

**Coastal Futures & WWF-UK and Sky Ocean Rescue &
Restoring Estuarine and Coastal Habitats (REACH)**

Ocean Recovery

An Online Conference January 19-21, 2021

Speaker Notes

With thanks to our Sponsors:



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Programme

January 19th 2021 (Day 1)

9.30 - 9.55 **Keynote 1 A Vision for UK Seas** **Rebecca Pow, Ministerial Presentation, Defra**
Parliamentary Under Secretary of State for the Environment

Format: Presentation 15 mins & Q&A Chair: **Craig Bennett**, CEO The Wildlife Trusts

Moderator: **Donal Griffin**

10.00 - 11.05 **Session 1 Coasts: Governance & Environment** Chair: **Amy Pryor**, TEP & Coastal
Partnerships Network

Moderator: **Kayleigh Daniels**

Format: 4 x 10 minute presentations & Q&A

Driving coastal policy and recovery – the Year of the coast **Mike Hill, MP**

Chair of the Coastal All Party Parliamentary Group

Learning from the Marine Pioneer

Aisling Lannin, MMO

The Coastal Based Approach (CoBA) – collaborative partnerships to drive recovery **Natasha Bradshaw,**

UWE, Bristol

Restoring the ocean to health – priorities and new opportunities **David Tudor**, Blue Marine Foundation

11.15 - 12.30 **Session 2 Youth Voices for the Ocean - What can we learn from the next generation**

The crises in climate and nature have energised youth voices globally – Greta Thunberg spars on Twitter with POTUS, millions worldwide are marching for climate justice and a generation of empowered, socially and environmentally aware young people are calling for and taking action in defending the world they stand to inherit. This session offers a platform for youth voices in ocean conservation to share their work, their hopes and their call for a greater part in how we stand to tackle the challenges of climate change, biodiversity loss and ensuring a socially just and sustainable future for all.

Chair: **Sean Clement**, Marine Policy Officer, WWF-UK

Moderator: **Emily Bunce**

- **Finlay Pringle** - Ullapool Shark Ambassador & Climate Activist
- **Mhairi McCann** - Founder and CEO, Youth STEM 2030
- **Eimear Stephenson**

Lunch Break

13.00 - 14.10 **Session 3 Coastal Adaptation & the Climate Emergency** Chair: **Bill Parker**, Coastal
Management Champion

Moderator: **Casey Snook**

Format: 3 x 15 minute presentations & Q&A

Coastal Resilience and the National Flood and Coastal Erosion Risk Management Strategy

Catherine Wright & Mark Garratt, Environment Agency

The LGA Coastal Special Interest Groups work on Coastal Adaptation and Transition

Emily Cunningham, Lead Officer, Local Government Association

Coastal Special Interest Group, c/o South Tyneside Council

Managed Realignment the next 10 years: ambitions and multiple benefits **Colin Scott**, ABPmer

14.30 - 15.40 **Session 4 Coastal Restoration & Recovery at Scale** Chair: **Roger Proudfoot**,
Environment Agency

Moderator: **Lucy Capron**

Format: 3 x 15 minute presentations & Q&A

A systems approach to restoration, the Scheldt estuary as a case study **Patrick Meire**,
University of Antwerp

From optimisation to operational: planning oyster restoration at scale **Dr Bill Sanderson**,
Heriot Watt University

Design & development of the RSPB's Wallasea Island Wild Coast Project **Malcolm Ausden**, RSPB

15.50 - 17.00 **Session 5 Finding Funds** Chair: **Andrew Sissons**, Deputy Director for
Innovative Funding and Finance, Environment Agency

Moderator: **Todd Last**

Format: 3 x 10 minute presentations & Q&A

Funding Collaboration **Louisa Hooper**, Calouste Gulbenkian Foundation

The Blue Impact Fund & Ocean Recovery Trust **Sean Clement** WWF & **Alicia Gibson**, Finance Earth

The Scottish Marine Environmental Enhancement Fund (SMEEF) **Sarah Brown**, SMEEF Project Manager
NatureScot

17.10 - 17.40 **Keynote 2 UN Decade of Ecosystem Restoration** **Leticia Carvalho**,
United Nations, Coordinator Marine and Freshwater Branch, Ecosystems Division

Format: Presentation 15 mins & Q&A Chair: **Roger Proudfoot**, Environment Agency

Moderator: **Maddy Gee**

January 20th 2021 (Day 2)

9.30 - 9.55 **Keynote 3 The ocean climate nexus and nature based solutions - Dan Laffoley**,
Marine Vice Chair of The World Commission on Protected Areas, IUCN

Format: Presentation 15 mins & Q&A Chair: **Chris Tuckett**, Marine Conservation Society

Moderator: **Eleanor Snape**

10.00 - 11.10 **Session 6 Nature Based Solutions & Blue Carbon** Chair: **Simon Walmsley**, WWF-UK

Moderator: **James Harris**

Format – 4 x 10 mins & discussion

UK Government: Ocean & Climate

Stephanie Ockenden, Defra

Coastal Wetlands and Nationally Determined Contributions **Thomas Hickey**, The Pew Charitable Trusts

Carbon Storage in Intertidal Environments (C-SIDE) **Professor William Austin**, University of St Andrews

& **Catriona Jeorrett**, Marine Scotland

The carbon sink potential of the Welsh marine environment **Siobhan Vye**, Natural Resources Wales

11.20 - 12.30 **Session 7 Climate Mitigation – Offshore Wind** Chair: **Olivia Thomas**, The Crown Estate

Moderator: **Kayleigh Daniels**

Format: 4 x 10 minute presentations & Q&A

Developing offshore wind – The Crown Estate perspective

Mandy King, Programme Manager for the
Offshore Wind Evidence and Change Programme, The Crown Estate

A developers perspective

Madeline Hodge Orsted

The eNGO perspective of offshore wind development

Tania Davey, The Wildlife Trusts
& **Helen Quale**, RSPB

Is the Right to Fish an insuperable barrier to ocean recovery in offshore wind farms? **Tom Appleby**,

Blue Marine Foundation & University of the West of England

Lunch break

13.00 - 14.10 **Session 8 Valuing Our Marine Environment** Chair: **Emma McKinley**, Cardiff University
& Marine Social Sciences Network

Moderator: **Eleanor Snape**

Format: 4 x 10 mins presentations & Q&A

Dasgupta Review on the Economics of Biodiversity

Rebecca Nohl, Review Team

What is the value of recovered UK Seas?

Sean Clement, WWF

People and the ocean: the rise of behavioural insights

Chris Leakey, People Ocean Planet (MASTS) &
Nicola Bridge, Ocean Conservation Trust

What impact does marine valuation have?

Melanie Austen, University of Plymouth

14.20 - 15.30 **Session 9 Ocean Recovery and Marine Management** Chair: **Steve Hull**, ABPmer

Moderator: **Brendon Queiroz**

Format: 4 x 10 minute presentations & Q&A

Data, thresholds and trends - the Marine Strategy

Colin Moffat, Scottish Government

A marine strategy that actions Ocean Recovery

Sarah Young, WWF-UK

Net Gain: Can it be applied sensibly in the coastal & marine environment:

outcomes of the SUDG conference	Peter Barham , Seabed Users Developers Group
An introduction to the Nature Recovery Network: links to the coast and marine	
	Chris Davis , Natural England

15.40 - 16.50 **Session 10 Restoration & Recovery – Practice & Delivery** Chair: **David Tudor**,
Blue Marine Foundation

Moderator: **Tom McAleese**

Format: 3 x 15 minute presentation and Q&A

ReMEDIES – Restoring and Protecting our Seabed **Fiona Crouch & Fiona McNie**, Natural England
Experimental saltmarsh restoration in Essex **Rachel Langley**, Essex Wildlife Trust
Beneficial use of dredged material – progress and challenges **Will Manning**, Cefas

17.00 - 17.30 **Keynote 4 Monty Halls – A Personal Perspective**

Format: Presentation 15 mins & Q&A Chair: **Sarah Young**, WWF-UK

January 21st 2021 (Day 3)

9.30 – 10.40 **Session 11 Reducing the impact of our activities: plastics & noise – what can we do to make a difference?** Chair: **Colin Moffat**, Chief Scientific Advisor Marine, Scottish Government

Moderator: **Becky Dodds**

Format: 4 x 10 minute presentations & Q&A

Building networks to stop plastic pollution at source **Jessica Hickie**, Environment Agency
Preventing Plastic Pollution – raising the ambition **Anne Schroeer**, Oceana
Marine mammals and noise mitigation **Sarah Canning & Sonia Mendes**, JNCC
Noise Abatement in the marine environment **Nathan Merchant**, Cefas & **Steve Robinson** NPL

10.45 - 11.10 **Keynote 5 ‘Ocean Recovery: The Need for a Compressive and Strategic Recovery’**
Tony Juniper, Chair Natural England

