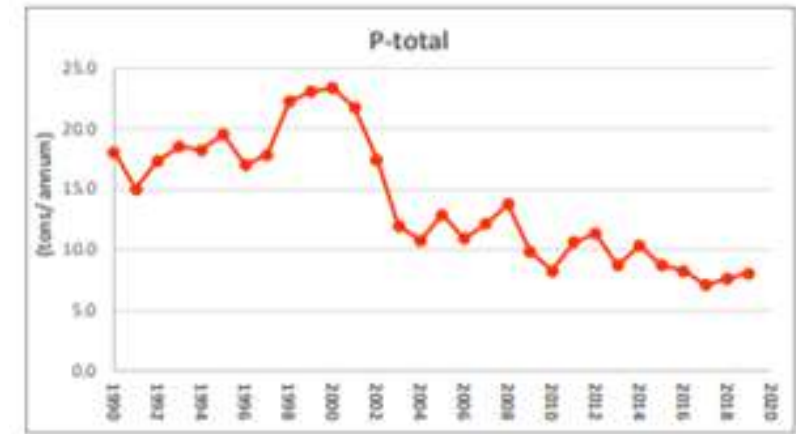
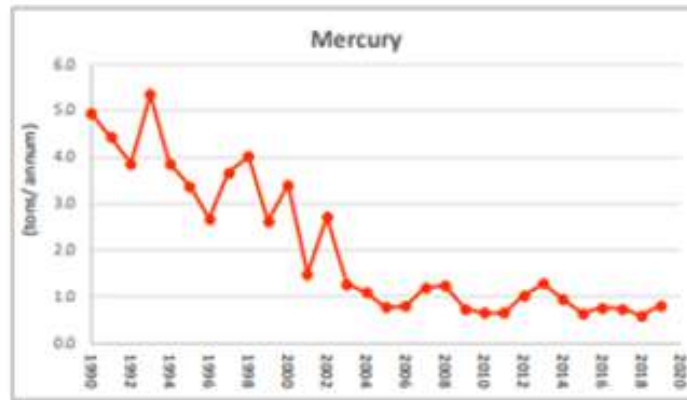
Bathing waters national summary



River invertebrates over time, UK CEH study



- Overall macroinvertebrate family richness at 1,515 monitoring sites across England
- CSO events no interference with improving diversity (inc. rivers with greatest wastewater exposure)



OSPAR. 2021. Comprehensive Study and assessment of Riverine Inputs and Direct Discharges (RID) – 2019 data report. Publication number: 800/2021.



Mersea Harbour Protection Trust and Harwich Haven Authority
beneficial use at Cobmarsh Island, Blackwater estuary

courtesy Jim Pullen surveys

Saltmarsh: 7% increase over last decade to 2019 (+2.7% of that from habitat creation)





Restoring Meadows, Marsh and Reefs (ReMeMaRe)

Ambitious habitat restoration programme:

Vision: restored estuarine and coastal habitats that benefit people and nature

Mission: restore *at least* 15% of our priority habitats along the English coast by 2042 (25 Year Environment Plan)

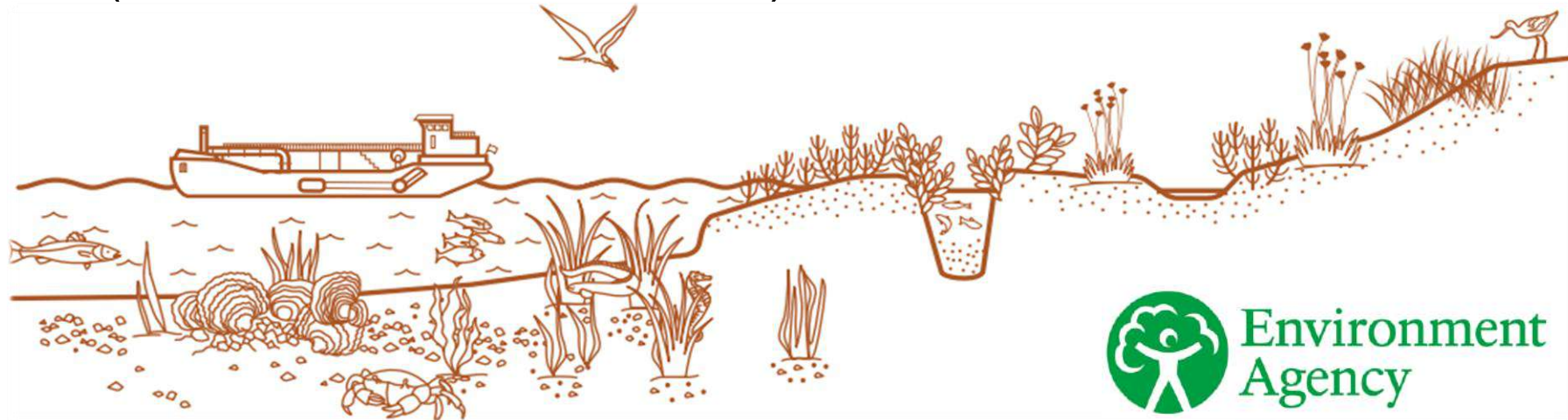
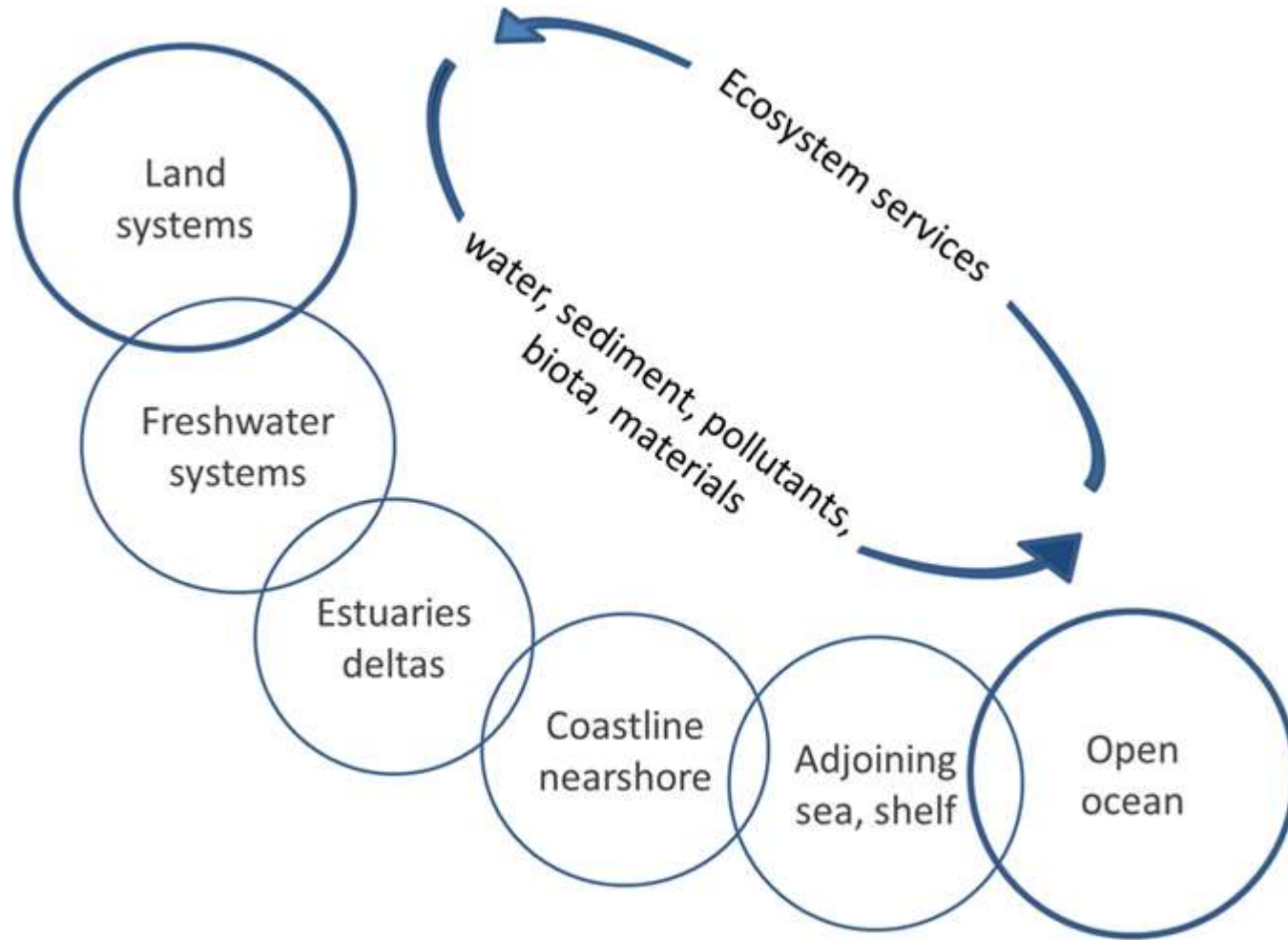




Photo: Lymington Harbour
Commissioners beneficial
use site

Source to sea, catchment to coast



From: **A conceptual framework for governing and managing key flows in a source-to-sea continuum** Water Policy (2017) 19 (4): 673–691

Natural Capital Ecosystem Assessment Programme



- Land & sea (terrestrial & marine)
- Three years (to March 2025)
- Launched April 2022, following test years
- £140m HMT allocation to Defra
- Partnership programme





Morecambe Bay – Rob Whitley



Q&A

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Scene Setting

Dr Gemma Harper

Chief Executive Officer, Joint Nature
Conservation Committee

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The ocean is calling us... Are we listening?



Dr Gemma Harper OBE
Chief Executive

Joint Nature Conservation Committee

























“With every drop
of water you
drink, every
breath you take,
you're connected
to the sea.”

Sylvia Earle





Q&A

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Session Four

Evidence Assessment Into Action

In response to the latest evidence and assessments, how will we drive action?

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Chair

Dave Stone, Chief Scientist, JNCC

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Session Four Evidence Assessment Into Action

Dominic Pattinson, OSPAR

The evidence we need for the North-
East Atlantic we want

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OSPAR
QUALITY STATUS REPORT 2023

OSPAR: The evidence we need for the North-East Atlantic we want

25th January 2024

Dominic Pattinson

Executive Secretary OSPAR Commission



What is OSPAR?

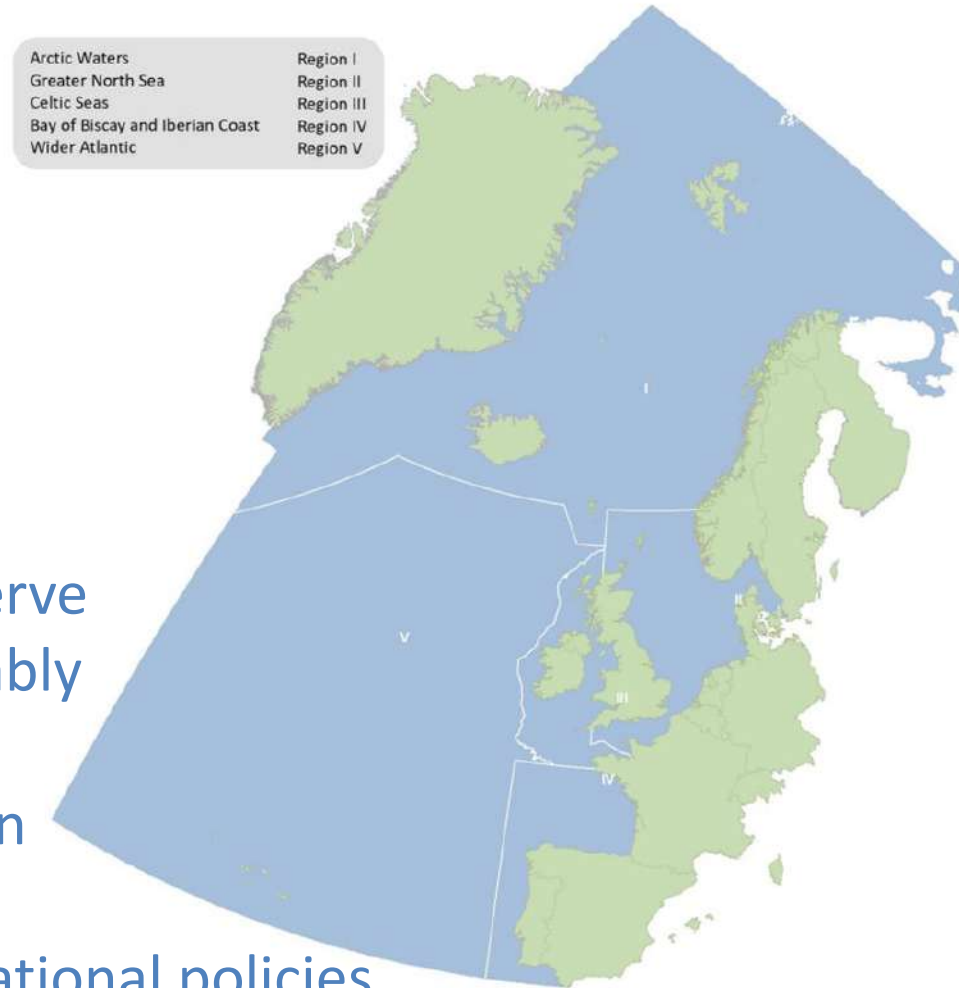
Regional Sea Convention for
the North-East Atlantic

16 Contracting Parties

Mandate to protect and conserve
while using resources sustainably

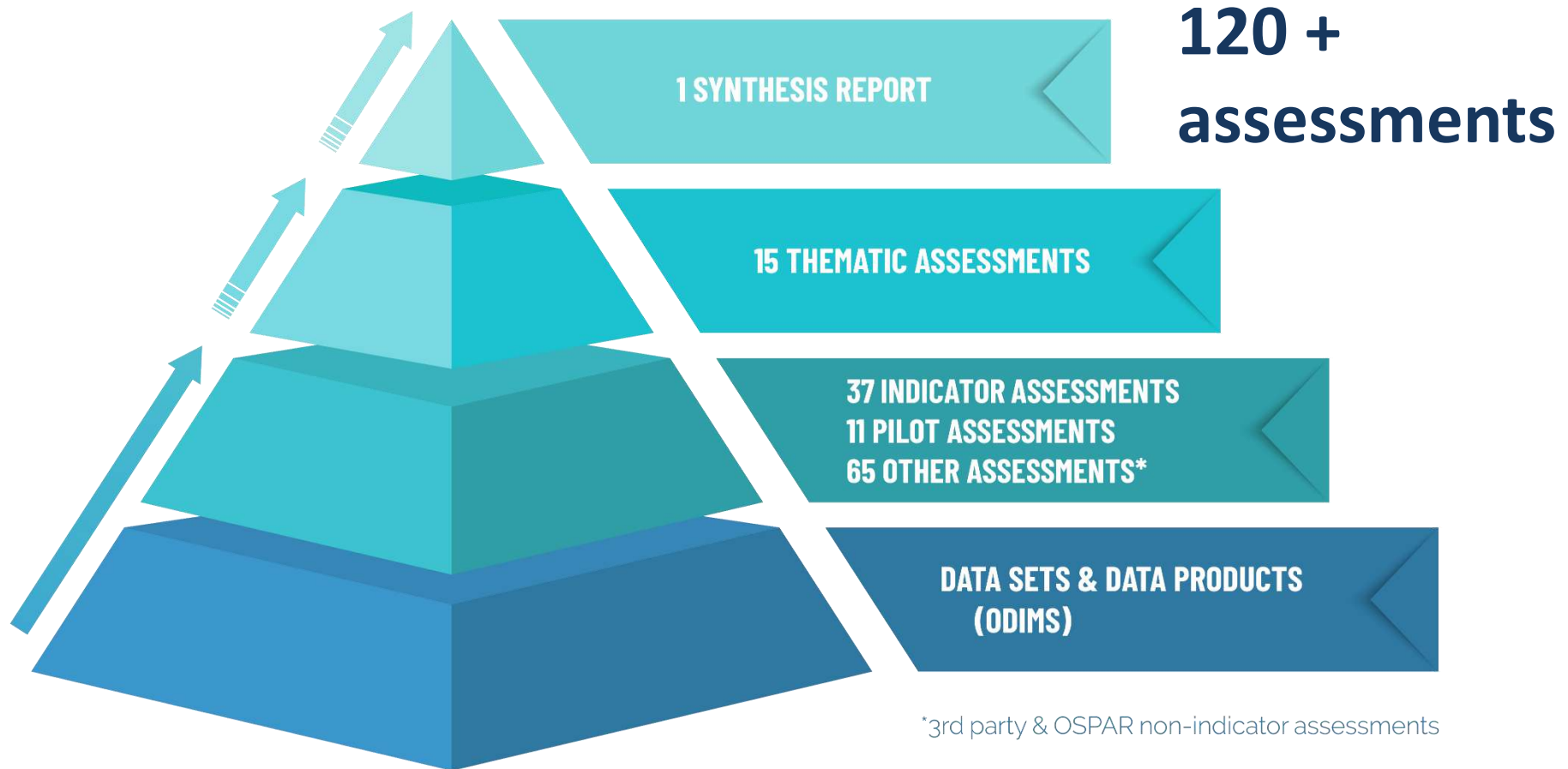
Collaboration and coordination

Supporting implementation national policies





What is the QSR 2023? Structure & Components





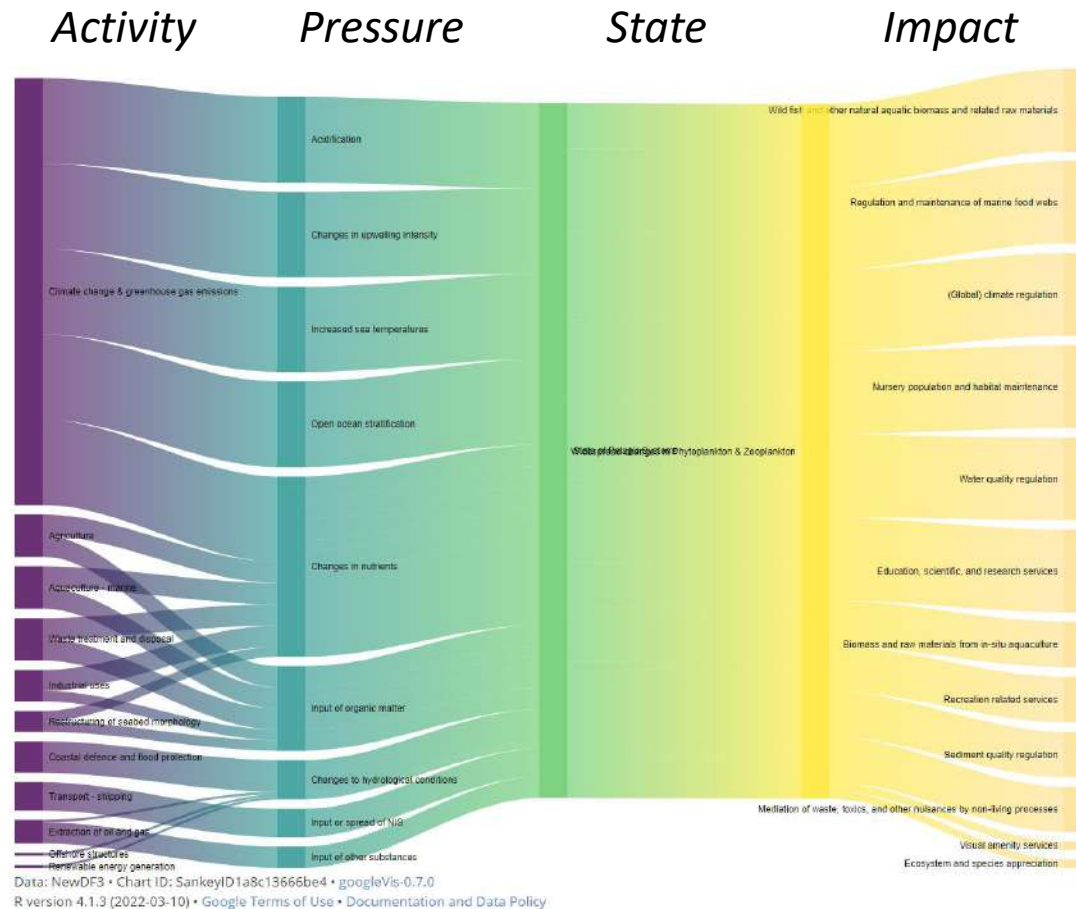
Assessing cumulative effects in thematic assessments