Format: Presentation 15 mins & Q&A Chair: **Tim Morris**, UK Major Ports Group

Moderator: **Guy Hooper**

11.20 - 12.30 **Session 12 Restoration & Recovery: Nature Based Solutions, Benefits & Challenges**
Chair: **Mark Duffy**, Natural England

Moderator: **Chloe Honess**

Format: 3 x 15 minute presentations and Q&A

Restoring Meadow Marsh & Reef (ReMeMaRe) – the reality of a plan **Ben Green**,
Environment Agency
“How to” guide oyster restoration: historical perspectives and best practice **Joanne Preston**,

University of Portsmouth, **Celine Gamble**, ZSL, **Ruth Thurstan**, Exeter University & **Philine zu Ermgassen**, NORA

Community engagement in Nature Based Solutions **Jetske Germing**, Pembrokeshire Coastal Forum & **Sue Burton**, Pembrokeshire Marine Special Area of Conservation Relevant Authorities Group

Lunch

13.00 - 14.10 **Session 13 Fisheries: Supporting Ocean Recovery** Chair: **Helen McLachlan**, WWF

Moderator: **Danielle Grumann**

Format: 4 x 10 minute presentations & Q&A

UK Fisheries Act – opportunities for ocean recovery **Sarah Denman**, Client Earth

UK Fisheries Act – putting ocean recovery into practice **Gareth Cunningham**, RSPB

Ending wildlife bycatch **Sarah Dolman**, Whale and Dolphin Conservation

Scotland's Future Fisheries Management **Jane Macpherson**, Marine Scotland

14.20 - 15.30 **Session 14 Inshore Fisheries** Chair: **Jerry Percy**, Director of the New Under Tens Fishermen's Association (NUTFA)

Moderator: **Megan Lloyd**

Format: 4 x 10 min presentations & Q&A

IFCA Update **Robert Clark**, Association of IFCA's

Future of Our Inshore Fisheries - the journey continues **Kirsten Milliken**, SEAFISH

Offshore Aquaculture: The developing landscape and multiple benefits **Tim Huntington**, Poseidon Aquatic Resource Management

The importance of recreational angling in the inshore marine environment **David Mitchell**, The Angling Trust

15.40 - 16.50 **Session 15 Marine Protected Areas – Beyond Paper Parks**

Chair: **Joan Edwards**, The Wildlife Trusts

Moderator: **Shion Reynell**

Format: 4 x 10 min presentations & Q&A

The Road to 30x30: the Need for Real Ocean Protection - Greenpeace's Campaign on Offshore MPAs

Chris Thorne, Greenpeace UK.

The Dogger Bank – a plea for adequate management to enable ocean recovery, **Jean-Luc Solandt**, Marine Conservation Society

MPAs: What next for Scotland?

Howard Wood, Community of Arran Seabed Trust (COAST)

Highly Protected Marine Areas update

Jen Ashworth, Defra

17.00 - 17.30 **Keynote 6 Rebuilding Marine Life** **Callum Roberts**, Exeter University

Format: Presentation 15 mins & Q&A

Chair: **Dan Laffoley**, Marine Vice Chair of The World Commission on Protected Areas, IUCN

Moderator: **Megan Lloyd**

Ocean Recovery Online Conference – An Introduction

Bob Earll

CMS

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In 2019 Greta Thunberg, Extinction Rebellion and host of natural extreme events had raised the awareness of the Climate Emergency to an unprecedented scale. The growing scale of man's activities on the planet, the climate emergency and huge impacts on biodiversity was increasingly recognised. At the Coastal Futures conference in January 2020 many of the speakers highlighted that 2020 would be the Year of the Ocean. A tidal wave of reports were produced early in the year for a wide variety of international meetings that were intended to galvanise action plans. The culmination of this was to be the Glasgow COP26 Summit where leaders were to be asked to do more on climate change. And then came Covid, and we all got to experience first-hand what a massive planet wide catastrophe looks like for real.

During 2020 disruptive innovation has come of age for many organisations, not least with digital meetings. I started talking to Roger Proudfoot in April since one of the early casualties of Covid was his REACH conference scheduled for July. The REACH conference in 2019 had pulled together an impressive array of people working on restoration and recovery in practice in UK and around the world. As we talked through various ideas it seemed a perfect fit to include the wider context of an array of international initiatives with practical examples – and so it has worked out. In discussing our ideas in the summer with some of our long-standing sponsors, Sarah Young who is leading WWF-UK – Sky Ocean Recovery, joined us in the organising team. The six keynotes, 15 sessions and over 60 presentations cover this forward looking agenda. The conference not only sets out ideas but what we need to do to realise them.

We know what to do and we have a decade to do it. We hope that the conference will inspire you to do more.

I would like to thank Roger and Sarah for all their support in helping to pull this conference together, both in terms of the content and also the financial backing that enabled us to go ahead and make it happen. Over 100 people are involved in the sessions and we have 19 sponsors whose commitment has been fantastic. First Event are providing the technical support for the event and we are very grateful for their expertise with this technology that is enabling the event to go ahead.

SPEAKER NOTES

DAY 1 – Tuesday 19th January

Keynote 1 A Vision for UK Seas *Rebecca Pow, Ministerial Presentation, Defra* Parliamentary Under Secretary of State for the Environment

Chair: **Craig Bennett**, CEO The Wildlife Trusts

Moderator: **Donal Griffin**

Session 1 Coasts: Governance & Environment

Chair: **Amy Pryor**, TEP & Coastal Partnerships Network

Moderator: **Kayleigh Daniels**

Driving Coastal Policy and Recovery

Mike Hill

MP for Hartlepool and Chair of the Coastal Communities APPG
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We have one of the most stunning and diverse coastal landscapes of any country in the world. The coast, our seas and our coastal communities are key to driving the 'Green Recovery' from Covid-19. An island nation with a strong coastal heritage, seaside communities and towns are however often left-behind; for decades they have endured a lack of consistent investment even though these towns are recognised as a core part of our identity and future.

The challenges faced by coastal communities are long standing, well documented and well known.

- A communities and local government select committee report, back in 2007, first established the need to look at coastal towns and their particular challenges. The parliamentary report, now 13 years old, highlighted many of these challenges – such as higher levels of underemployment, economic inequality, economic and climate vulnerability, and educational underachievement – as long-term trends. It concluded that "seaside towns are the least understood of Britain's 'problem' areas", and that "the government does not sufficiently appreciate the needs of coastal towns". Since then, many of these challenges have been recognised and documented, in academic reports, policy papers and media stories, including the most recent House of Lords report on seaside towns.
- The Institute for Fiscal Studies, Centre for Towns, Institute of Employment Studies, Social Markets Foundation, Hotel Solutions, Place Bureau and others have all identified that Coastal towns are the most vulnerable to the economic impact of the COVID lockdown. Coastal towns have an average 28% of the population employed in shutdown sectors, increasing to 56% in Newquay and 55% in Skegness. Fourteen other significantly affected towns include St. Ives, Minehead, Aberystwyth and Whitby.
- The population on the coast is subject to extreme seasonality: 32% of all visits occur in July and August - this impacts severely on employment, productivity, skills, investment and the experience for visitors.
- Our shores are extremely vulnerable to the impact of climate change; 54 of the 82 local authorities on the Coast have declared a Climate Emergency (66%).

- Coastal communities are highly dependent on tourism, generating £17.1bn spend for their economies; representing 15-20% of the workforce or 220k jobs. The economic impact of Covid-19 is forecast to be £10.23bn for Great Britain and £8.27bn for England.
- Nearly 2.9m people live in England's 37 principal seaside towns – c.6 per cent of England's total population. The population of Seaside towns is skewed towards older age groups with 24 per cent aged 60/65+, compared to 19 per cent for England as a whole. The coast has a lower working age population (58 per cent v. 62 per cent nationally).
- Policy is implemented and thus management continues in silos with no link up between agendas and across the land/sea. Policy, management and funding streams need to be more integrated to address coastal issues which are highly interconnected across environment, society and economy.

The Covid-19 crisis has profoundly impacted our coastal communities, exposing and exacerbating social and economic structural challenges and coastal environmental health that need an urgent and co-ordinated response to support a sustainable recovery. Coastal towns are the most vulnerable to the economic impact of the COVID lockdown and the economic loss to coastal communities from the pandemic is forecast to be £7.96bn from tourism on the English coast alone. Coastal communities are also the most vulnerable to the impacts of climate change, with coastal flooding and erosion posing an ever-greater threat.

Our tourism, maritime, creative, sustainable fishing, food, renewable energy and environmental economies have the potential to be world leaders but need further support if they are to accomplish their potential.

Recognition and investment from Government is urgently needed to help secure the future of the coast and generate both economic resilience and environmental sustainability through greater connectivity, economic diversity, and by restoring pride in our coastal identity as an island nation. This is a clear and urgent opportunity to improve the lives of the millions of coastal residents and the experience of the 248 million visitors who visit it each year.

We believe with urgent Government intervention at the right scale, and in the right places, together with collaboration across sectors we can build a brighter future for the coastal communities we serve.

[One Coast letter to the Chancellor](#)

Who Are We?

[Coastal Communities APPG](#)

[Local Government Association Coastal Special Interest Group](#)

[Coastal Communities Alliance](#)

[The Coastal Partnerships Network](#)

[National Coastal Tourism Academy / England's Coast](#)

Learning from the Marine Pioneer

Aisling Lannin

Marine Management Organisation

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The Marine Pioneer was set up by Defra to test the approaches outlined in the 25 Year Environment Plan (25YEP). The 25YEP's vision is to improve the environment in a generation and it states that to achieve this we need to make decisions that incorporate the environment and its value.

The Marine Pioneer was based in Suffolk and North Devon, where the Suffolk Coast and Heaths AONB and the North Devon UNESCO Biosphere employed project managers to coordinate the steering and stakeholder groups. Together the collaborations and partnerships produced all the outputs of the Marine Pioneer. The Programme overall was led by the MMO.

Although the Marine Pioneer was tasked with a) testing a natural capital approach, b) integrating planning and delivery, c) exploring new funding mechanisms and d) sharing best practice, the overriding learning showed that implementing good multi-level collaborative governance was an important fundamental activity underpinning everything.

The Marine Pioneer benefitted enormously from collaborations and partnership across scientific disciplines and different kinds of government and non-government organisations. This highlighted the importance of exploring good practice with a variety of people and incorporating lots of perspectives. This is one of the keys to delivering improvements for the marine environment.

As with most big challenges we learned there is not one solution or method but several that need to be applied in an integrated way to work together in a system to deliver the outcomes we want. We learned that whole system restoration is required, not just good condition of a proportion of the sea, for example of fish or specific habitats and species. We are convinced that we should be working collaboratively toward restoration of ecosystem services and the whole interconnected environment as our shared vision.

We learned that place-based collaborations and partnerships with multi-disciplinary perspectives can deliver more robust testing of new methods and theories as well as being more agile at doing action research and learning from regular evaluation. This approach can provide good value for money, but public investment is fundamental given the value and benefits of nature to people and the huge cost of losing it. When public funds are blended with private investment a strategic set of goals and transparent governance is required. The biodiversity and climate crises as well as restoration will require adjustments for communities' therefore inclusive change through community empowerment and just transition is vital.

The Marine Pioneer collaboration has produced:

- 55 reports
- six short films
- a waste shark
- numerous web pages on various websites (main ones are listed below)
- lots of guidance on:
 - applying a natural capital approach
 - using participation to generate evidence, increase stewardship and ocean literacy
- a Geonode for data sharing and map making <https://pioneer-geonode.plymouth.ac.uk/>
- academic papers
- a finalised PhD and another in progress
- some amazing photos from a photo competition, posters and infographics
- some great legacy projects and partnerships

The legacy projects still operating include implementation of the multimillion-pound Blue Impact Fund led by WWF, the first Marine Natural Capital Plan as supplementary planning guidance led by the North Devon Biosphere, five North Devon Fisheries Research and Management Plans led by the Devon and Severn IFCA, a test of the application of a natural capital and net gain approach to offshore wind led by SWEEP and a PhD on multi-level collaborative governance by Rachel Holtby at Northumbria University.

There is much more detail in the final summary and recommendations interactive pdf, but key messages are below. The pdf should support people to explore different parts of the Marine Pioneer, cross reference results across themes topic areas, access full reports and focus on specific topics as suits people's interests and work.

The headline learning and recommendations for each of the eight themes are below:

1. **Collaboration and partnership** – engage with multiple disciplines and carry out work in a transdisciplinary way, **ensure there is creative space to iterate and be agile** as well as traditional task and finish projects to get the most from the collective
2. **Applying a natural capital approach** – it is essential that the natural capital approach is given a **holistic framing and is not seen through the restricted lens of a purely economic focus**. In

addition, **investment in social capital is vital** to the success of a natural capital approach (see 1, 3, 4, 5, 6 and 7)

3. **Integrated planning and delivery** – Integration works best **with inclusive and transparent governance** across geographic scales and organisations, and with decision-making frameworks that **consider the whole system, dependencies and complexities, as well as the distributional impacts** on different groups (see 1, 2, 4, 5, 6, 7, and 8)
4. **Innovative finance** – **public investment is required to build capital for public goods** and blended public and private capital requires good governance and shared goals with stakeholders that recognise and respond to the public nature of the goods (see 2, 5, 6 and 7)
5. **Fisheries management** – we should **build trust** and exchange knowledge, use multi-level collaborative governance, **ensure a range of perspectives and expertise are applied to co-developing solutions, develop varied and tailored approaches** and use iterative evaluation as a learning tool
6. **Marine protected area management** – for Marine Protected Areas (MPAs) to be part of the solution to the climate and biodiversity emergencies **their objectives, management, governance and funding needs to evolve**.
7. **Community empowerment** – plans to improve nature by managing, protecting and restoring coastal and marine ecosystems **should be co-designed from the outset with local communities to incorporate their aspirations and experience. Coastal community empowerment can scale up delivery of the 25 Year Environment Plan** through multi-level, collaborative governance and co-management of natural resources.
8. **Applying a net gain principle** - **restoration on the scale necessary to impact the current biodiversity emergency and improve climate resilience should go beyond applying biodiversity net gain through the licensing and consents process.** Applied only to individual development projects, net gain is likely to make a modest contribution to marine recovery.

North Devon Marine Pioneer <https://www.northdevonbiosphere.org.uk/marinepioneer.html>

Suffolk Marine Pioneer <https://www.suffolkcoastandheaths.org/managing/projects/marine-pioneer/>

UKSeas Project <https://ukseasproject.org.uk/>

North Devon Marine Natural Capital Asset and Risk Register

https://www.researchgate.net/publication/332225506_North_Devon_Marine_Pioneer_2_A_Natural_Capital_Asset_and_Risk_Register

Coastal Based Approach 'CoBA' Collaborative Partnerships to Drive Recovery

Natasha Bradshaw

University of the West of England (UWE, Bristol) on behalf of the CoBA committee
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The Coastal Based Approach is a simple idea to establish partnerships covering the entire coast, to support integrated place-based delivery for coastal ecosystems and communities.

The English Coast is a treasured landscape, visited and enjoyed by so many of us, providing a sanctuary and sustaining our health and well-being. But coasts are facing serious challenges:

- Coastal communities are on the frontline of climate change with storms and sea level rise;
- Coastal communities often suffer from high levels of social deprivation;
- Dependence upon tourism results in a high proportion of seasonal work.

The coast is a highly contested space between different interested parties which lacks the resources and capacity to be effectively managed. At the same time, the coast offers huge opportunities:

- Nature-based solutions to climate change through conservation and restoration of coastal habitats providing a carbon sink - what we now call blue carbon and green recovery;
- Seasonal revenue from recreation and tourism could be used better to support deprived coastal communities;
- Access to the sea is critical for fisheries and all marine industries - there is huge potential for growth, particularly within ports and renewables;
- Increase connectivity between people and the sea – it is proven to be important for social and mental health and well-being benefits and will increase ocean literacy.

The number of public bodies and private sector interests is highest at the coast. This has made planning and management complex, with the focus too often either inland or offshore. We need a new resilient approach which focuses on the land-sea interface, allowing communities to take a real role in how the coast is managed.

The **Coastal Based Approach (CoBA)** provides flexible, collaborative, inclusive and effective leadership for some of the most challenging, complex and often neglected areas of the country. CoBA will formalise and build resilience into pre-existing community-led structures at the coast, providing local capacity to cover the areas currently un-represented. It will assist existing and new local coastal partnerships, many of which have grown organically, to achieve their full potential and provide national consistency along the entire English coast.

CoBA is based upon the success of the Catchment Based Approach (CaBA) which began in 2010 and has grown to address land use and water issues across every English river catchment – CoBA will adapt learning from this approach. The CoBA proposition asks the Government to support the initiation of CoBA (as it has with CaBA). The Government (and its Arm's Length Bodies) have an array of ambitious coastal/marine initiatives that need direct local input to ensure effective and long-lasting delivery. For a modest investment the Government can leverage a large return: CaBA has demonstrated over £3 returned for every £1 invested. By bringing people and organisations together, CoBA will assist in the delivery of green recovery, net zero targets, restoration of marine biodiversity and the levelling up agenda on jobs & resilience. Very importantly, by investing in local capacity, it will mobilise co-operation between communities and Government. Investing in CoBA will offer considerable returns for the economy, environment and society.

To deliver CoBA across the entire English coast, Government is asked to:

1. Champion the launch and delivery of CoBA in 2021 as it did with CaBA in 2010;
2. Target investment of £1.8m a year over 3 years to seed fund the development of CoBA;
3. Give policy priority to CoBA, enabling it to flourish and deliver.