Objective: To assess whether the collective pressure from human activities are within levels compatible with achieving OSPAR desired quality status outcomes, through application of the ecosystem approach.

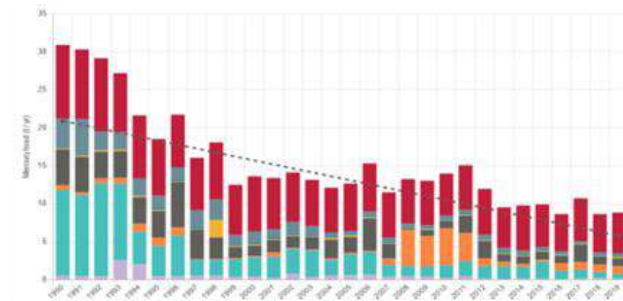
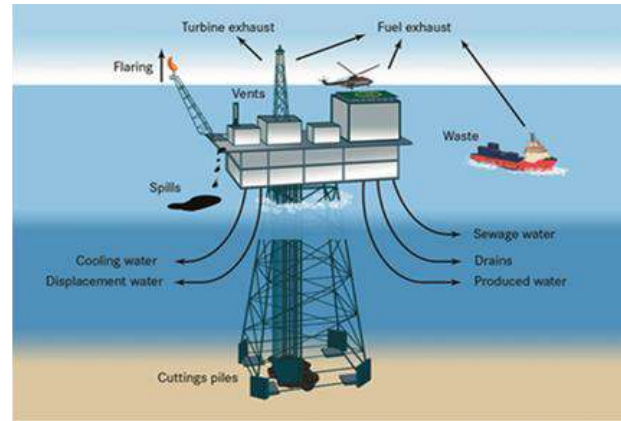
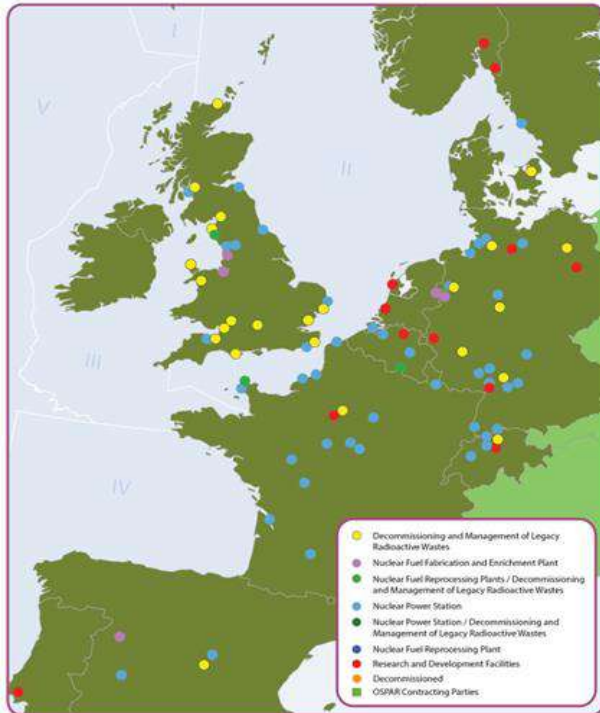
All thematic assessments have cumulative effect section.

5 biodiversity thematic assessments include Weighted Bow Tie Analyses (Sankey Diagrams). This is an indicative assessment of cumulative effects to identify those activities and pressures of greatest concern (and meriting priority action).

Tackling cumulative impacts

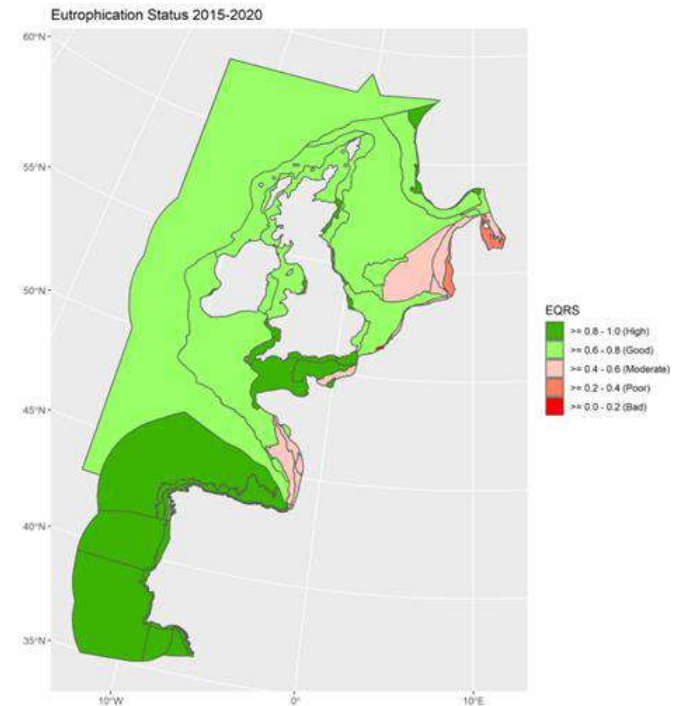


- Ranking pressures according to impacts on ecosystem components since QSR 2000
- QSR 2023: Sankey diagram, example pelagic habitats
- New: impacts on ecosystem services, to close the DAPSIR cycle
- Need for better pressure - state - impact relationships



Measures do work if implemented

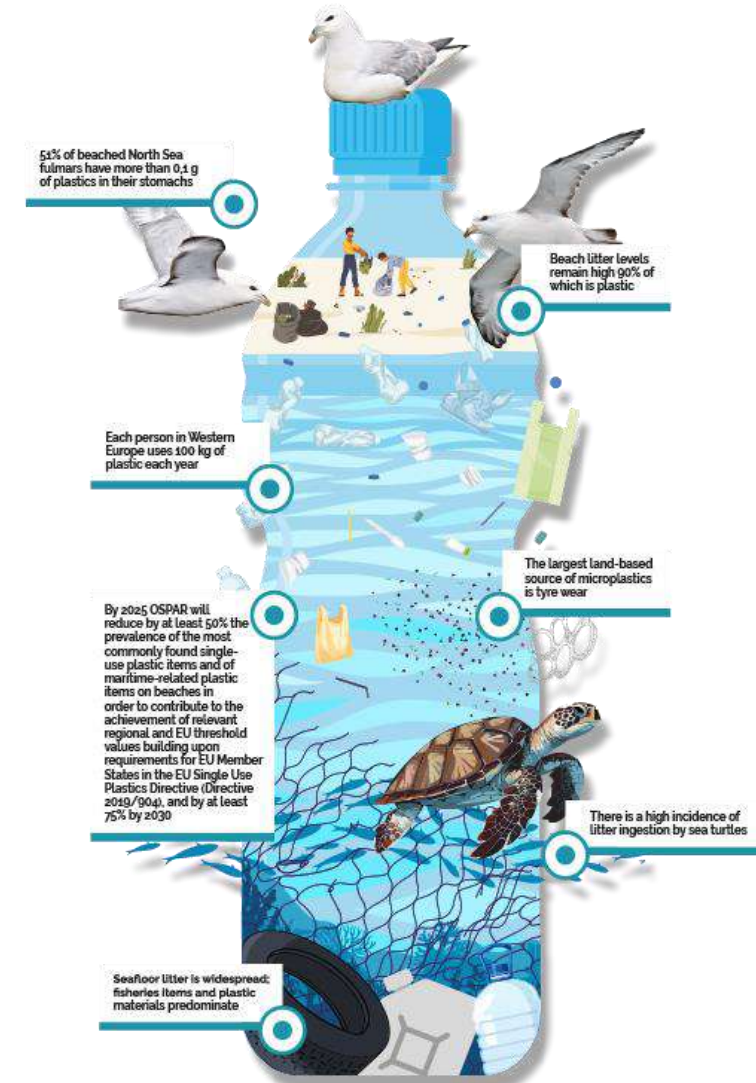
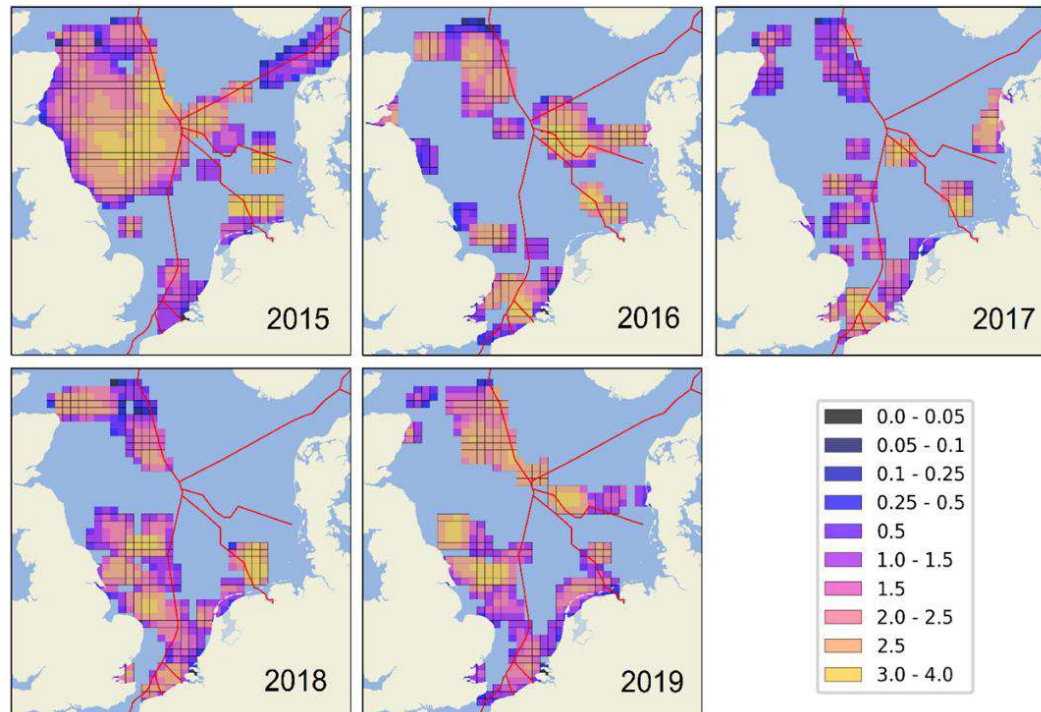
- Negative impacts from oil & gas continue to decrease
- Pollution by radioactive substances prevented
- Hazardous substances are decreasing but are cause for concern
- Eutrophication occurs in less areas but still persists





We are improving our understanding of the issues

- We are developing new ways to monitor and assess noise pollution
- We know more about levels of marine litter and can show if measures are working





New evidence: climate change and ocean acidification

- The impacts of climate change are clearly measurable
- Ocean acidification puts ecosystems at further risk





What happens next?

- Identify gaps – knowledge, research, monitoring, effectiveness
- Evidence based policy – where is it working, where is more it not?
- Political commitment – Ministerial review of OSPAR 2030 strategy in 2025 using evidence from QSR 2023



What is the evidence for the North-East Atlantic:

Collective trends point to declining biodiversity and continued habitat degradation across many parts of the OSPAR Maritime Area, even as measures to achieve clean, biodiverse and productive seas have been taken by the OSPAR Contracting Parties.

Two things are clear:

- additional measures are required in order to change a trajectory of nature decline to one of nature recovery, and
- the existing measures need to be more effective.



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QUALITY STATUS REPORT 2023

Thank you

www.ospar.org

secretariat@ospar.org



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Session Four Evidence Assessment Into Action

Cristina Herbon, JNCC

Key conclusions from the OSPAR QSR 2023

Biodiversity themes: challenges, risks and
actions to halt and reverse biodiversity decline

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OSPAR QSR 2023 Biodiversity: challenges, risks and actions to halt and reverse biodiversity decline

**Coastal Futures 2024,
31st Annual conference,
Royal Institution,
London**

**Dr Cristina Vina-Herbon FLS
Joint Head Marine Ecosystems Team
JNCC**



The Quality Status Report 2023: Biodiversity Thematic Assessments

Thematic Assessments

- Marine Birds
- Marine Mammals
- Benthic Habitats
- Pelagic Habitats
- Fish
- Food Webs

Other Assessments

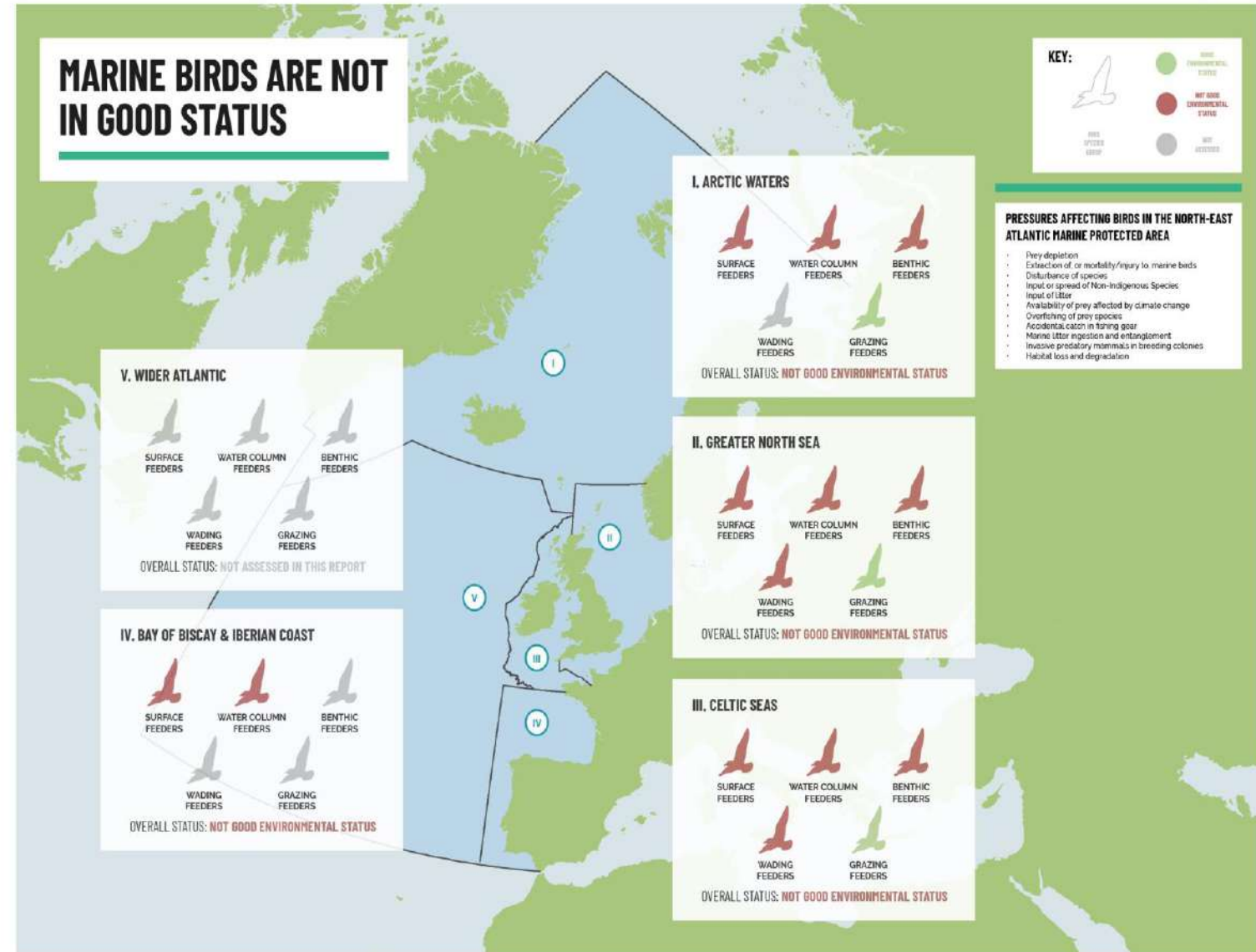
- Threatened & Declining (T&D) Habitats & Species
- OSPAR MPA Network