The full CoBA proposition paper outlines the vision for CoBA and further information on how it would support delivery of Government policy and programmes. For further information and contact see www.coastalbasedapproach.org

Restoring the ocean to health – priorities and new opportunities

David Tudor

Blue Marine Foundation

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We are in a nature and climate crises. And our ocean is suffering. 2020 was a lost year for ocean health with numerous significant meetings and vital decisions were delayed and postponed. However, there is the opportunity for this year to shape up differently. We have a key year and a key decade ahead of us and there are many new opportunities.

There are three areas that I will concentrate on:

1. Marine Protected Areas
2. Our Connection with the ocean
3. And, Restoration

Marine Protected Areas:

Ten years ago, the international community made a commitment to protect 10 percent of the world's oceans by 2020. If we take into account the Overseas Territories, the UK has designated large marine areas as highly or fully protected. In amongst the good news about large swathes of the ocean being under protection across the globe, the UK's domestic MPAs require greater protection.

Our Connection with the ocean:

Through all the talk of MPAs and levels of protection, it is important that we connect the public to the ocean. The majority of whom do not follow the vagaries of protection levels or the multitude of legal mechanisms and designations which help to manage the seas around the UK.

We believe the time is right to begin a discussion this year about the potential for national marine parks. Of the 15 National Parks we have today, only a few include the coast, and none include the sea.

Restoration:

The UN Decade of Ecosystem Restoration has just begun. And there are new opportunities here in the UK for rewilding the seas and estuaries around our coast.

There is a growing understanding that putting nature in charge, allowing re-growth, restoration and resilience-building at the planet's own pace, can bring untold benefits for humankind and may be one of the key tools at our disposal in fighting the nature and climate crisis.

Session 2 Youth Voices for the Ocean - What can we learn from the next generation

Chair: **Sean Clement**, Marine Policy Officer, WWF-UK

Moderator: **Emily Bunce**

The crises in climate and nature have energised youth voices globally – Greta Thunberg spars on Twitter with POTUS, millions worldwide are marching for climate justice and a generation of empowered, socially and environmentally aware young people are calling for and taking action in defending the world they stand to inherit. This session offers a platform for youth voices in ocean conservation to share their work, their hopes and their call for a greater part in how we stand to tackle the challenges of climate change, biodiversity loss and ensuring a socially just and sustainable future for all. Speakers during this session are:

Finlay Pringle: Finlay is also known as the Ullapool Shark Ambassador and is a marine conservationist and climate change activist. Finlay campaigns for action to alleviate the worldwide plight of sharks, calling for a ban on shark and cetacean captivity in aquariums and the sale of shark fins and shark meat in UK retailers.

Mhairi McCann: Mhairi is the founder of Youth STEM 2030 – a network of your scientists, activists and change makers putting young people at the forefront of progress towards the UN Sustainable Development Goals through science technology, engineering and maths. Mhairi is a champion of youth empowerment and an advocate for their meaningful involvement in decisions made about the future of our planet and society.

Eimear Stephenson: Eimear is zoologist and conservationist and member of the World Oceans Day Youth Advisory Council as well as senior science communication editor for Youth STEM 2030. Eimear currently works with Green Sod Ireland, a non-profit organization dedicated to re-wilding Ireland and is committed in all her endeavours to the environmental education, communication and awareness raising for children, teenagers and adults.

Session 3 Coastal Adaptation & the Climate Emergency

Chair: **Bill Parker**, Coastal Management Champion

Moderator: **Casey Snook**

Coastal Resilience and the National Flood and Coastal Erosion Risk Management Strategy

Catherine Wright

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Mark Garratt

Deputy Director, Environment Agency

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Our coastline is at the forefront of climate change impacts and we need to act together to create a resilient coast.

This presentation will discuss:

- the historical and current coastal risks, including climate change and coastal erosion.
- the 3 key challenges we face to create a resilient coast - adaptation and a sustainable approach will be vital.
- the approaches we are taking to overcome them, including the recent publication of the [FCERM Strategy](#).

Local Government Association Coastal Special Interest Group (LGA Coastal SIG)

Emily Cunningham

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We are a Special Interest Group (SIG) of the Local Government Association (LGA) focussing on coastal issues. We have a membership of 56 coastal local authorities across England and together we cover 58% of England's coast. Our lead authority has been South Tyneside Council since 2019. Each authority is represented by an elected Member and Senior Officer. This gives us cross-party membership, national oversight and local insight.

We have an overarching aim of catalysing socio-economic and ecological recovery at the coast, innovating policy and practical solutions to tackle the unique issues that befall the English coast and its communities. We currently work on a suite of topics, including coastal adaptation, economic resilience and coastal safety.

We are co-Secretariat of the All-Party Parliamentary Group for Coastal Communities together with the Coastal Communities Alliance and the Coastal Partnerships Network. Together we are leading an inquiry into *A Resilient Future for Coastal Communities*, in which climate resilience and coastal adaptation will be strong themes.

In this talk, I present the LGA Coastal SIG's work on coastal adaptation in light of the new national FCERM Strategy and Defra policy statement. At present, the narrative around coastal adaptation is

focussed on loss, but in this talk I will present our approach in seeing coastal adaptation as a driver of socio-economic and ecological regeneration. I underline the importance of early, sustained engagement with our communities and that 2-way conversations are essential in ensuring communities have the agency and options to decide their futures. I cover our emerging work on innovating policy, funding and financing, planning, technical, and engagement solutions and our ambitions to develop a 4-country approach to this work to sure best practice sharing across borders.

Managed Realignment the next 10 years: ambitions and multiple benefits

Colin Scott

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At the 2014 Coastal Futures conference, I reviewed the progress that had been made over the preceding two decades with implementing managed realignment projects in the UK. I described how we had progressed from initial, small-scale, proof-of-concept schemes in the early 1990s to more ambitious and innovative landscape-scale initiatives at locations such as Medmerry (in 2013), Steart (in 2014) and Wallasea (in phases from 2006 to 2018).

Today nearly 30 years have passed since the first managed realignment at Northey Island in 1991. Around 75 projects have now been implemented. Collectively, these have created or restored around 3,000 ha coastal wetland. Most of this 3,000 ha (about 70%) has been compensation, under the Habitats Regulations, for losses of habitat elsewhere within protected areas. Therefore, we are not confronting broader biodiversity declines or fully addressing shoreline management actions. Based on this experience, and the current situation, this presentation reviews how the implementation of realignments could and should play out over the decade to come. This is considered in the context of the evolving legal and policy landscape.

Today hundreds of kilometres of our coastal defences have realignment as the shoreline policy, and yet, we have only implemented a fraction of that so far. Also, mapping exercises have shown that there is a lot of potential for habitat creation. ABPmer recently mapped the areas for the MMO and identified 700 potential realignment sites greater than 10 ha across England. Some of them are enormous, and some may be impractical, but it indicates the potential that exists to sustainably reshape the coastline.

The last few years have also seen a wide range of emerging and maturing national targets, policies and practices that seek to achieve a range of pertinent goals. These goals include responding to climate change, addressing biodiversity loss and achieving net gain as well as placing Natural Capital, habitat functionality, Ecosystem Services, wellbeing and the delivery of public goods at the heart of decision making.

In summary, therefore, we have both the potential for, and need to, undertake many more realignments in the future. To do that (and deliver more large-scale rewilding-style initiatives) we will have to change the status quo. We need to strategically develop a pipeline of projects informed by their many functional benefits at a local level (including flood protection, biodiversity enhancement and carbon sequestration). This strategy will need to include better and more focussed monitoring directed at knowledge gaps. We will also need both public and private funding (including novel green financing ideas) as well as improved communication to help build social acceptance.

Related Information:

ABPmer live database on Completed Managed Realignment Projects in Northern Europe (including details about Northey, Steart, Medmerry and Wallasea),

<http://www.abpmer.net/omreg/>

ABPmer (2020) White Paper: Adapting Net Gain for the Marine Environment

<https://www.abpmer.co.uk/blog/white-paper-adapting-net-gain-for-the-marine-environment/>

Coastal Future 2014 Managed Realignment 20 years on – an overview.