Marine Birds

Key Messages

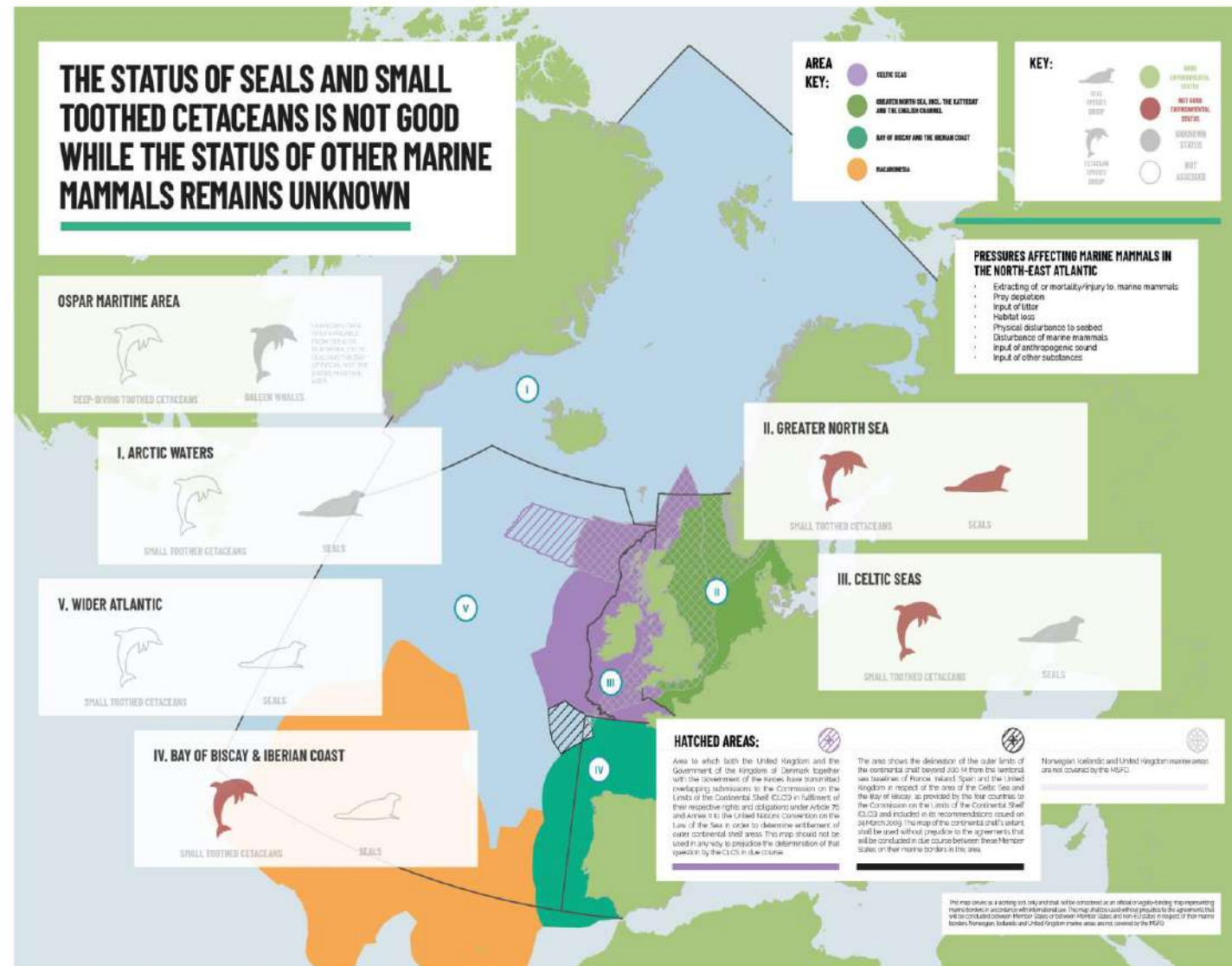
- Good status was achieved by grazing feeding birds in Regions I, II, and III.
- The **overall status is not good**. No assessment could be made of Region V.
- 5 out of 9 T&D bird species are still declining
- Key pressures: prey depletion, extraction or mortality/injury and disturbance of species
- CC has affected prey availability



Marine Mammals

Key Message

- Grey seals doing well, but overall marine mammals are **not in good environmental status**.
- Many species groups remains unknown due to limited data
- T&D species (bowhead whale, the northern right whale, the blue whale and the harbour porpoise) in poor status
- The northern right whale eliminated from the North-East Atlantic.
- Key pressures: mainly incidental by-catch, others: noise, plastic pollution, and hazardous substances

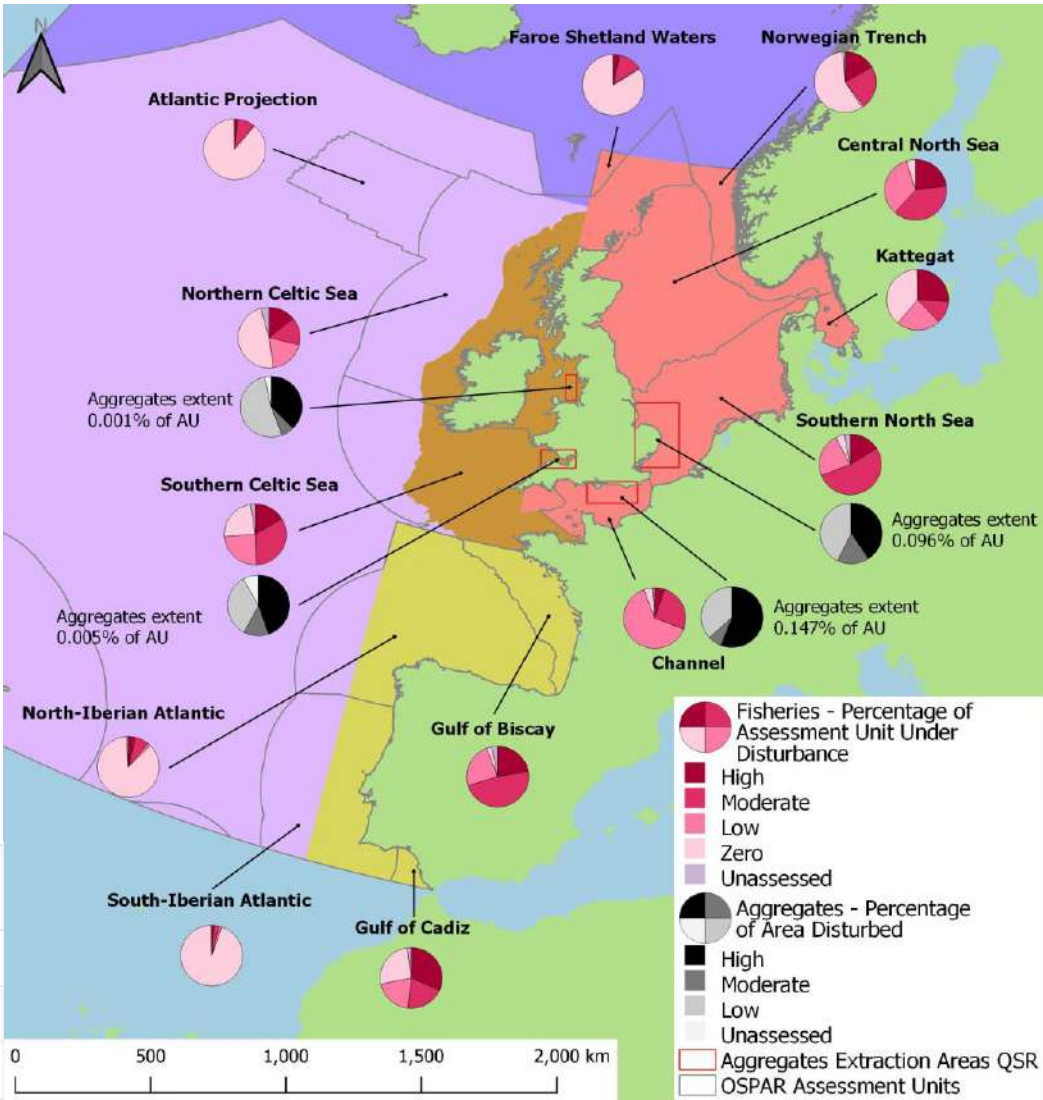


Benthic Habitats

Key messages

- Overall benthic habitats are indicatively considered **not in good environmental status**.
- Only one (Oceanic ridges/hydrothermal vent fields) out of 18 T&D habitats is in good status.
- Key pressures: Physical disturbance, habitat loss, input from nutrients and contaminants
- Increasing concern on Climate change and Ocean acidification on ecosystems already under stress
- Some improvements have been measured on coastal habitats.

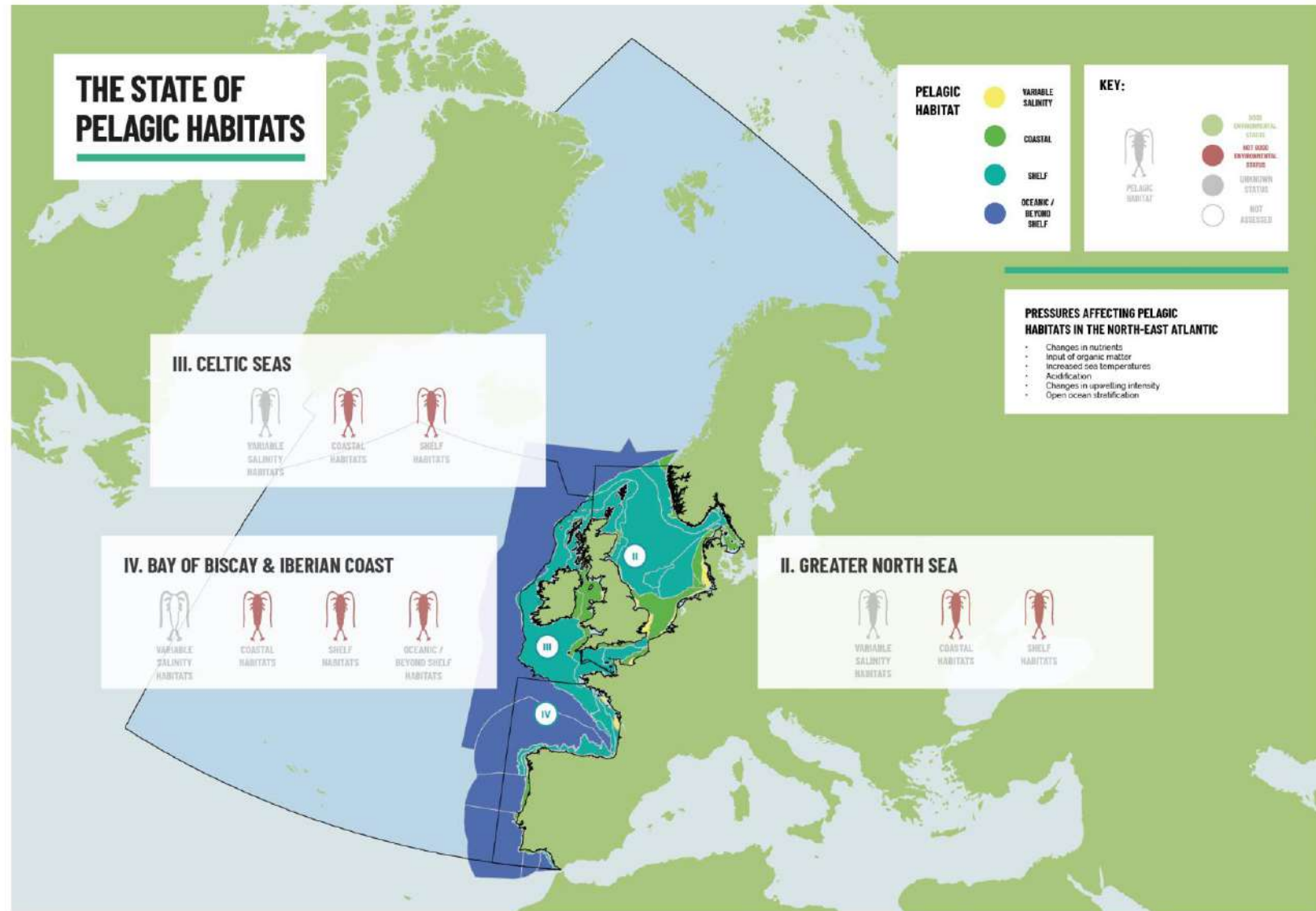
Arctic Waters	Maerl beds	Intertidal mudflats	Zostera beds	Deep-sea sponge aggregations	Coral gardens	Lophelia pertusa reefs	Oceanic ridges with hydrothermal vents	Seamounts
Distribution	?	N/A	↓	↔	↔	↔	↔	↔
Extent	?	N/A	↓	?	?	↔	↔	↔
Condition	?	N/A	↓	↓	↓	↔	↔	↓
Previous OSPAR status assessment	○	N/A	●	●	●	●	○	●
Status (overall assessment)	?	N/A	poor	poor	poor	poor	good	poor



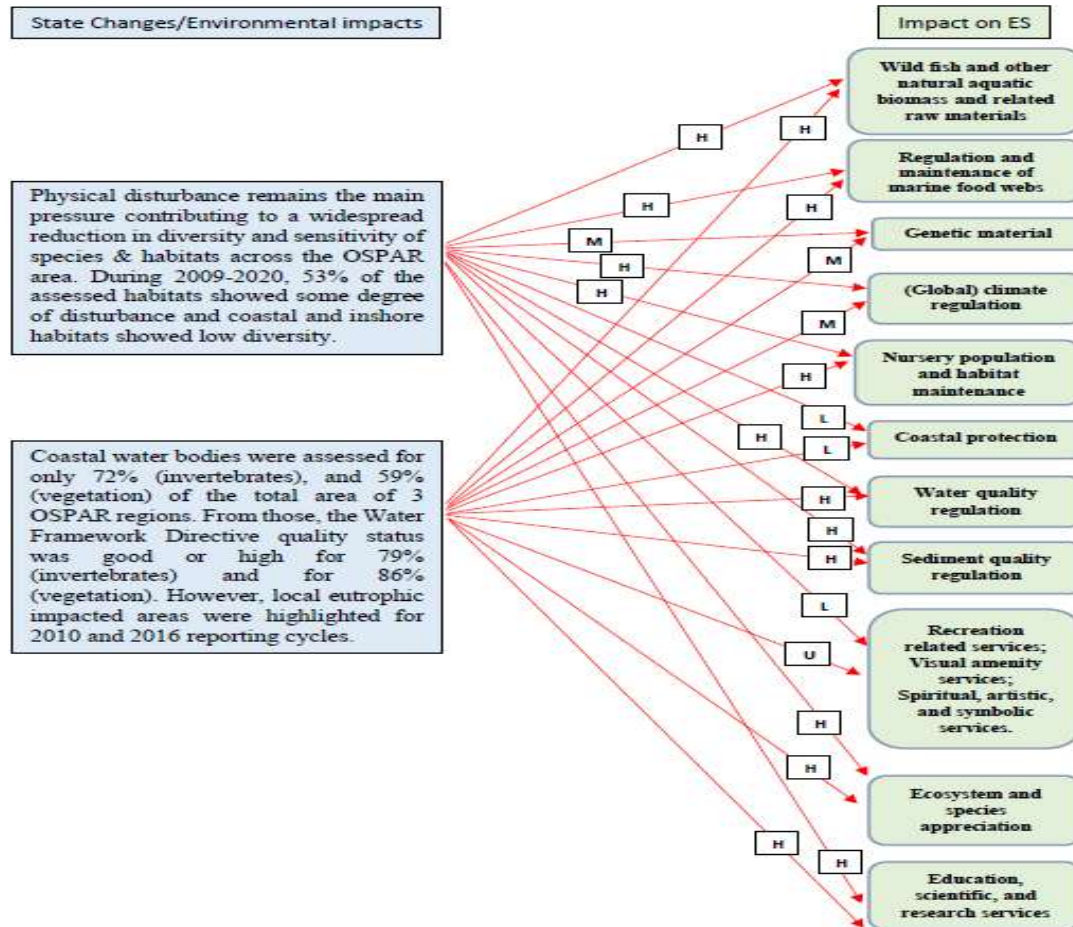
Pelagic Habitats

Key messages

- General pattern of decreasing phytoplankton and zooplankton abundance and/or biomass
- Climate change (both from natural variability and human-induced) is probably the greatest pressure
- The three OSPAR Regions considered in the indicator assessments were all in **“Not good” status**



Poor status of marine biodiversity has consequences for Ecosystem Services

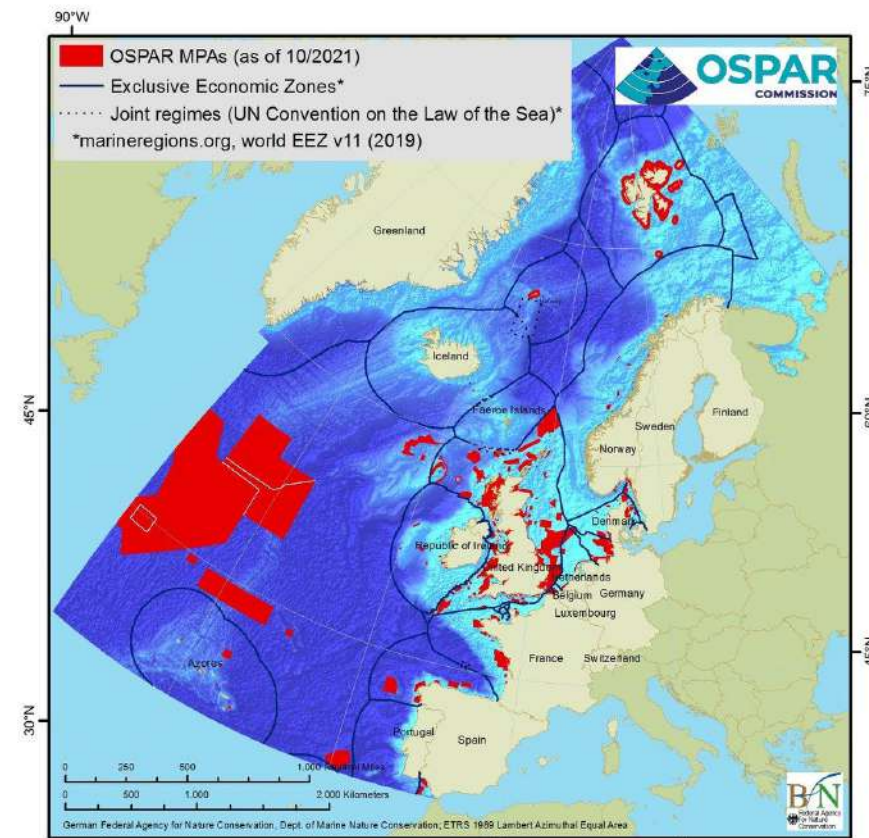


Marine Benthic Habitats example

Poor status likely to cause **strong negative impacts on ecosystem services**: water and sediment quality, regulation and maintenance of food-webs, nursery and other biotic provisioning, coastal protection

There are some bright spots

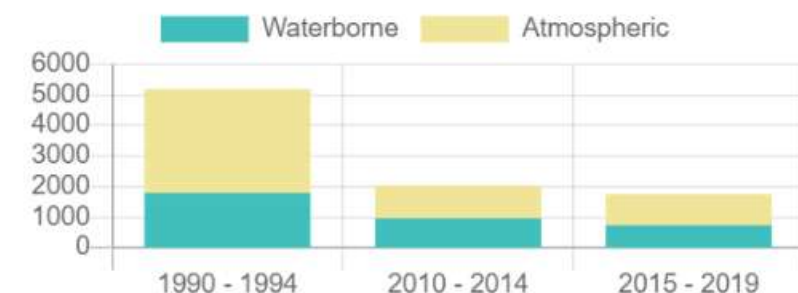
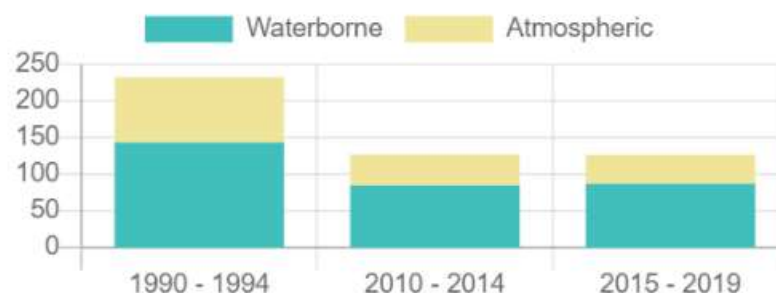
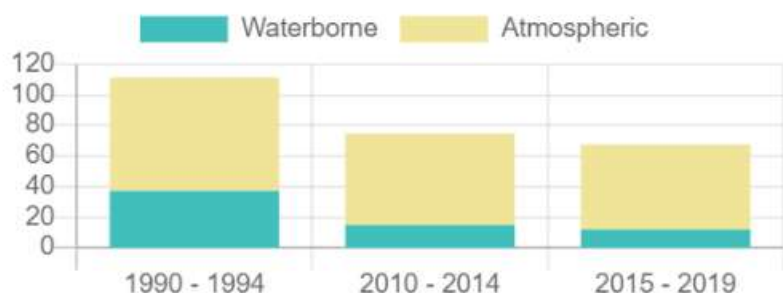
- Decreases in levels of hazardous substances entering the sea
- OSPAR's commitment to halve nutrient inputs has improved eutrophication status
- Encouraging signs that marine litter in the OSPAR Maritime Area is decreasing
- Action by OSPAR has reduced pollution from the oil and gas sectors
- OSPAR's Marine Protected Area Network has increased significantly, including large new MPAs in ABNJ



Regions I - IV: Mercury

Regions I - IV: Cadmium

Regions I - IV: Lead



But more action is needed

- **Progress toward clean seas is being made but we are not there yet**
 - Hazardous substances, marine litter, nutrient input need further reduction
 - Noise pollution
- **Limited progress has been made toward achieving biologically diverse seas**
 - While some species are recovering many species of fish, birds and mammals remain at risk
 - Current measures are not sufficient to improve the status of benthic habitats and stop deterioration
 - No OSPAR measures targeting directly the protection of pelagic habitats
- **Climate change and ocean acidification are drivers of major change**
 - Evidence on the effects demonstrate the need for action
 - Additional efforts needed to understand the consequences on ecosystems, and coordinate mitigation and adaptation



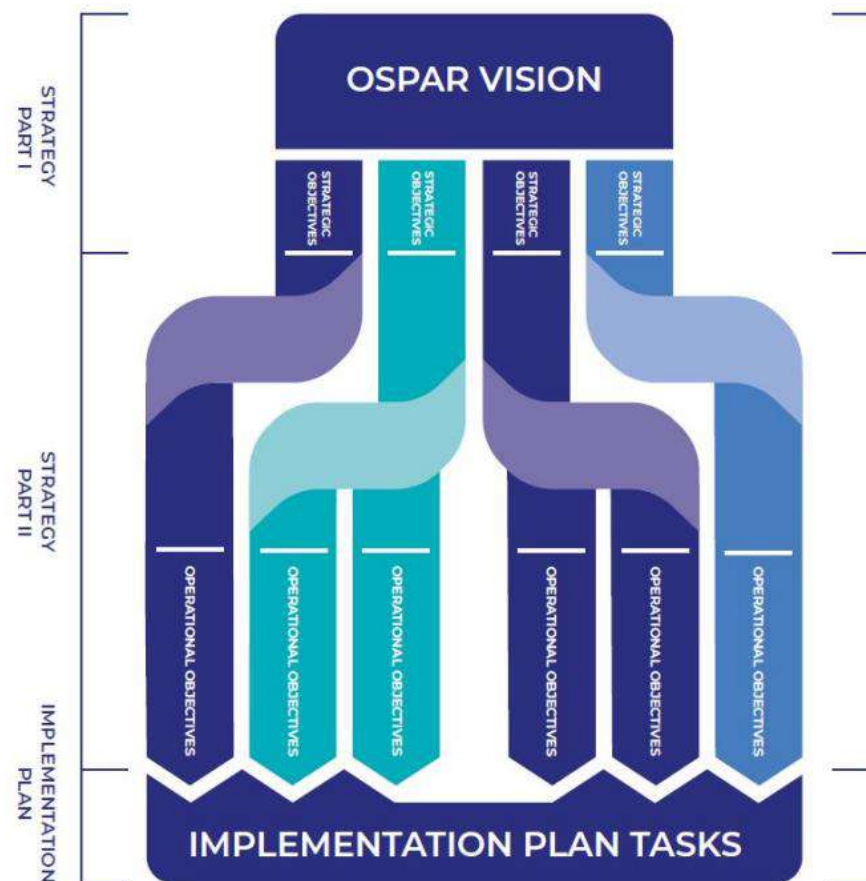
The North-East Atlantic Environment Strategy (NEAES) 2030

OSPAR VISION

"Our vision is a clean, healthy and biologically diverse North-East Atlantic Ocean, which is productive, used sustainably and resilient to climate change and ocean acidification"

NEAES 2030

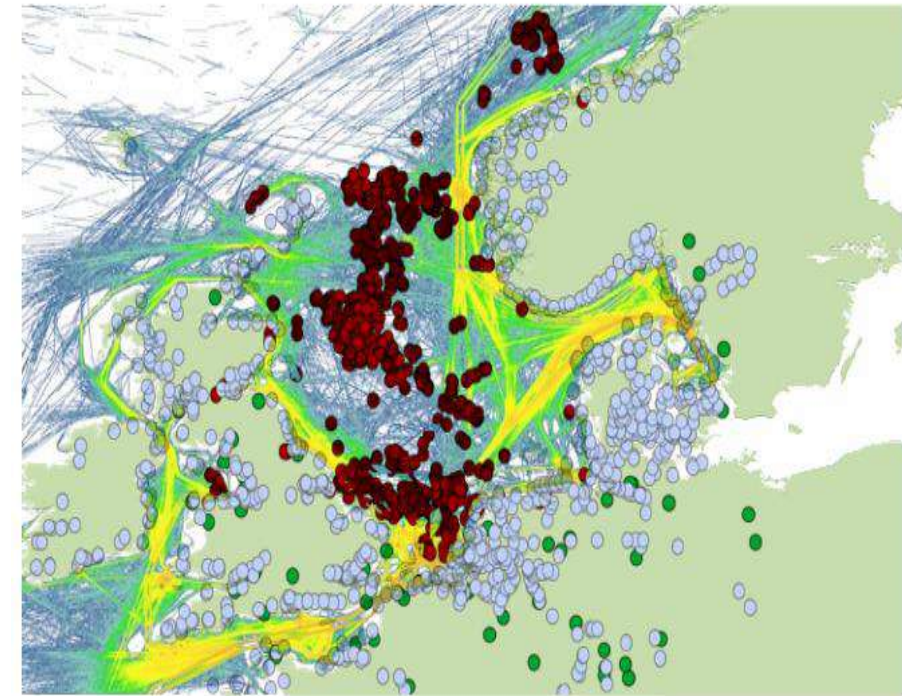
- sets out OSPAR's strategic and operational objectives for the period 2020 - 2030
- describes how OSPAR will tackle the triple challenge facing the ocean: biodiversity loss, pollution, and climate change
- Implementation will address the issues highlighted in the QSR 2023



Example of NEAES: OSPAR benthic shelf habitats action plan

- **Aim** – Recommend actions to improve status & reduce impacts
- **Overall conclusion of the QSR**
 - Some improvement but overall benthic habitats continue to be damaged, pressures are increasing
 - Current measures not sufficient to solve the challenge
- **Initial review of existing actions related to benthic habitats:**
 - Zostera habitat restoration
 - Regional approach for nutrient sequestration (NbS)
 - Pilot -Ecosystem based management on windfarm developments and co-location
 - Tasks related to impacts on sub-sea cables, dredge material guidelines

The North Sea is one of the most frequently traversed sea areas of the world with two of the world's largest ports situated on its coasts, Rotterdam and Hamburg.



● LOCATION OF NUCLEAR FACILITIES
● OFFSHORE INSTALLATIONS
■ VESSEL DENSITY
○ LOCATION OF PORTS

National work areas

- UK Marine Strategy 2024
 - Use the OSPAR Quality Status Reports (QSR) and DAPSIR evidence alongside national indicators to measure progress towards achieving Good Environmental Status
- Other national strategies and plans, such as:
 - Environmental Improvement Plan, Biodiversity Strategies, Species conservation plans, etc
- Research projects to address data and knowledge gaps, e.g. SMMR funding





Thank you



Acknowledgements (UK leads only):

Nikki Taylor (JNCC), Roma Banga (JNCC), Debbie Russell (SMRU), Matt Parsons (JNCC), Matt Holland (Plymouth University), Abigail McQuatters-Gollop (Plymouth University), Christopher Lynam (Cefas), Robert Thorpe (Cefas), Stefano Marra (JNCC), Liam Matear, Kirsty Woodcock (JNCC), Stephen Duncombe-Smith (JNCC), Adam Smith (JNCC)

JNCC Marine Ecosystem and Species Teams

OSPAR Expert biodiversity groups members and
OSPAR indicator leads

HBDSEG expert subgroups

Together for Nature



nature, people
and the planet.

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Session Four Evidence Assessment Into Action

Bob Earll

Reporting annual change on a
regional scale and building social
capital

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Reporting Annual Change

On a Regional Scale

Building Social Capital - Communities & Relationships



Bob Earll



Why Annual Reporting?

Because:

- We can't wait for 5-6 years to know what is going on
- We can ... and often do ...
- Beyond Interested => Concerned
- We want early warnings
- We are happy and keen to share our work widely
- We want to act in a timely way
- New discoveries are made and technologies are applied

South West Marine Ecosystems

Communicating the State of the South-West's Seas



SWME Thematic Topics

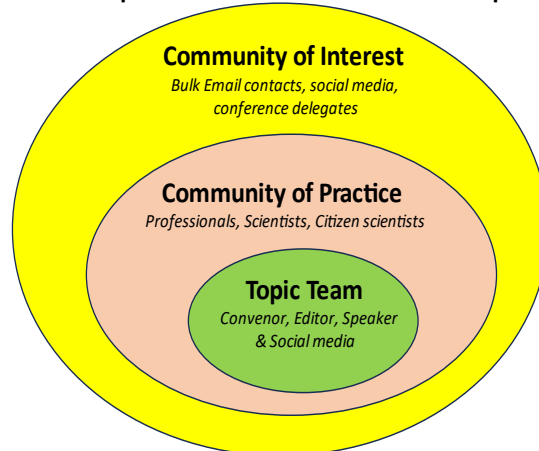
Natural Systems

Oceanography Plankton Seabed and seashore Fish and turtles Sea birds Seals Cetaceans

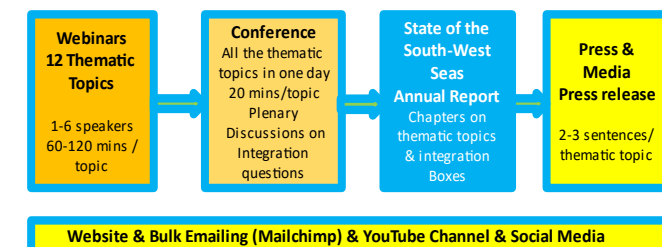
Management Systems

Marine Spatial Planning Development Marine Protected Areas Fisheries Water Quality Plastic pollution and litter

Social Capital – Communities – Thematic Topics

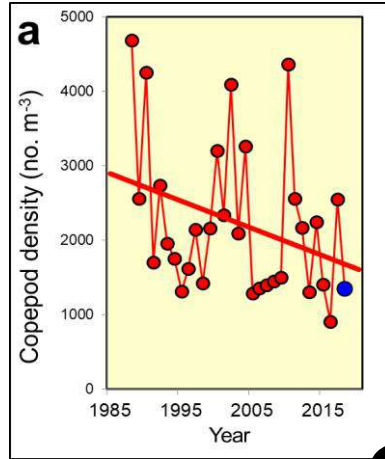


Communication Programme & Platform



Thematic Topics - South-West Change

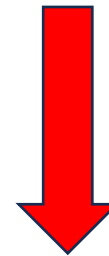
Plankton - New Normals



MPA Benefits - Lobsters



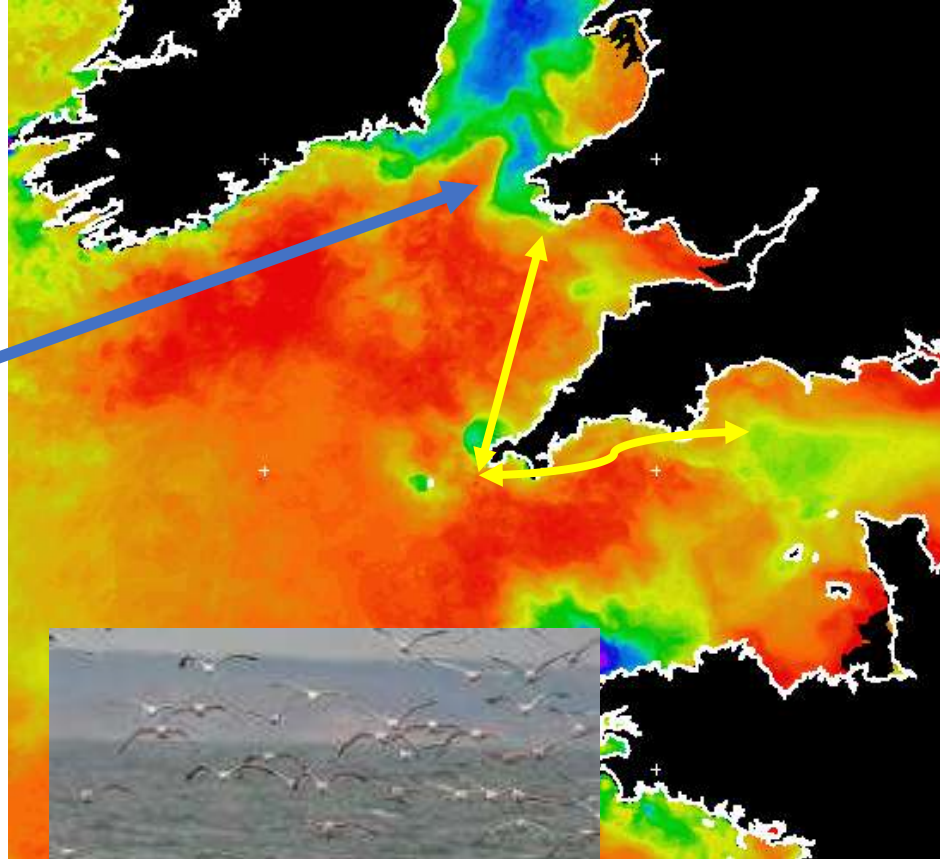
Good News AND Bad News



Offshore wind – Coming soon



REGIONS – Natural Systems and Governance Boundaries



Why Report at a Regional Level?