<http://coastal-futures.net/wp-content/uploads/2016/02/Delegate-Notes-2014-ilovepdf-compressed.pdf>

LinkedIn Discussion Forum of Coastal Habitat Creation and Managed Realignment

<https://www.linkedin.com/groups/3744666/>

MMO (2019) Identifying sites suitable for marine habitat restoration or creation (MMO1135)

<https://www.gov.uk/government/publications/identifying-sites-suitable-for-marine-habitat-restoration-or-creation-mmo1135>

NRW (2020) Estimating the Carbon Sink Potential of the Welsh Marine Environment

https://cdn.naturalresources.wales/media/692035/nrw-evidence-report-428_blue-carbon_v11-002.pdf

Session 4 Coastal Restoration & Recovery at Scale

Chair: **Roger Proudfoot**, Environment Agency

Moderator: **Lucy Capron**

A systems approach to restoration: the Schelde estuary as a case study

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- Estuaries are complex systems where hydrodynamics, morpho-dynamics and ecological functioning are closely linked
- Morphology of most estuaries changed since many centuries due to embankments and more recently due to dredging activities.
- Changed morphology resulted in changed hydrodynamics, mainly an amplification of the tides which in turn has an impact on sedimentation and erosion processes and hence distribution of habitats.
- Ecological functioning was severely hampered by water quality
- Overall this lead to major problems such as increased flood risks, loss of habitats and biodiversity.
- Management measures such as dike building to protect against floods, reinforcement of banks and most dredging and dumping do not have any impact on the driving forces and complex interactions causing the problems that require management.
- Present management is therefore an endless vortex leading to further tidal amplification, geomorphological changes and loss of biodiversity and required more and more management measures to guarantee safety against floods and access to harbours.
- A detailed system diagnosis is needed to understand the main underlying driving forces and processes. Measures should be aimed at managing these processes rather than the patterns.
- This was integrated in the updated Sigmaplan that evolved from a flood management plan to an estuarine restoration plan. The problems were seen as a societal demand for ecosystem services and this demand was translated in the creation of a series of different habitats delivering these services. Therefore objectives were formulated pointing at the main driving forces and processes such as increasing tidal energy dissipation, delivering dissolved silica to enhance diatom production, reducing erosion,... on top of the classical environmental and biodiversity objectives.
- These objectives were then translated in the surface of habitats delivering these ecosystems services. A good knowledge of the delivery of ecosystem services by different habitats is therefore crucial.
- This approach, incorporated in the new Sigmaplan, results in the restoration of nearly 1500 ha of tidal habitats along the estuary in order to improve the overall functioning of the system. The role of habitats, both size and location on hydro- and morpho-dynamics and water quality is an essential part of the approach.
- A detailed monitoring and evaluation program is set up to follow the development of the system and as the basis for an adaptive management

For more information see <https://www.uantwerpen.be/en/staff/patrick-meire/publications/> and <https://sigmaplan.be/en/>

From optimisation to operational: planning oyster restoration at scale

Dr William G. Sanderson

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Dr William (Bill) Sanderson is the Research Director for the multi-award winning Dornoch Environmental Enhancement Project: a partnership between Glenmorangie, Heriot-Watt University and the Marine Conservation Society that will restore native oysters (*Ostrea edulis*) to the Dornoch Firth. DEEP has advanced through several stages:

- Historical ecology showed that oysters were in the Dornoch Firth for thousands of years until they were fished a century ago [1]
- Present day conditions were suitable, and 'survivability' studies showed good growth and survival
- 'Optimisation' concentrating on the stabilisation of shell reef, shell type, behaviour and seasonal abundance of planktonic larvae [eg 2] and clarifying business models for restoration [eg 3].
- Four key areas are developing to go 'Operational in scale': Spatial Planning, Supply-chain, Biosecurity and Genetic Strategy.

Despite complexities here, oyster restoration is getting easier with the publication of a new restoration science [4] and guidance [5].

Dr William (Bill) Sanderson's research concentrates on sensitive management and sustainable development with a focus on habitats and species of high biodiversity conservation importance. Restoration, MPAs, shellfish habitats are particular focuses.

Web links:

<https://researchportal.hw.ac.uk/en/persons/william-sanderson>
<https://www.youtube.com/watch?v=QSnpk41kln0>
<http://www.theglenmorangiecompany.com/about-us/deep/>

References:

- [1] <https://www.sciencedirect.com/science/article/pii/S0006320717308030>
- [2] <https://www.sciencedirect.com/science/article/pii/S0025326X18308099>
- [3] <https://onlinelibrary.wiley.com/doi/full/10.1002/aqc.3402>
- [4] <https://onlinelibrary.wiley.com/toc/10990755/2020/30/11>
- [5] <https://nora.europa.eu/nora-publications/>

Design & development of the RSPB's Wallasea Island Wild Coast Project

Malcolm Ausden

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The RSPB's Wallasea Island Wild Coast Project in Essex, England, has created a ca 700-ha coastal wetland on former arable land, which comprises intertidal habitat created through managed realignment, saline lagoons, islands and coastal grassland.

In the managed realignment area, land levels were raised prior to breaching the sea wall using three million tonnes of inert material excavated during construction of Crossrail's twin-bore railway tunnel beneath London. This was done to restrict the increase in the adjoining estuary's tidal prism to within an acceptable level, once the old sea walls were breached. This material was shaped to create a series of saline lagoons and islands within the managed realignment area. It was also used to create gently sloping margins that rise to a metre above the current level of the Highest Astronomical Tide,

and which should continue to support transitions from upper saltmarsh to coastal grassland under a range of future higher sea levels. An additional 170-ha complex of saline lagoons was created outside of the managed realignment area, which contains lagoons that will remain permanently inundated, and others that will be periodically dried out and reflooded.

I will briefly describe the design and construction of the site, colonisation of its saline lagoons by fish and invertebrates, and how bird use of the area has changed. During the first winter following the end of construction, the project area supported a peak count of just under 33,000 waterbirds, with twelve species occurring in nationally important numbers. The newly created lagoons already support the largest number of breeding Avocets of any site in Britain.

Session 5 **Finding Funds**

Chair: **Andrew Sissons**, Deputy Director for Innovative Funding and Finance,
Environment Agency

Moderator: **Todd Last**

Funding collaboration

Louisa Hooper

Senior Programmes Manager, Calouste Gulbenkian Foundation
E: lhooper@gulbenkian.org.uk [Valuing the Ocean](#)

The Calouste Gulbenkian Foundation is an independent European funder, based in Portugal with offices in London and Paris. Our environmental programmes include: [The Gulbenkian Prize for Humanity](#), the [Blue Bio Value Accelerator Program](#), [Valuing the Ocean](#), and [Citizen Engagement on Climate](#).

Research commissioned in 2013 showed that marine conservation remained low on national and international agendas with limited public understanding of issues and solutions. We needed some new approaches to communicate in compelling ways that reached people beyond the marine science bubble. This meant rethinking some of the comms, but also working more effectively across silos of knowledge and experience.

We launched **Valuing the Ocean** to support twin aims – effective collaboration and communication because we believe to secure long-term protection of the marine environment, we need:

- an ecosystem of organisations with diverse skills working together well;
- joined-up messages, effective because underpinned by creativity and (marine + social science) evidence;
- to reach beyond the marine bubble – across issues (climate, economy, social justice) – connecting with new people in new ways.

Gulbenkian has established the [Marine CoLABoration](#); commissioned original research on effective framing and messaging e.g. [How to talk about the ocean so that people will listen](#); [Evolving the narrative for protecting a rapidly changing ocean, post COVID-19](#); and supported organisations to collaborate with others in and beyond the marine sector. We have also invested in collaborative approaches with other trusts and foundations, including to identify [priorities and approaches for funding effective marine conservation](#).

Links to relevant collaborative initiatives and campaigns:

- [Agents of Change](#)
- [Blue New Deal](#)
- [An Ocean Recovery Manifesto](#);
- [Shared Seas](#)
- [Ocean Conservation All Party Parliamentary Group](#)
- [Our Fish](#)
- [#OneLess](#)

The Blue Impact Fund and Ocean Recovery Trust: A funding ecosystem for the sustainable blue economy.

Sean Clement

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Alicia Gibson

Senior Associate, Finance Earth
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WWF And Finance Earth have been working together since 2018 funded by Sky Ocean Rescue, and as part of the North Devon Marine Pioneer, to identify and develop a new funding model to support the sustainable blue economy and ocean recovery.

The global blue economy is expected to double in size over the next decade but this comes at the risk of driving widespread loss of marine biodiversity and climate change, eroding the very resource base upon which such growth depends.

At the same time, funding for ocean protection and restoration from Government and philanthropic sources is not commensurate with the scale of the challenges facing the marine and coastal environment. The Blue Impact Fund and Ocean Recovery Trust have been designed to tackle these challenges at scale and support marine enterprises that can improve the resilience of and reduce pressures on the marine environment and in turn provide funding opportunities for capacity building and ocean recovery programmes.

<https://finance.earth/fund/blue-impact-fund/>

The Scottish Marine Environmental Enhancement Fund (SMEEF)

Sarah Brown

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The Scottish Marine Environmental Enhancement Fund (SMEEF) is a new and exciting approach to funding. The Fund will accept voluntary donations from users of the marine environment such as shipping, aquaculture, fisheries, renewable energy, oil and gas, and use it to create a grant pot for projects which enhance the natural capital these sectors rely on.

SMEEF reflects the fact that Scotland's seas are not only an incredibly rich natural resource, but also a shared space with a wide range of industries and activities supporting coastal communities and visitors up and down the coast of Scotland.

The fund will enable users benefiting from the rich natural marine resource to voluntarily re-invest in the health and biodiversity of our seas, thereby safeguarding and enhancing it, to support the sustainable growth of those industries into the future, and in turn helping to build a wellbeing economy for Scotland's coastal communities and visitors. Furthermore it will very much complement Scottish Ministers' commitment to develop a 'Blue Economy Action Plan', recently included in the Scottish Government's Programme for Government 2020/21.