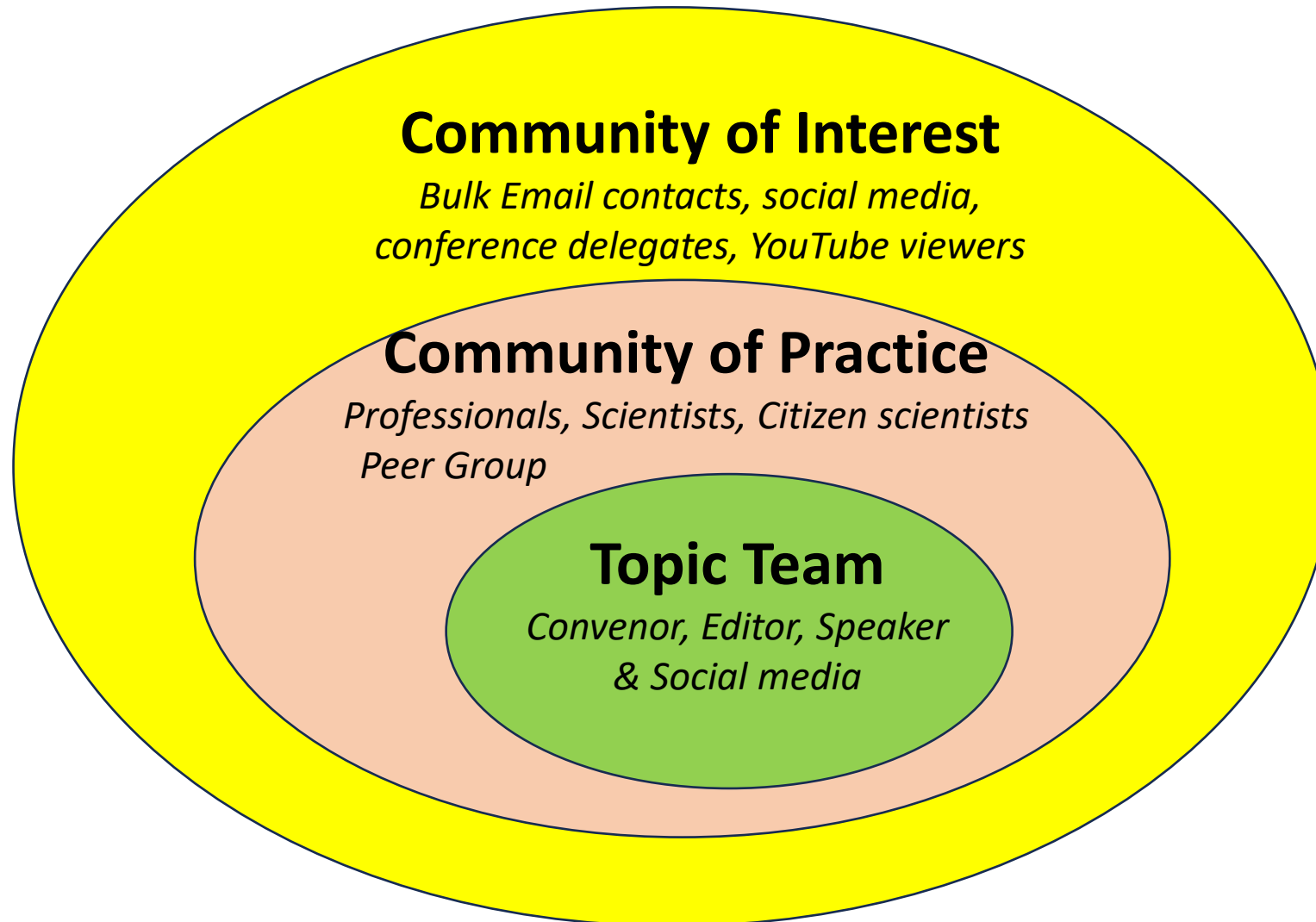
A real problem of translating current status reporting at European/national to a regional ('local') scale

Not least in terms of action

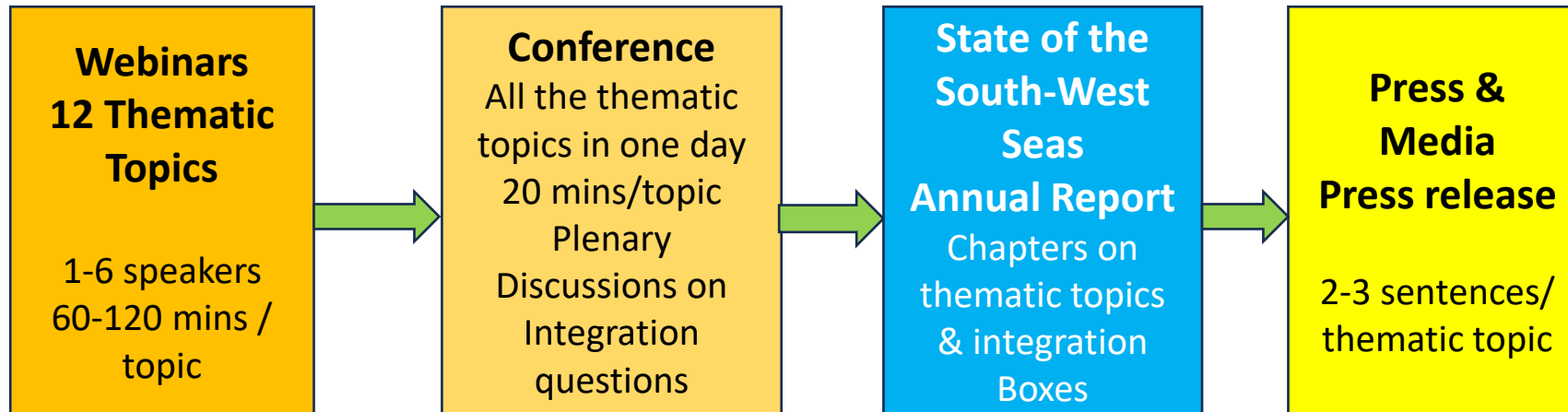
MOST of the people who take action operate at a regional or local level

Regional reporting & communicating engages policy, managers, scientists and citizen scientists

Social Capital – Communities – Topic Teams

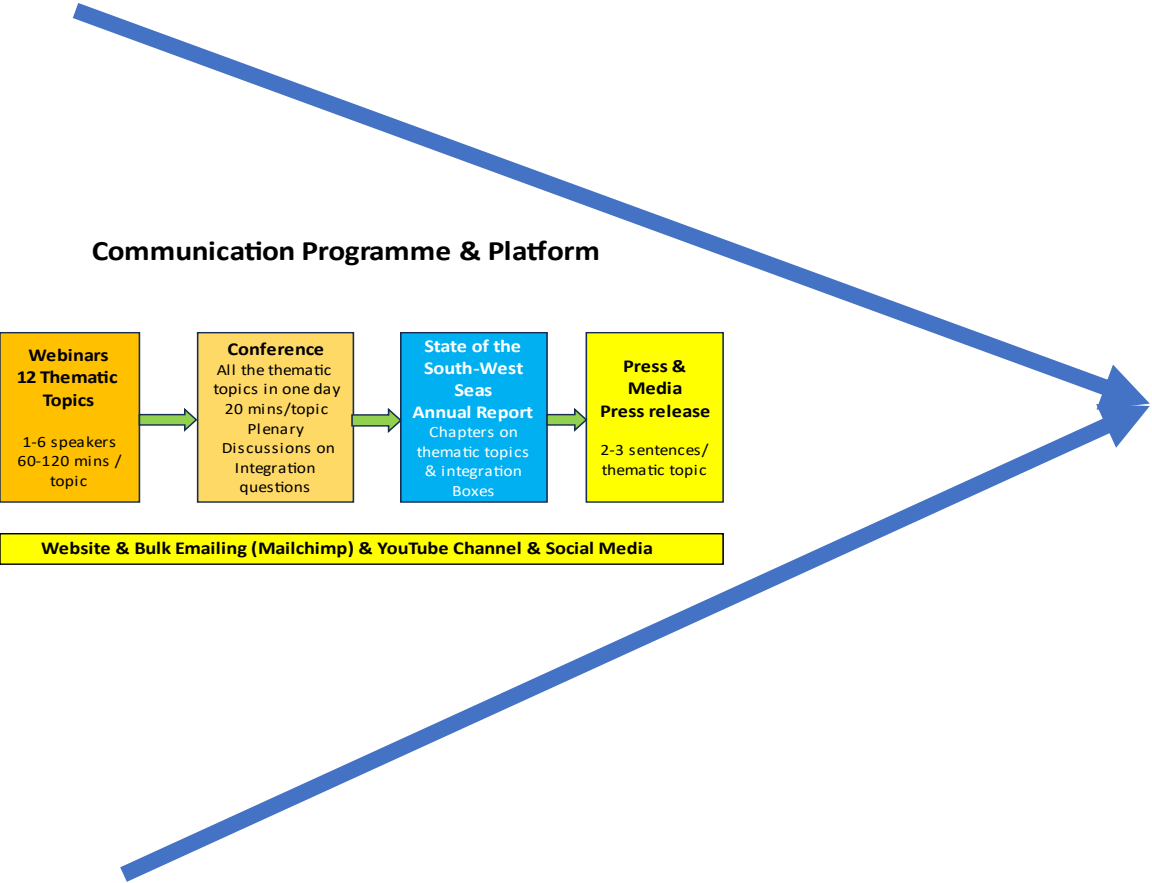


Communication Programme & Platform - SWME



Infrastructure: Website & Bulk Emailing (Mailchimp) & YouTube Channel & Social Media

REPORTING Indicators – Condensing information



Indicators



East Marine Ecosystems

Reporting Annual Change in the
East Region & Building Social Capital



**If you are currently working on any of the thematic groups
highlighted earlier**

In the EAST MMO region

**And would like to join communities of practice being developed
for the EASTME region**

Let me know Bob Earll bob@bobearll.co.uk

To Recap: Annual Reporting at a Regional Scale

- We can report annually and often do
- And we can Communicate this widely, if we want
- To make sense at a regional level to encourage action
- Communities of practice will be key



Q&A

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Session Four

Evidence Assessment Into Action

Kayleigh Thomas, JNCC/Cefas

Assessing Litter in UK Seas

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Assessing Litter in UK Seas

JNCC: **Kayleigh Thomas**, Ellen Last, Sunita Brazil, Niki Clear & Jonny Savage

Cefas: Briony Silburn, Josie Russell & Jon Barry





Justin Hofman, Sealegacy

The problem

Marine litter is a global concern with implications for marine life, economics, and human health and wellbeing.

Agreements

The UK has committed to international and national agreements to reduce marine litter.



Target 14.1 to prevent and significantly reduce marine pollution including litter by 2025



Regional Action Plan to tackle litter



Goal on zero avoidable waste by 2050



Descriptor 10 describes GES for litter

Reporting

To monitor and assess marine litter, the UK uses the following indicators:

- Plastic particles in fulmar stomachs
- Beach litter
- Seafloor litter



Scoping projects

1. Potential use of seafloor imagery in monitoring and assessing marine litter



2. Scale and distribution of impacts associated with Abandoned, Lost or Discarded Fishing Gear (ALDFG)



Scoping projects

1. Potential use of seafloor imagery in monitoring and assessing marine litter



2. Scale and distribution of impacts associated with Abandoned, Lost or Discarded Fishing Gear (ALDFG)





Key questions

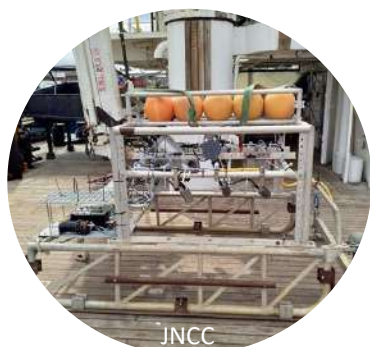
- How does litter density, type, and size differ between imagery data and trawls data?
- Could seafloor imagery offer an alternative or complementary solution to using trawl data for seafloor litter assessments?

Methods



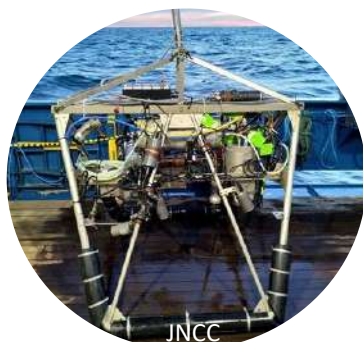
Trawl

ICES



JNCC

Sledge camera



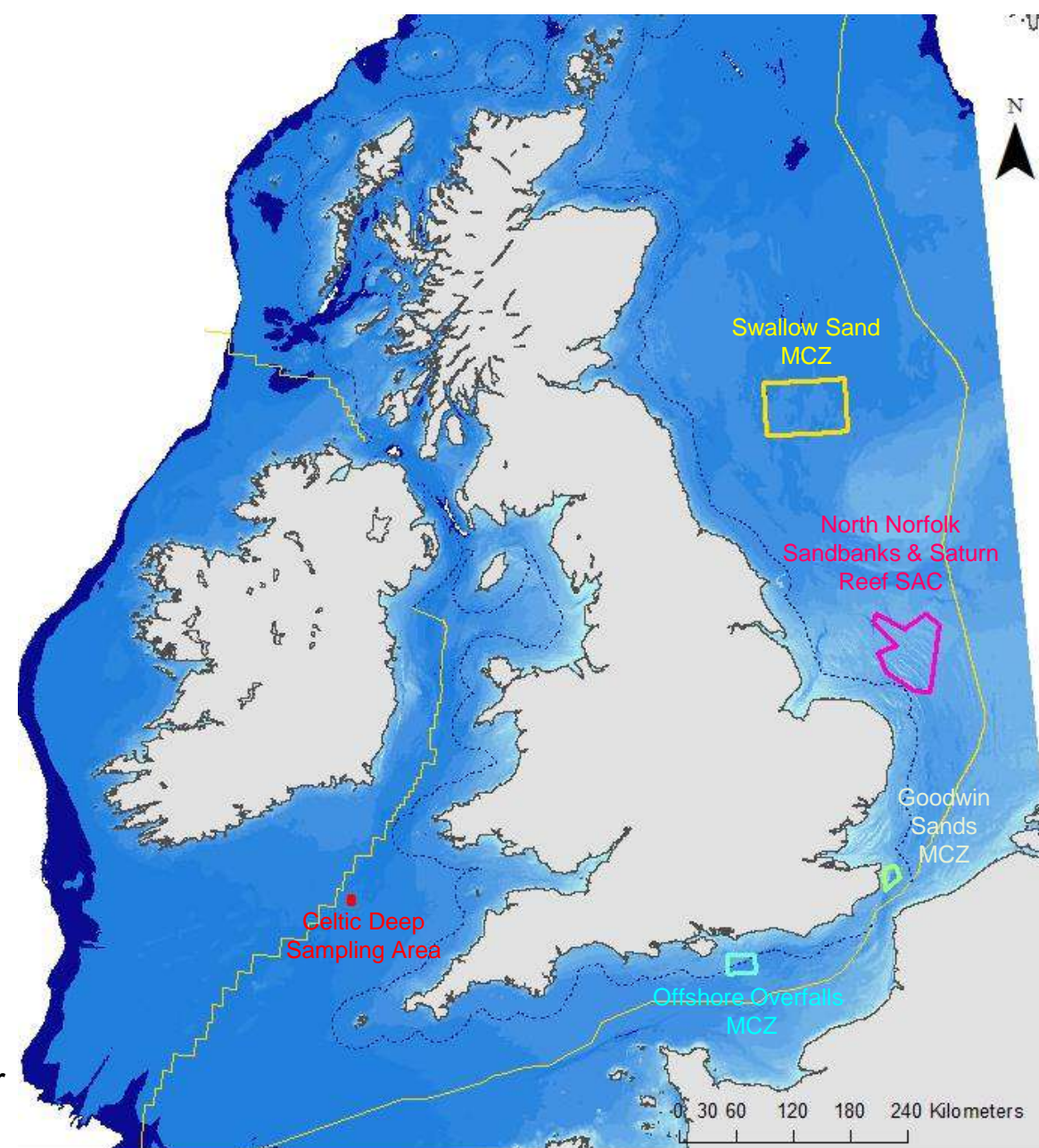
JNCC

Drop camera



NOC

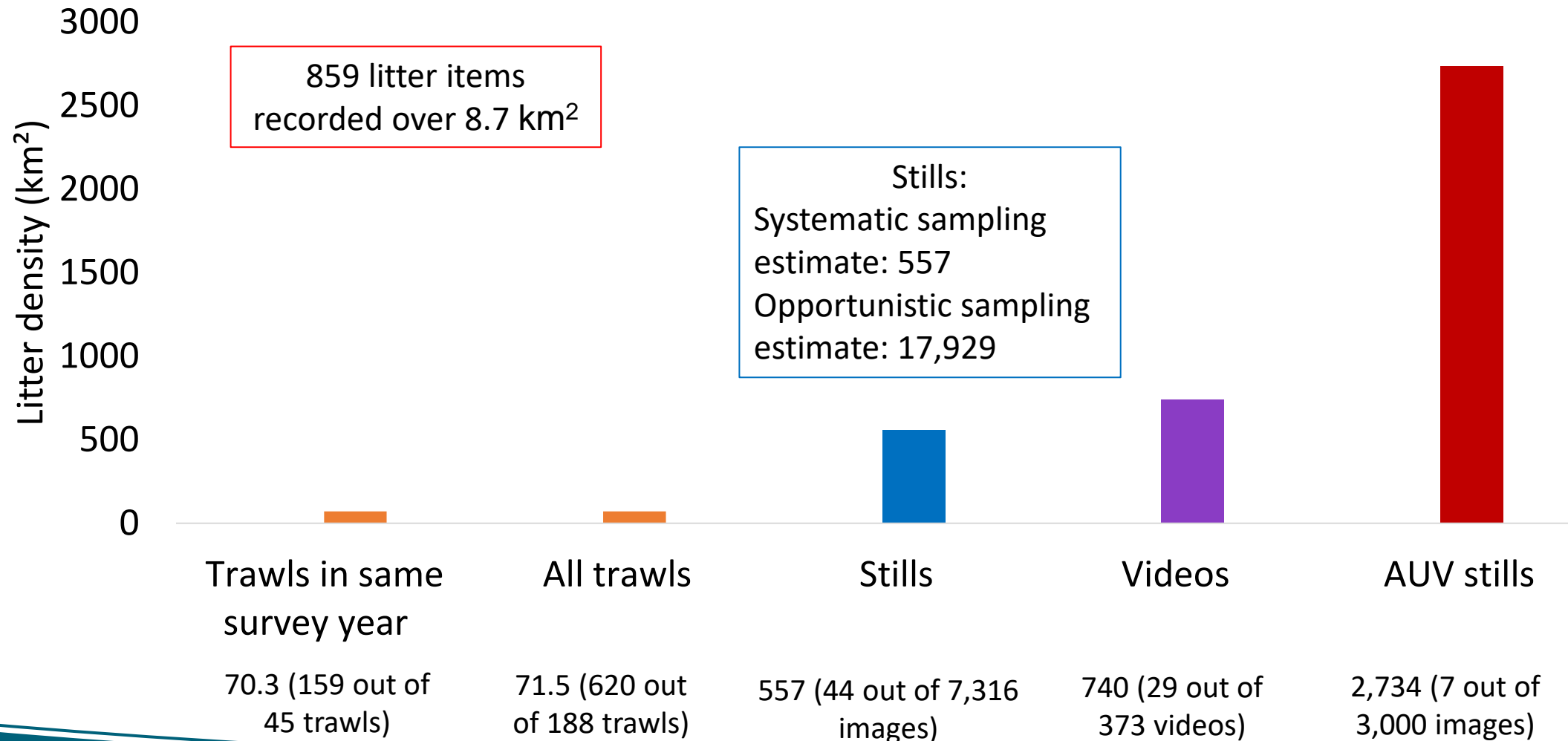
Autonomous Underwater Vehicle (AUV)





otos: Cefas/JNCC

Results: Litter density

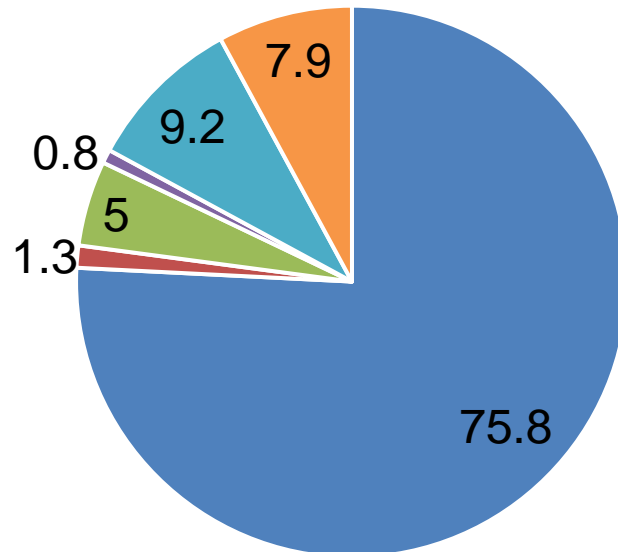


Results: Litter types

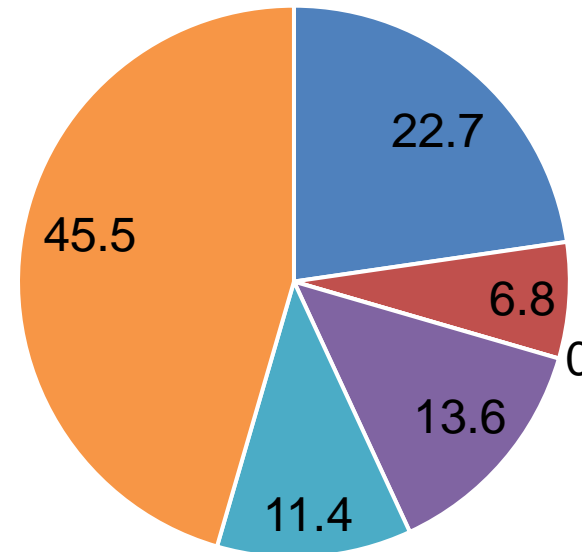
Litter types

- Plastic
- Metal
- Rubber
- Glass
- Natural
- Miscellaneous

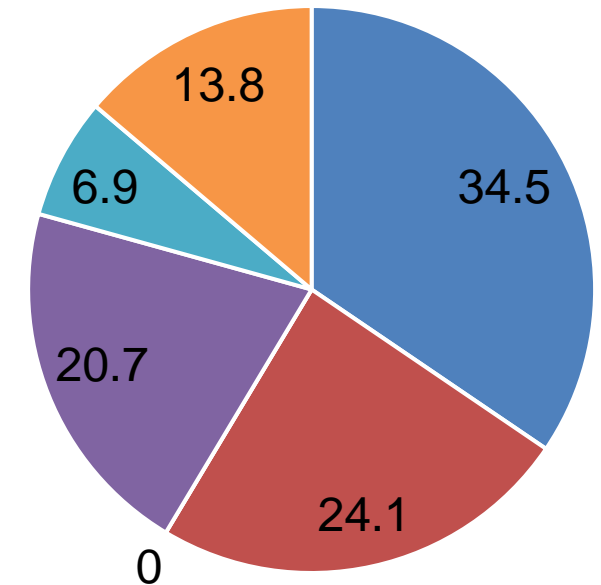
All trawls



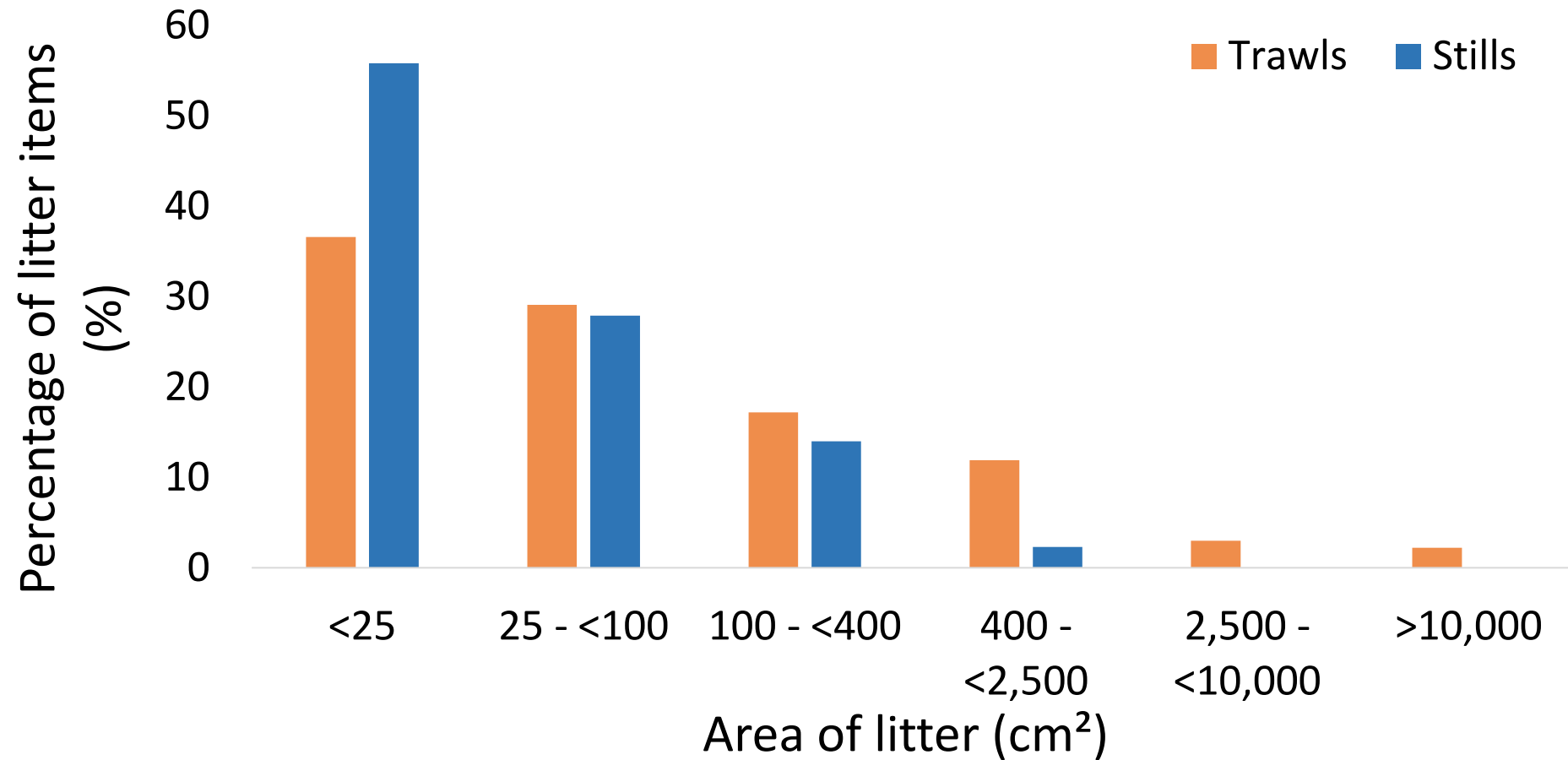
Stills



Videos



Results: Litter size



Key findings



- Current assessments likely underestimate the amount of litter on the seafloor
- Analysing imagery supports the 'collect once, use many times' principle
- Benthic imagery could fill evidence gaps, and improve reporting

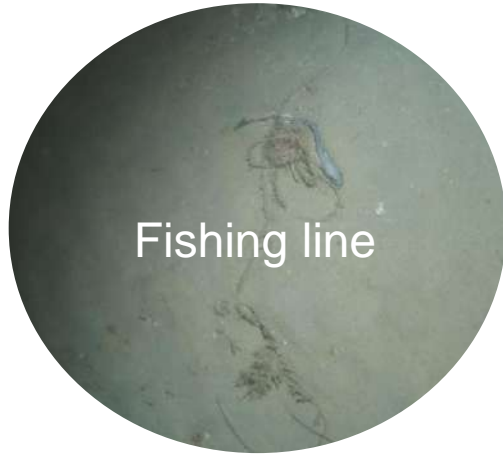
Scoping projects

1. Potential use of seafloor imagery in monitoring and assessing marine litter



2. Scale and distribution of impacts associated with Abandoned, Lost or Discarded Fishing Gear (ALDFG)





Key questions

- Where is Abandoned, Lost or Discarded Fishing Gear (ALDFG) found?
- What are the priority areas for action?
- What are the potential causes?

Methods

- Identified projects and collated data
- Mapped Abandoned, Lost or Discarded Fishing Gear (ALDFG) and potential causes