SMEEF has already attracted the support and commitment of public bodies, NGOs and the offshore Wind Energy sector during an initial concept-forming phase.

Still in its first year, the Fund is busy developing an appropriate governance framework and will soon begin the work of setting criteria for the grants.

The Fund is open for both donations and enquiries, please contact the Fund Manager, Sarah Brown
via SMEEF@nature.scot.

Keynote 2 UN Decade of Ecosystem Restoration **Leticia Carvalho**, United Nations,
Coordinator Marine and Freshwater Branch, Ecosystems Division

Chair: **Roger Proudfoot**, Environment Agency

Moderator: **Maddy Gee**

UN Decade of Ecosystem Restoration

Leticia Carvalho

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- There has never been a more urgent need to restore damaged ecosystems than at the present moment.
- 75% of our lands, 85% of our wetlands and 66% of our oceans and have been negatively altered by human activity.
- The Bonn Challenge hopes to restore 350 million hectares of land, more than a third of the land that has been degraded
- The UN Decade on Ecosystem Restoration was established by the UN General Assembly by request from 70 countries in all latitudes
- The UN Decade aims to prevent, halt and reverse the degradation of ecosystems on every continent and in every ocean; and to raise awareness for the state of our planet.
- It services the UN Vision of Living in Harmony with Nature by 2050.
- The UN Decade is a rallying call for the protection and revival of ecosystems all around the world, for the benefit of both people and nature, which will put us on a path to achieving the Sustainable Development Goals.
- Without healthy and production ecosystems current negative trends will prevent the success of 80% of the assessed targets of the SDGs relating to poverty, hunger, health, sustainable consumption and production, water, cities, climate, oceans and land.
- The UN Decade will run from 2021 through 2030, in parallel with the Sustainable Development Goals timeline in order to best prevent catastrophic climate change.
- It is estimated that we will need to look to nature for one third of our climate solutions.
- We must protect those elements of nature that help to administrate other ecosystems: grasslands, peatlands, and forests that act as natural carbon sinks
- Carbon sinks that have the ability to draw down 26% of human caused emissions back to earth.
- Restoration and coral reef refugia have shown to be the key in enabling corals to adapt to climate change
- Our oceans have absorbed up to 90% of the excess heat generated by recent climate changes which is hindering their productivity while they are simultaneously being overexploited
- The recent scientific review in *Nature, Rebuilding marine life,* says that the restoration of the oceans is possible by 2050.
- Climate change solutions must focus on coastal and marine sinks
- A recent IPBES report stated that one million species are currently facing extinction due to biodiversity breakdown.
- The Decade aims to revive one-third of global soil currently acutely degraded; closing the 60% gap in food production to feed 9 billion people without claiming additional lands.
- Degraded lands can be put to use in ways that revive productivity, increase biomass and promote soil carbon sequestration – all while producing wood, fiber and food.
- Restoration has the potential to yield \$9 trillion USD in net benefits to economic development, livelihoods, and poverty alleviation
- The UN Decade, led by UN Environment, is building a strong, broad-based global movement to ramp up restoration and put the world on track for a sustainable future.
- The UN Decade will build political momentum for restoration as well as thousands of other initiatives on the ground.
- UNEP is leading on communications around the UN Decade, and FAO is leading on technical guidelines.

- The UN Decade is running in collaboration with the UN Decade on Ocean Science for Sustainable Development that was proclaimed by the UN in 2017, that also runs from 2021 to 2030
- The UN Decade will provide a common framework to ensure that ocean science can fully support countries' actions to sustainably manage the oceans and achieve the 2030 Agenda for Sustainable Development
- The two UN Decades will provide an opportunity to create a new foundation that will span the science-policy interface and strengthen the management of 100% of our oceans and coasts for the benefit of all humanity.
- Currently there are no global targets for restoration of marine & coastal ecosystems.
- Organizations working on marine & coastal restoration can join the UN Decade as supporting partners in order to contribute to these objectives, as well as share best practices and attract investment and resource mobilization for restoration of coastal ecosystems, as has been done through the Global Fund for Coral Reefs
- UNEP and ICRI have collaborated to produce guidelines for best practices on restoration of coral reefs. These guidelines were a request from UNEA Resolution 4/13 on sustainable management of coral reefs.
- UNEP and ICRI's guidelines will include the most common methods used for coral restoration around the world, and assess their scalability, effectiveness and cost-efficiency. Best practices for restoration are also highlighted.
- The Global Fund for Coral Reefs is a blended finance instrument to mobilise action and resources to protect and restore coral reef ecosystems, managed by the UN Multi-Partner Trust Fund (UN-MPTF).
- The Global Fund for Coral Reefs is creating a new paradigm for protection of an ecosystem on the brink of extinction while enhancing resilience of coral reef countries and communities.
- UNEP has produced guidelines on restoration of mangrove and seagrass ecosystems for the Western Indian Ocean as part of the GEF WIOSAP project and in the Caribbean region as well.
- UNEP is supporting on-the-ground coastal restoration projects in countries all around the world, including but not limited to Kenya, Mozambique, Madagascar, Seychelles, Senegal and Ecuador.

DAY 2 – Wednesday 20th January

Keynote 3 The ocean climate nexus and nature based solutions - Dan Laffoley,
Marine Vice Chair of The World Commission on Protected Areas, IUCN

Chair: **Chris Tuckett**, Marine Conservation Society

Moderator: **Eleanor Snape**

The ocean climate nexus and nature-based solutions

Dan Laffoley

Vice Chair – Marine, IUCN's World Commission on Protected Areas
Senior Advisor, Marine Science & Conservation, Global Marine and Polar Programme, IUCN
Contact: <http://danlaffoley.com/contactform/>

The COVID – 19 pandemic has shown how close, unsettling, and damaging our relationship with nature has become. The pandemic adds considerable weight to the urgency to address the ongoing and escalating biodiversity and climate crisis. One of the issues that lies at the heart of the climate and biodiversity crisis, alongside urgently halting the accelerating losses of species and ecosystems, is vastly improving the management and protection of carbon stored in natural systems.

This keynote looks at 'growing back greener' from the impacts of the virus by taking opportunities to do far more to protect 'blue carbon' stored in marine systems. The presentation will set out a five-point plan on what can and should now be done under the Convention on Biological Diversity and other agreements such as Ramsar to secure carbon sinks *in situ*, as a complementary mechanism to that being done under the UNFCCC, using existing policy agreements and tools such as MPAs.

Without complementary measures being taken under other Conventions and multilateral agreements that there are high risks that marine carbon sinks that have yet to receive attention under the United Nations Framework Convention on Climate Change (UNFCCC) will otherwise be lost or severely degraded by the time action does occur. The actions proposed are accordingly complementary and synergistic ones that can be taken now alongside maintaining, strengthening, and further raising ambitions working through the UNFCCC to implement the Paris Agreement.

Full details can be found in this report: https://www.wwf.org.uk/sites/default/files/2020-11/WWF_blue_carbon020.pdf

Session 6 Nature Based Solutions & Blue Carbon

Chair: **Simon Walmsley**, WWF-UK

Moderator: **James Harris**

Ocean, Climate and Nature: Priorities in Super Year 2021 & COP26

Stephanie Ockenden

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Stephanie Ockenden, an official in the Department for Environment, Food and Rural Affairs (Defra), leading a portfolio covering Ocean & Climate Change Policy and International Evidence.

Ocean change and climate change are inextricably linked. The ocean has long acted as a 'buffer' to the effects of climate change which, combined with other pressures such as pollution and overexploitation, is having a catastrophic impact on ocean health, and its ability to continue to provide functions critical to all life. A reset of humanity's relationship with nature is needed. This presentation set out the UK's Department for Environment, Food and Rural Affairs priorities for 2021, the super year of negotiations and dialogue for ocean, climate and nature, including how the UK will be putting nature at the heart of our COP26 priorities, through the Leaders Pledge for Nature and by championing the role of nature-based solutions.

Coastal Wetlands and Nationally Determined Contributions

Thomas Hickey

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Key messages:

- Coastal Wetlands – mangroves, seagrass and saltmarsh ecosystems – provide a range of benefits for people and nature. They are also at the forefront of growing recognition of the role that nature-based solutions can play in addressing climate change, including within the UNFCCC's "Ocean and Climate Dialogue"
- These "blue carbon" ecosystems have the potential to sequester three to five times the amount of carbon per acre when compared to forest ecosystems, in addition to providing a range of adaptation benefits such as protecting shorelines and local communities from storms and rising sea levels.
- While many countries referenced the potential of blue carbon ecosystems within their first Nationally Determined Contributions (NDCs) to the Paris Agreement, few included specific goals or policies for their protection. The next round of NDCs thus provides an opportunity to better account for the climate benefits that protection of these ecosystems can deliver.
- A growing number of countries are looking at this opportunity and Pew is working in partnership to support the Governments of Belize, Costa Rica and Seychelles as they revise their NDCs, including through various in-country field work. The aim is that these projects will not only help to advance protection of these ecosystems within these countries, but also provide wider learnings on how best to account for coastal wetlands and other potential marine nature-based solutions within climate policy making.