Historic England



Hebridean
Whale &
Dolphin
Trust



Cornwall
SEAL
Group
Research
Trust



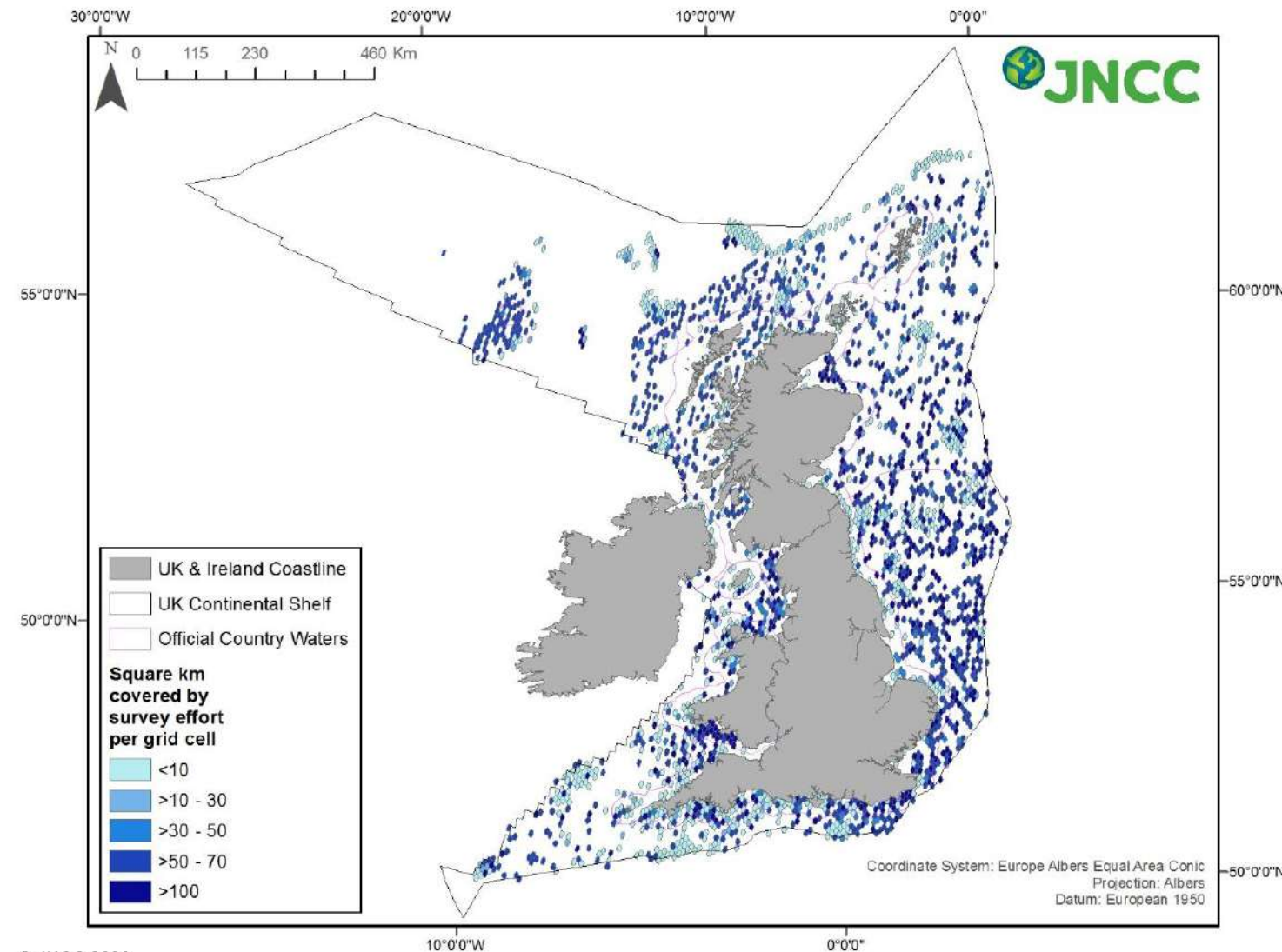
**MARINE
CONSERVATION
SOCIETY**

 **Cadw**

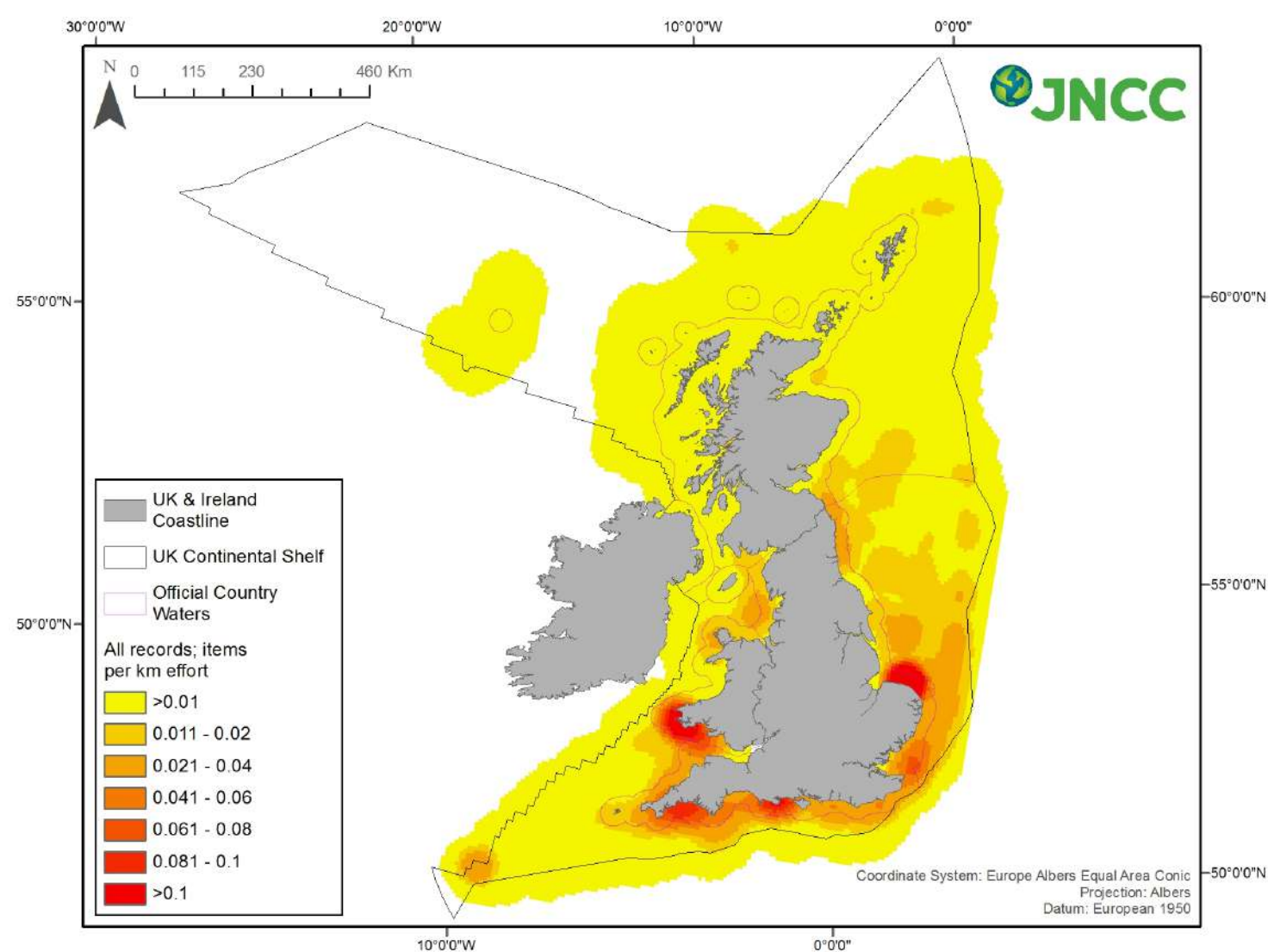


**NEPTUNE'S
ARMY OF
RUBBISH
CLEANERS**

Results: Survey effort



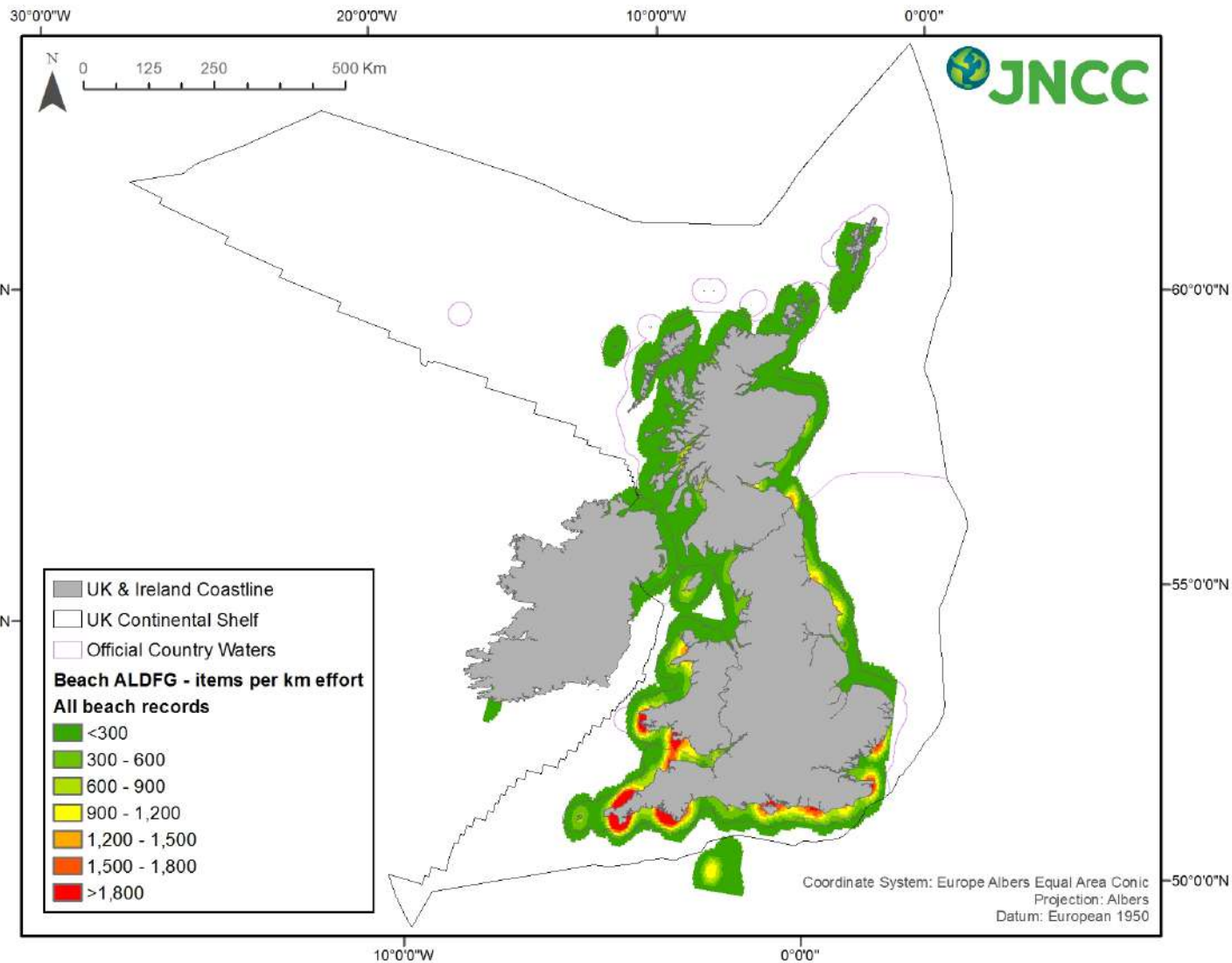
© JNCC 2022
UK Territorial Sea Limit. Contains UKHO data © Crown copyright. All rights reserved. The exact limits of the UK Continental shelf are set out in orders made under section 1 (7) of the Continental Shelf Act 1964 and on Continental Shelf (Designation of Areas) Order 2013. Combining source layers from UKHO.
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Results: Seafloor Abandoned, Lost or Discarded Fishing Gear (ALDFG)

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UK Territorial Sea Limit. Contains UKHO data © Crown copyright. All rights reserved. The exact limits of the UK Continental shelf are set out in orders made under section 1 (7) of the Continental Shelf Act 1964 and Continental Shelf (Designation of Areas) Order 2013. Combining source layers from UKHO.
© Crown copyright © JNCC. UK Exclusive Economic Zone © Crown copyright. The exact limits of the EEZ are set out in The Exclusive Economic Zone Order 2013. World Vector Shoreline © US Defence Mapping Agency. Not to be used for navigation.

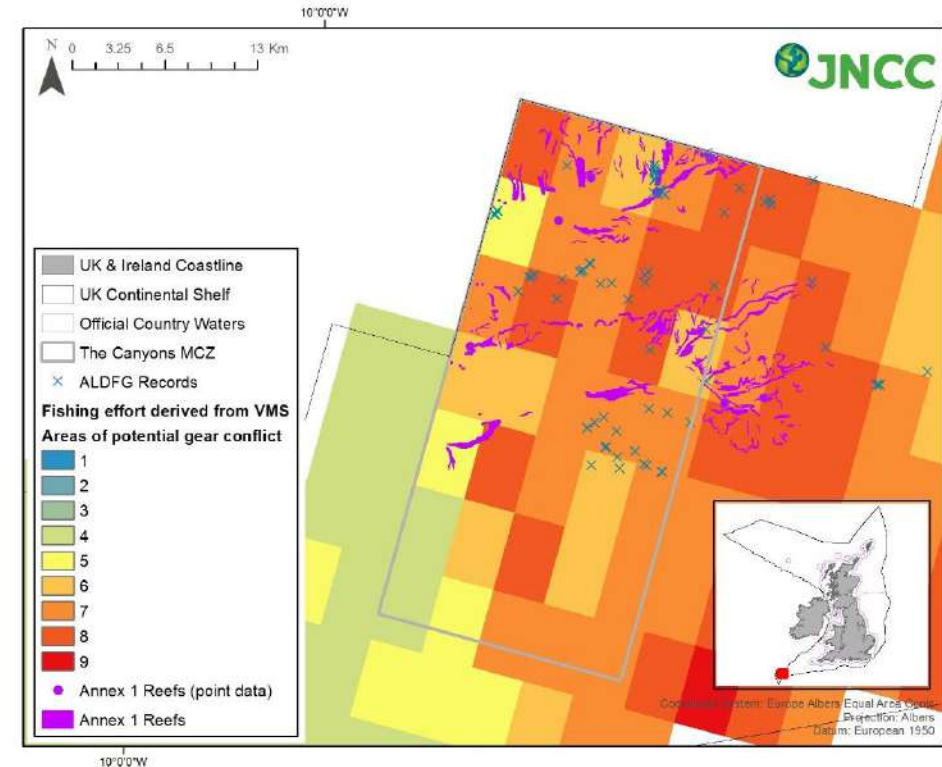


Results: Beach Abandoned, Lost or Discarded Fishing Gear (ALDFG)

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UK Territorial Sea Limit. Contains UKHO data © Crown copyright. All rights reserved. The exact limits of the UK Continental shelf are set out in orders made under section 1 (7) of the Continental Shelf Act 1964 and Continental Shelf (Designation of Areas) Order 2013. Combining source layers from UKHO.
© Crown copyright © JNCC.UK Exclusive Economic Zone © Crown copyright. The exact limits of the EEZ are set out in The Exclusive Economic Zone Order 2013. World Vector Shoreline © US Defence Mapping Agency. Not to be used for navigation.

Results: Possible causes

- Industry-related infrastructure associated with renewables and oil and gas
- Ship wrecks
- Potential fishing gear conflict
- Reefs



Results: Impacts



Spider crabs – 37% of entangled species dead in seafloor ALDFG



Pink sea fans – entangled in 32% of beach ALDFG



Mussels – entangled in 27% of beach ALDFG



Half of seal entanglements were associated with nets.



Marine litter status

The UK has not achieved GES for litter.

2023 OSPAR quality status report:

- Beach litter levels remain high
- Seafloor litter is widespread
- 51% of beached North Sea fulmars have > 0.1g of plastic in their stomachs

Evidence assessment into action

- As well as enhancing the evidence base to improve assessments and knowledge to inform **targeted action**,
- we also need to work together to develop **innovative solutions** to reduce litter entering the environment.



E.g. UK Circular Plastics Network
Please email:
denise.goldsmith@iuk.ktn-uk.org



Acknowledgements

These projects were funded by the Department for Environment Food and Rural Affairs (Defra), Marine and Fisheries Directorate, and commissioned by the Marine Biodiversity Impact Evidence Group (IEG).

Seafloor imagery project: James Albrecht, Jonny Savage, Graeme Duncan, Charlotte Reeve, Victoria Hope, Sam Matthews, Lucy Hirschle, Laura Dozier, Jenny Booth, and the National Oceanography Centre.

ALDFG project: Project Steering Group members (MMO, Association of the Inshore Fisheries and Conservation Agencies, Defra, Cefas, Natural Resources Wales, Daera, Natural England, Historic England, NatureScot and Marine Scotland), Hebridean Whale and Dolphin Trust, Global Ghost Gear Initiative, PADI Project AWARE (Dive Against Debris), Cetacean Strandings Investigation Programme, Fishing for Litter, Cornwall Wildlife Trust Marine Strandings Network / The Wildlife Trusts, British Divers Marine Life Rescue, Neptune's Army of Rubbish Cleaners, Cornwall Seal Group Research Trust, Marine Conservation Society, Waterhaul, Welsh Government, Cadw, Historic England, National Oceanography Centre, and all volunteers.





nature, people
and the planet.

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Session Four

Evidence Assessment Into Action

Dr Matt Frost, Chair, UK National Decade Committee/Plymouth Marine Laboratory

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- the UN Decade of Ocean Science and the
UK National Decade Committee

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Supporting Ocean Action at a global level - the UN Decade of Ocean Science and the UK National Decade Committee

Dr Matt Frost

Chair, UK National Decade Committee
Head of International Office, Plymouth Marine Laboratory

PML | Plymouth Marine
Laboratory

Coastal Futures, January, 2024



**2021
2030** United Nations Decade
of Ocean Science
for Sustainable Development



Ocean Decade UK

**2021
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of Ocean Science
for Sustainable Development

The Global Ocean

The Ocean and Cryosphere in a Changing Climate

This Summary for Policymakers was formally approved at the Second Joint Session of Working Groups I and II of the IPCC and accepted by the 51st Session of the IPCC, Principality of Monaco, 28th September 2019.

Summary for Policymakers

Climate Change 2022

Impacts, Adaptation and Vulnerability

The Second World Ocean Assessment

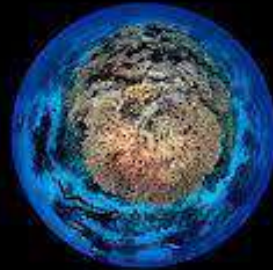
WORLD OCEAN ASSESSMENT II

Volume I

The Second World Ocean Assessment

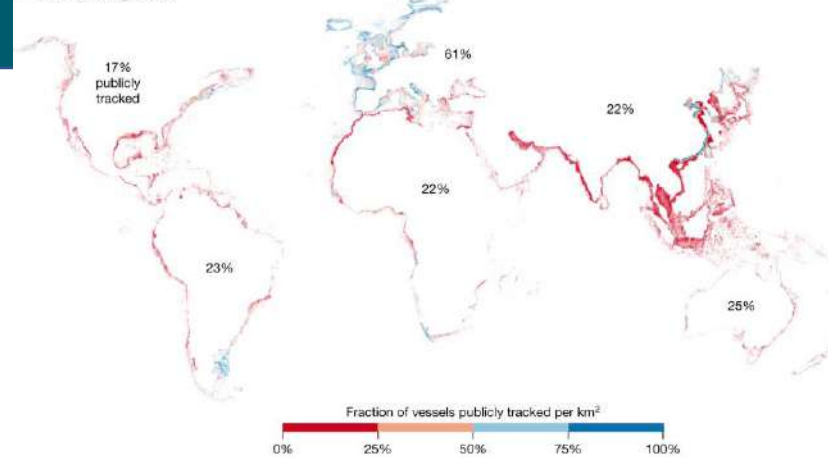
WORLD OCEAN ASSESSMENT II

Volume II

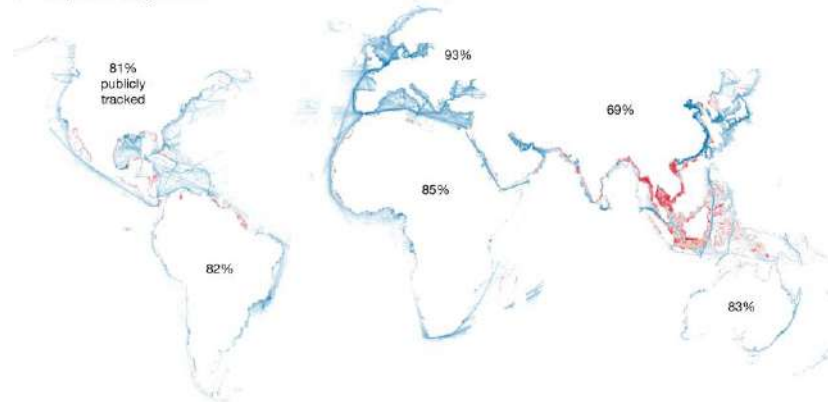


United Nations

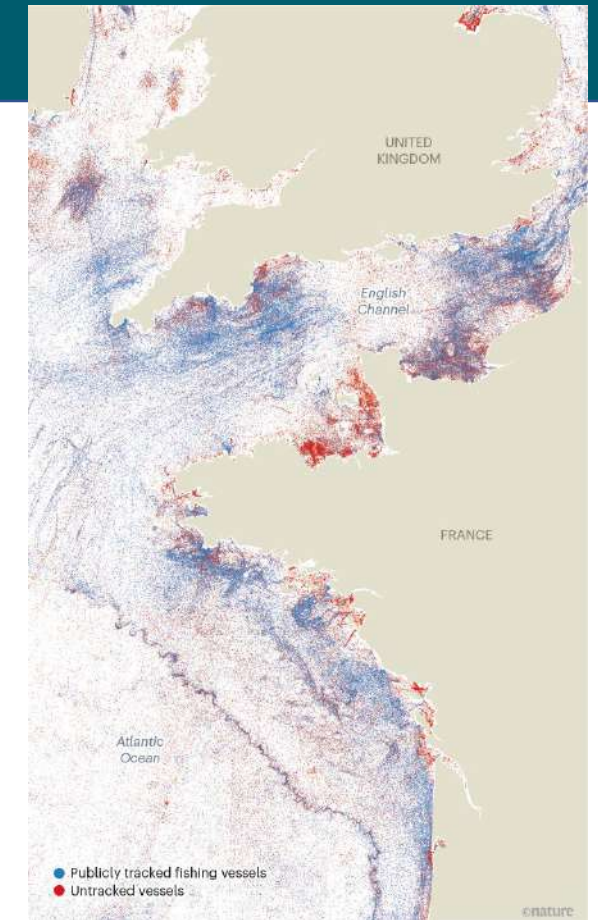
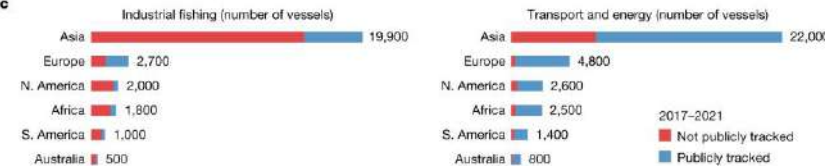
a Industrial fishing vessels



b Transport and energy vessels



c



Paolo, F., *et al.* Satellite mapping reveals extensive industrial activity at sea. *Nature* 625, 85–91 (2024).

<https://doi.org/10.1038/s41586-023-06825-8>



2021 United Nations Decade
of Ocean Science
for Sustainable Development

Sustainable Development Goal (SDG) 14



TARGET 14-1 REDUCE MARINE POLLUTION	TARGET 14-2 PROTECT AND RESTORE ECOSYSTEMS	TARGET 14-3 REDUCE OCEAN ACIDIFICATION	TARGET 14-4 SUSTAINABLE FISHING	TARGET 14-5 CONSERVE COASTAL AND MARINE AREAS
TARGET 14-6 END SUBSIDIES CONTRIBUTING TO OVERFISHING	TARGET 14-7 INCREASE THE ECONOMIC BENEFITS FROM SUSTAINABLE USE OF MARINE RESOURCES	TARGET 14-A INCREASE SCIENTIFIC KNOWLEDGE, RESEARCH AND TECHNOLOGY FOR OCEAN HEALTH	TARGET 14-B SUPPORT SMALL SCALE FISHERS	TARGET 14-C IMPLEMENT AND ENFORCE INTERNATIONAL SEA LAW

ECONOMIST IMPACT

ISSUES & INSIGHTS ▾EVENTSABOUT

World Ocean Initiative

THE OCEAN AND THE SUSTAINABLE DEVELOPMENT GOALS

The ocean flows through all 17 of the UN Sustainable Development Goals



Sustainable Development Goal	Ocean link
<u>GOAL 1: No Poverty</u>	The livelihoods of more than 3bn people depend on coastal and marine ecosystems, and the vast majority of those people live in developing economies
<u>GOAL 2: Zero Hunger</u>	“Blue foods” from the ocean are a primary source of protein for around 3bn people. The global consumption of blue foods—barring algae—is five times more than it was nearly 60 years ago
<u>GOAL 3: Good Health and Well-being</u>	Half the oxygen we breathe is produced by microorganisms in the ocean, blue foods provide protein to billions, the ocean regulates freshwater cycles (providing us with drinking water) and simply having an ocean view is linked to mental well-being.



2021
2030

<https://impact.economist.com/ocean/ocean-sustainable-development-goals/>

United Nations Decade
of Ocean Science
for Sustainable Development

THE OCEAN DECADE

VISION: THE SCIENCE WE NEED FOR THE OCEAN WE WANT.

Mission: Transformative ocean science solutions for sustainable development, connecting people and our ocean

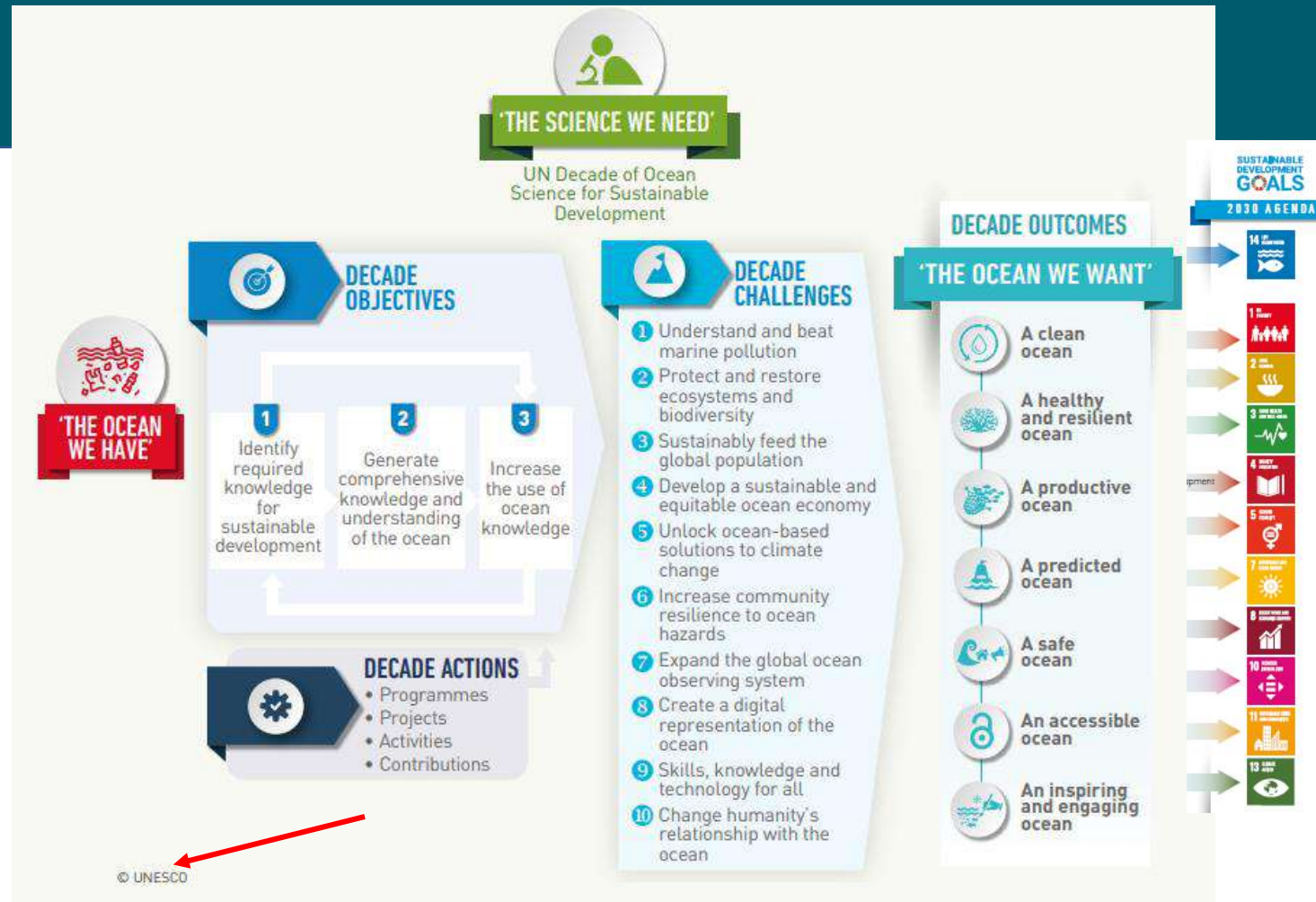
10 Years.
10 Challenges.
1 Ocean.

Programs: span decade; large scale, multi-year, (typically) multi-country initiatives made up of different projects, activities and contributions

Projects: shorter (2-3 years) more focused; typically (not always), part of a Program

Activities: one-off events (e.g., event, publication, exhibition, workshop, conference or training opportunity)

Contributions: in-kind or financial



National Decade Committees: Ocean Decade UK

- ❖ Voluntary, inclusive, multi-stakeholder groups set up to coordinate, support & increase a country's participation in the Decade (37+ country NDCs)
- ❖ Act as national focal points global Ocean Decade & national stakeholders
- ❖ Provides support for engagement:



Submit a Decade Activity

Submit ideas anytime; one-off events/initiatives; typically highly accessible



Decade Actions: Lead or participate

Calls open every 6 months: call for Decade Actions No. 06/2023 now open



Join a Community Of Practice*

Work together on similar topics/geographies to co-design solutions, share best practices, resource mobilisation, etc.

Join an informal working group

Informal working groups composed of a range of stakeholders with expertise relevant to OD Challenges



Be an Ocean Decade 'expert'

Help shape the Decade with input to strategy/target setting and review processes



Unlock opportunities

Engage with the Ocean Decade and partners through employment opportunities



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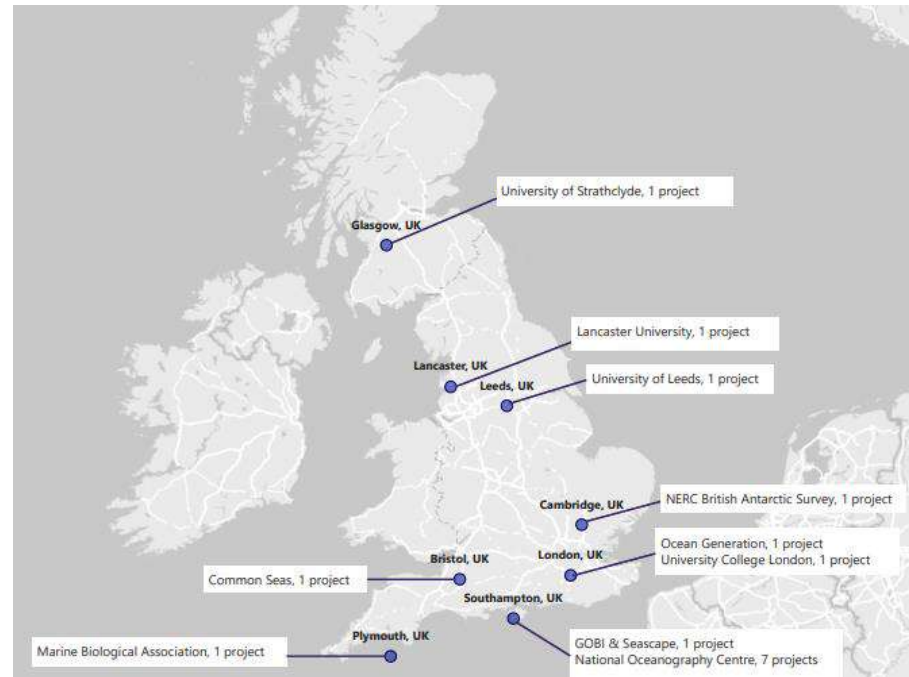
Ocean Decade UK
2021
2030 United Nations Decade of Ocean Science for Sustainable Development

National Decade Committees: Ocean Decade UK

Defra led Decade Mapping for UK NDC (still in progress)



UK-led **Decade Programmes** -
Institutes



16 UK-Led **Decade Projects** carried
out across 11 UK institutes



11 UK-Led **Decade Contributions**
(inc. **OSPAR**) carried out across 10
UK institutes.



2021 United Nations Decade
of Ocean Science
2030 for Sustainable Development



Ocean Decade UK
2021 United Nations Decade
of Ocean Science
2030 for Sustainable Development

See <https://uk-ndc.org/> for further details

Why engage (seek endorsement)?

- **Recognition:** initiative is part of a **collective, global effort** to fulfil the **Ocean Decade vision**
- **High visibility:** use of UN logo and **publicity** through Ocean Decade social media channels / website, & **visibility** in the Ocean Decade community
- **Increased collaboration:** opportunities for **new participation & partnerships** across disciplines, geographies & generations
- **Opportunity:** create **new connections** & access **new sources of support**
- **Support the Ocean Decade vision:** we need to collaborate globally & across **sectors and disciplines** in order to deliver “The Science We Need For The Ocean We Want”.



2021 United Nations Decade
2030 of Ocean Science
for Sustainable Development



2021 United Nations Decade
2030 of Ocean Science
for Sustainable Development

OCEAN DECADE UK



To find out more or connect with a UK NDC member, please visit the UK NDC website at: <https://uk-ndc.org/>

UK NDC Chair: Matt Frost
mafr@pml.ac.uk

UK NDC secretariat:
ndc.secretariat@cefas.gov.uk



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Session Four Evidence Assessment Into Action

Caroline Carr, Clean Humber

Pollution Challenges and Blue Sky
Thinking for Change - What if we
cared about the sea?

24th & 25th January, 2024

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CLEAN Humber

Pollution Challenges and Blue Sky Thinking for Change



Caroline Carr

E: cleanhumber@gmail.com

M: 07775596160

If we cared about our sea...





Cut the Crap!

What are the pollution challenges for our seas?

Cut the Crap!

What are the pollution challenges for our seas?



#1168172

Cut the Crap!

What are the pollution challenges for our seas?

- Sewage overfills
- not only sewage from treatments
- Containments from land



#1168172





Pollution Challenges

Dear Anglian Water, please tell us if the sewage overspills that pollute Cleethorpes Beach will stop so we can enjoy swimming in our sea, delivering paddle boarding coaching and beach schools again in 2024. In 2023 there has been sewage overspills consistently after every rain fall when the tide is high. This week waste sanitary products and used wet wipes on our beautiful beach. Last month you sent an engineer to fix the problem.. ...when it appears unfixable I don't know? ...

EA Data for Cleethorpes Beach



GOOD!!

If not

EXCELLENT!

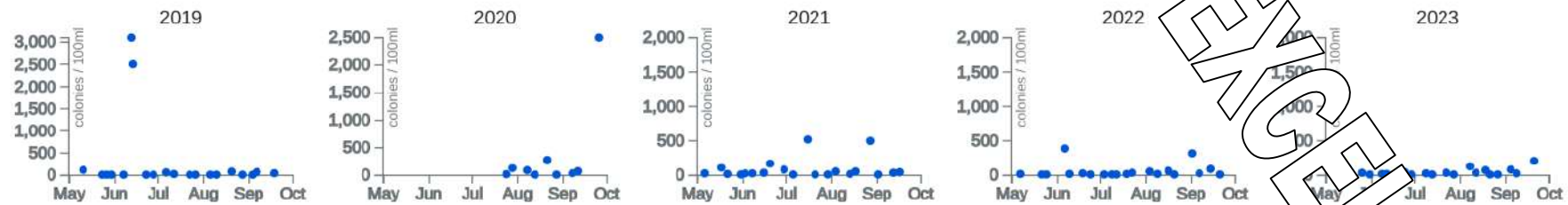


EA Data for Cleethorpes Beach

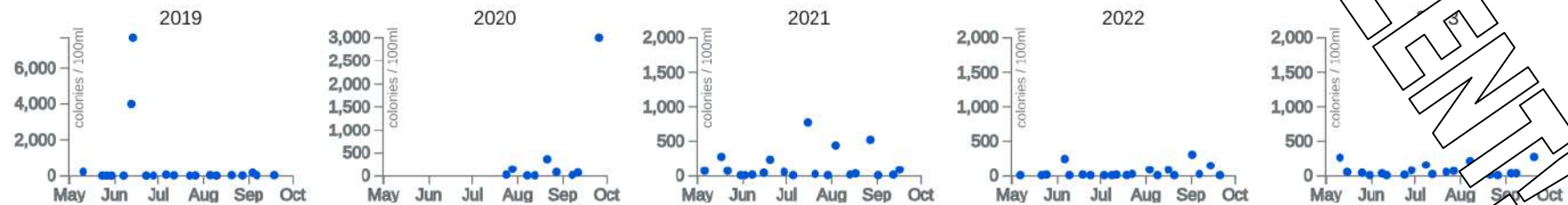
Water quality sample results

See the [help page](#) for additional information on interpreting these charts.

Intestinal Enterococci (IE)



Escherichia coli (EC)



Blue SEA Thinking

BUT!!



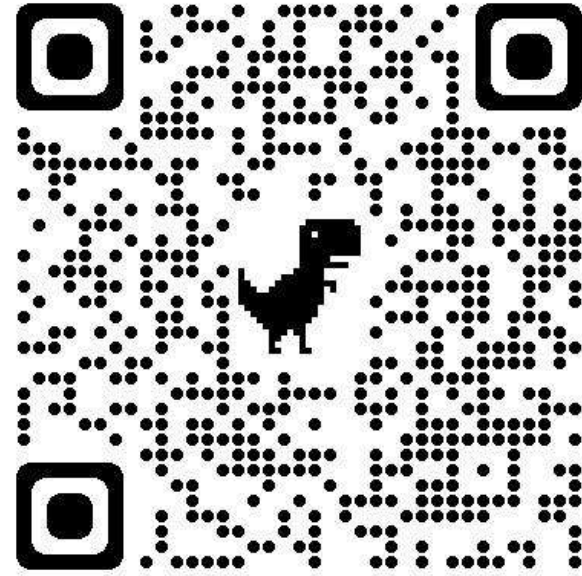
Poor/Good/ Sewage???? Which one??



Sewage Pollution Alert



Pollution Risk Forecast or
Incident Alert

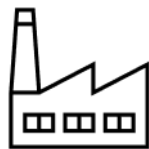


Surfers Against Surfers interactive map shows Cleethorpes beach as having poor water quality every single month

Blue SEA Thinking



WATCH !!! <https://youtu.be/k2Boo-yeYYY?si=3B-hdAZin9U0HuUS&t=7>



**Wilder
Humber**



Orsted



Blue SEA Thinking

Ørsted has teamed up with Yorkshire Wildlife Trust and Lincolnshire Wildlife Trust to restore seagrass and salt marsh and introduce half a million native oysters to improve the health and resilience of the estuary's ecosystem.

WATCH !!! <https://youtu.be/2LprF8i5vhc>



**Wilder
Humber**



Ørsted



Blue SEA Action

Anglian Water:

- have stated that sewage spills need to stop
- have updated their EDM monitoring system to generate real time reporting – launching at the end of January
- committed to upgrading all CSO's within 1km of any bathing water as a priority (and beyond) by 2027
- aim to reduce sewage spills to not exceed a max of 10 / year



Blue SEA Action

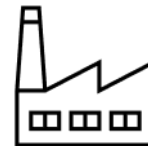
well land...!!!



Operation Clearwater Sewage upgrade in the 1990s that covered Gy & Clee



- Catchments based approaches to reduce spill numbers
- Grey waste water separated out from sewage
- Rainwater systems that are separate for sewage systems
- Rat cameras!



My Dream

- A system that cuts the crap and enables me to trust the data alerts
- Coordination between SAS, EA and Water companies to ensure Beach Aware Scheme has a public facing platform that informs accurately the pollution picture.
- Pollution Forecasts to be colour coded NOT red. If we have no actual data that a pollution event has happened then symbols that reflect it's a prediction and not sewage
- Sewage less seas!

CLEAN Humber

Thank you

Jason Carlise Artist

w: jasoncarlise.co.uk

Chris Frear

w: <https://www.chrisfrear.co.uk/index>

Maria Fearn

www.facebook.com/FearnbyDesign

Rupert Collins

www.facebook.com/rupert.collins.73

#thisplaceofours #CLEANHumber #lovetitties #lovehumber
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#tittiesheritage



CLEAN Humber

Caroline Carr

E: cleanhumber@gmail.com

M: 07775596160

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#fittiesheritage





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Session Four Panel Debate

Evidence Assessment Into Action

In response to the latest evidence and assessments, how will we drive action?

Chair: Dave Stone, JNCC

Dominic Pattinson, OSPAR

Christina Herbon, JNCC

Bob Earll

Kayleigh Thomas, JNCC/Cefas

Dr Matt Frost, UK National Decade Committee/Plymouth Marine Laboratory

Caroline Carr, Clean Humber



Q&A

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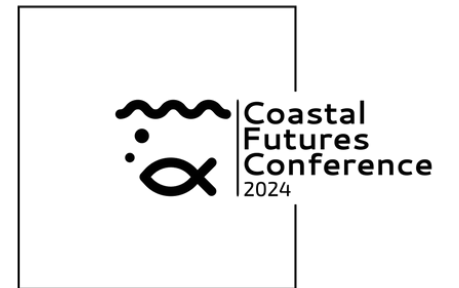


#CoastalFutures24



Refreshments

11:00 – 12:30



24th & 25th January, 2024

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