Web-links

- Pew's Coastal Wetlands and Coral Reefs Project - <https://www.pewtrusts.org/en/projects/protecting-coastal-wetlands-and-coral-reefs>

- [Momentum Growing Globally for Using Marine Protections to Address Climate Change](#)
- [Belize Plans Nature-Based Solutions in Fight Against Climate Change](#)
- [Seychelles Champions Coastal Wetlands in Climate Commitments](#)
- [Ocean Protections Increasingly Seen as Key to Countering Climate Change](#)
- [Guidelines for Blue Carbon and Nationally Determined Contributions](#) – Guidance developed for policy-makers on the range of opportunities and entry-levels for including coastal wetland/blue carbon commitments within NDCs. Pew helped to develop this work with a range of partners, including: Blue Carbon Initiative; Conservation International; International Partnership for Blue Carbon; International Union for Conservation of Nature (IUCN); NDC Partnership; Silvestrum Climate Associates; and The Nature Conservancy.

Carbon Storage in Intertidal Environments (C-SIDE)

William E.N. Austin (Corresponding author)^{1,2,3}

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²Scottish Association for Marine Science, Oban, UK

³Marine Scotland – Marine Planning and Policy

GHG emissions and removals resulting from changes in saltmarsh management can be included in national emission accounting under the Land Use, Land Use Change and Forestry (LULUCF) sector. However, they are not included in the UK GHG inventory (GHGI) at this time. The LULUCF sector is currently the only sector of the national GHGI that is a net sink, with scope to offset emissions in other sectors. The IPCC's 2013 Wetland Supplement (IPCC, 2014) to the 2006 IPCC guidelines details expanded guidelines for the quantification and accounting of GHG emissions and removals associated with the management of different wetland types, including drainage and rewetting of tidal marsh (Chapter 4). The UK has elected wetland drainage and rewetting for the second commitment period of the Kyoto Protocol, and using the IPCC Wetland Supplement will report emissions from peatlands in its national inventory by 2022 at the latest under the obligations of the UN Framework Convention on Climate Change (UNFCCC). This also has significance for commitments to the Paris Agreement and the national requirements of the UK's Climate Change Act. Inclusion of saltmarshes in the UK GHGI would provide an important first step necessary to account for, protect, and restore these long-term carbon stores, realising their potential for climate change mitigation. Here, I report on the progress of the NERC-funded C-SIDE project to assess the carbon stocks in UK saltmarsh habitats and highlight commissioned work for Scottish Government that has delivered a new national assessment of these stocks for Scotland.

Web-links and/or references:

<https://www.c-side.org/>

<https://www.bluecarbon.scot/>

The carbon sink potential of the Welsh marine environment

Dr Siobhan Vye

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A new study commissioned by Natural Resources Wales has revealed the important role Welsh seas and coasts play in offsetting carbon emissions by storing large amounts of carbon in a range of different marine habitats. The recently published study investigates "blue carbon" habitats in Wales, from the intertidal flats of the Menai Strait and the seagrass of Porth Dinllaen, to the spindly brittlestar beds off the Pembrokeshire coast and the expanses of sand and gravel covered seabed further offshore. The study reveals that, each year, the Welsh marine environment locks away carbon amounting to the equivalent annual emissions of 64,800 cars or 115,600 return flights from Cardiff to the

Canary Islands. The study provides further evidence that our diverse coasts and sea play an important role in helping Wales tackle climate change and protecting our natural environment for future generations. This evidence report also supports Natural Resources Wales, as the Environment Body of Wales, in identifying blue carbon considerations in our work. Our role is wide ranging, from being the principle advisor to Welsh Government on nature conservation through to regulation, licensing and permitting. By understanding how blue carbon links to existing legislative and policy frameworks, we are developing ways to embed blue carbon opportunities across our advice, projects, programmes and decision making.

Session 7 Climate Mitigation – Offshore Wind

Chair: **Olivia Thomas**, The Crown Estate

Moderator: **Kayleigh Daniels**

Developing Offshore Wind: The Crown Estate's perspective

Mandy King, MSc.

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Introduction

The Crown Estate recently launched the “Offshore Wind Evidence and Change Programme” to enable the future sustainable and co-ordinated deployment of offshore wind.

Others offshore wind priorities for The Crown Estate:

- Delivering the current leasing round (Round 4)
- Investigating opportunities for future leasing
- Understanding the potential for floating offshore wind to contribute to net zero.

Why do we need an “evidence and change programme”?

The Needs Case for a strategic UK wide evidence programme was set out in a workshop with over 40 organisations represented. This recognises the twin challenges of at least an eightfold deployment of offshore wind to meet net zero targets as well as commitment for restoration of the marine environment.

What's the scope?

Four themes:

- Spatial co-ordination and co-location – the challenges of finding space in a busy seabed
- Improving the understanding of environmental impacts and benefits – strategic research
- Derogation and compensation – where impacts cannot be mitigated
- Net Environmental Gain

Where are we now?

Launched in Dec 2020. £25m investment over 5 years.

Early projects: the East Coast Grid Spatial Study and Future Offshore Wind Scenarios.

Who's involved?

BEIS and Defra as programme partners. Over 25 organisations – industry, regulators, NGOs, statutory advisors on a programme steering group.

Web-links and/or references:

1. www.thecrownestate.co.uk/owec
2. 2019, The Crown Estate, Offshore Wind Evidence and Change Programme, Record of the workshop held on 4 December 2019 “Needs Case”
<http://www.marinedataexchange.co.uk/ItemDetails.aspx?id=11430>

Climate mitigation, Offshore Wind, a developer's perspective Achieving 40GW by 2030

Madeline Hodge

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The Government has huge ambitions for offshore wind, but with this opportunity comes significant challenges. The offshore wind industry want to see the sustainable development of our seas, ensuring climate change mitigation and investment in offshore renewables.

Recent delays with projects, such as Hornsea Project Three, may have given us a flavour of what's to come with future leasing rounds if more isn't done to address evidence gaps and uncertainty in collaboration with all stakeholders. However, we must find a balance between addressing evidence gaps, ensuring the protection and recovery of our seas and maintaining government commitments. We need to reduce consenting risk whilst also ensuring clean energy capacity that delivers economic benefit to the UK.

An eNGO perspective of Offshore Wind

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Climate and nature emergencies require joint solutions to ensure that the offshore wind needed to decarbonise our energy systems is delivered without causing irreversible wildlife losses. Increased deployment is adding a pressure to our already struggling seas. Offshore wind impacts on species, habitats and ecosystems. The effects are cumulative; each new project adds to the threat and together the impacts are predicted to be devastating. The challenges we now face around accelerating and increasing deployment, are a symptom of poor planning and failure to address the degradation of our seas. We must transform how we deploy.

Is the right to fish an insuperable barrier to ocean recovery in offshore wind farms?

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What happens when an irresistible force hits an immovable object?

The law about the displacement of existing rights by large infrastructure projects is quite tried and tested. Essentially those with property rights are compensated, those who don't have them aren't. Although there are some proprietary rights in quota (though exactly what those are is unclear) the UK Government has confirmed that the UK fishery belongs to the Crown on behalf of the public. Fishing businesses (as well as anglers) are exercising their public right to undertake fishing. So where that right is restricted it is a right which belongs to the public. On that basis, if any compensation was due it would be to the Crown rather than any individual. A good analogy is altering the public right to use the highway by imposing pedestrianisation, parking restrictions or bus lanes. Those businesses affected are not compensated.

If compensation is paid it is some form of *ex gratia* payment – but that raises questions as to what service is being provided in return for the payment. This is a difficult call for any private company to make. It would be better if payment was introduced that it came from a strategic intervention at the government level and was by a directed subsidy than *ad hoc* payments by individual companies.

So on the face of it the right to fish is not a barrier – but we clearly need some strategic direction.

NB This talk was given before the Brexit agreement, which adds a little complexity because of reciprocal access.

Session 8 Valuing Our Marine Environment

Chair: **Emma McKinley**, Cardiff University & Marine Social Sciences Network

Moderator: **Eleanor Snape**

The Dasgupta Review on the Economics of Biodiversity

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- In Spring 2019, then Chancellor Philip Hammond commissioned a global independent review on the economics of biodiversity, to be led by Professor Sir Partha Dasgupta (Emeritus Professor of Economics at the University of Cambridge) supported by a team based at HM Treasury. The Review's [Interim Report](#) was published in April 2020, and the full Review will be published in early 2021.
- The Review explores the sustainability of humanity's engagements with Nature, providing a comprehensive framework for thinking about and applying economics to enhance biodiversity and economic prosperity now and in the future.
- Our unsustainable engagement with Nature can be traced to institutional failure writ large, and the failure of contemporary economics to acknowledge that we are embedded within Nature, and not external to it.
- The Review proposes broad and interconnected transitions: we need to invest in Nature's supply and rebalance our demands, move towards different measures of success and transform our institutions to allow this change to happen.

What is the value of recovered UK Seas?

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The UK's seas are part of our national identity and culture. Their natural beauty and amazing wildlife are a source of wonder, inspiration, recreation and wellbeing for millions. They also have huge economic value: the UK government estimates that maritime activities including tourism, shipping, fisheries and renewable energy contribute £47 billion to the British economy annually yet our seas are in peril. . Fishing, pollution and climate change are putting increasing pressure on marine ecosystems, jeopardising their future. In 2019, our seas failed on 11 out of 15 indicators of Good Ecological Status including those relating to birds, fish and seabed habitats. Sky Ocean Rescue and WWF are campaigning for a new 10- year vision and action plan for UK ocean recovery and the Value of Restored UK Seas report sets out the potential benefits of action for Ocean Recovery. Bringing our oceans back to life is crucial for our climate and biodiversity targets, but it's also a sound economic investment. Taking action now to put UK seas on a path to recovery will bring additional benefits worth at least £50 billion by 2050, capture and store up to 137 million tonnes of carbon emissions and has the potential to create over 100,000 full-time jobs, mostly in renewable energy, as we seek to rebuild after the Covid-19 pandemic.

People and the ocean: the rise of behavioural insights

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From the global to the local, from UN powerhouses of sustainability to community actions, there is growing recognition of the need for social and cultural change for positive environmental outcomes.

Problems for the ocean environment start with people, including those seemingly disconnected from it. So, people must also be central to solutions. While systemic change with technological and political advances are essential, progress will be sluggish if not supported by 'social licence' and clear market signals. Behavioural and systemic change are often pitted against each other but are two sides of the same coin.

People, their choices and their actions, manifest as behaviours, whether as individual citizens, communities, organisations, businesses or even politicians. Behaviours are underpinned by values, attitudes, agency and (ideally) knowledge or experience. We are also social animals influenced by those around us, and often irrational beasts who struggle to act on our own values. Applying behavioural insights can help bridge the gap to action and amplify behavioural change, tipping the balance toward social and cultural change.

We will set out recent growth in expectations for use of behavioural insights for ocean conservation and sustainability outcomes, highlighting the hidden and growing expertise available for collaborations.

<https://oceancconservationtrust.org/>

<https://www.peopleoceanplanet.com/>

<https://www.marsocsci.net/> Twitter: [@MarSocSci](https://twitter.com/MarSocSci)

What impact does marine valuation have?

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Marine natural capital and ecosystem services thinking and valuation catalyses development of better policy and legislation and increases consideration of the marine environment in decision making towards improving the marine environment, and achieving sustainable environment, economic and social outcomes from our use of the environment.

The Natural Capital Committee (in which Mel Austen participated for the past three years) brought the economics of natural capital into national policy, legislation and decision making by demonstrating the economic value of terrestrial natural capital. The emphasis has been on terrestrial ecosystems and the Committee's key achievements have been the creation and subsequent government adoption of a 25 Year Environment Plan, implementation of Committee recommendations in the Environment Bill and the Agriculture Act such as the statutory footing of the 25 Year Environment Plan, inclusion of net gain and the Environmental Land Management Scheme

ELMS; inclusion of natural capital framework in the Governments Green Book; and national and corporate natural capital accounting.

There is still some way to go to achieve equivalent policy and regulatory impact for the marine environment and its natural capital, but in doing so we could improve policy and legislation for better environmental management and environmental improvement.

Government and other bodies are receptive to developing and using information on the monetary value of marine natural capital as monetary valuation still remains one of the most important tools for decision makers (along with e.g. social, political and health values) albeit often with disproportionate influence.

It is hugely important for academics, consultancies, NGOs etc. as well as government to provide the best data on marine natural capital and its values to support rational decisions.

In projects such as UKRI NERC SWEEP, the academic community has worked in partnership with stakeholders to develop and apply tools that enable information on marine natural capital to support decision making and policy development. These include natural capital asset and risk registers and sustainability appraisal.

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Session 9 Ocean Recovery and Marine Management

Chair: **Steve Hull**, ABPmer

Moderator: **Brendon Queiroz**

Data, thresholds and trends - the Marine Strategy

Prof Colin Moffat

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Marine systems are fundamental for life on Earth. The ecosystem services that are obtained from the ocean are many and varied. However, human activities are having an impact on the ocean. There is a keen awareness of what we are doing to the Planet through environmental indicators, but further development of the indicators is required. The UK Marine Strategy provides a common framework within which status and trends can be assessed, actions identified and an assessment of progress against the actions undertaken. The UK Marine strategy is about achieving good environmental status, which in more simple language is about determining the balance between protecting marine systems and allowing a level of activity that is consistent with the resource being available long-term. Now in the second cycle of the Marine Strategy, the focus is on assessing the progress made towards the shared vision since 2012 as well as determining what further action is necessary while re-affirming the commitment to work together as the UK to protect UK seas, respecting national priorities and responsibilities. However, the pressures from activities continue to grow and are exacerbated by the impacts from climate change and ocean acidification. This means that there is a requirement to accelerate the required actions as well as taking account of economic and social aspects in the assessments. Ultimately, there is a clear need to establish where the position of balance sits and to manage human activities accordingly.

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A marine strategy that actions Ocean Recovery

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10 years ago we created the governance structures necessary to transform marine management. The Marine and Coastal Access Act, the Marine Policy Statement and the Marine strategy. The Marine Strategy was supposed to enhance our natural asset base - the environment. However, with the biodiversity and climate crises, this process-focused, rather than outcome-focused framework is no longer fit for purpose. We can't afford to continue managing for decline. We've taken a deep dive to look at exactly what the policy blockages are to embracing an ocean recovery agenda. I'll share insights and inspiration from our work with the Marine Pioneer in North Devon, our experiences of practical restoration and wonderful examples from our WWF network of how other countries manage their seas. We need the next 10 years to be a decade of progress, not process. As our contribution, WWF together with Sky Ocean Rescue will be campaigning to inspire

millions of people to become Ocean Heroes, whilst calling on the UK governments to work together and create a world-leading **action focused UK ocean recovery strategy** to bring our seas back to life. We all have a role to play and together can make a difference. To find out more and become an #OceanHero [visit our website](#) and [sign our petition](#).

Net Gain: Can it be applied sensibly in the coastal & marine environment: outcomes of the SUDG conference

Peter Barham

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SUDG is continuing to work with others, including the Wildlife Trusts, RSPB and Defra arm's length bodies, to look at ways in which net gain could be adopted as a principle which will both benefit marine industries and the environment. Our thinking is predicated on the understanding that if net gain is going to become part of the development process, then it is better for industry to be involved in developing how that should take place. To assist thinking we have held a number of workshops with industry, NGOs and regulators to explore thinking about net gain and how it could be applied to be most effective; the most recent of which was done online in October. These have been very valuable in identifying both opportunities and the questions which need resolution to make sure the opportunities can be fulfilled.

Previous thinking in line with the Wildlife Trusts and others is that we are trying to develop a process where mitigation and compensation (the mitigation hierarchy) is retained, but are not kept distinct from net gain. Doing so would allow net gain to be treated as an opportunity to provide more than the mitigation hierarchy and be applied in areas where the most good could be done for conservation, especially if sites are in poor or failing status. This would mean that the environment is not just protected but improved, regardless of whether work takes place in designated areas or outside them. Logically, this should also apply on an ecosystem wide basis, acknowledging that some species require access to terrestrial, marine and intertidal habitats for complete well-being. We are increasingly referring to this as 'ecosystem enhancement'.

Progress on net gain with the development of metrics by Natural England for terrestrial and intertidal habitats during the past year may help but would, in the view of SUDG and others, create a complex legal framework which would be difficult to deliver and may also result in packages of net gain rather than anything more constructive. Taking a different approach, SUDG and the Wildlife Trusts have drafted a joint statement which states that as a nation we should be preparing and agreeing strategic targets for net gain using the extensive information we have which demonstrates that the UK is failing in many areas to protect the coast and seas. These targets should then be used to direct how the mechanisms for net gain should be developed and applied. Such an approach would require creativity rather than complex regulatory frameworks and could involve initiatives such as collaborative funding with others to deliver net gain and recovery. Such an approach would also avoid the constraints of additionality by allowing net gain to be applied to support and add leverage to any work carried out by the Defra arm's length bodies undertaking their own statutory obligations.

It is clear that such an approach could only be successfully applied by developing new ways of working rather than simply adjusting the way we currently deliver outcomes. The Habitats Regulations were transposed into UK law in 1992 and 30 years later we are still trying to define some of the key principles; this has cost industry and regulators huge amounts of time and cost and has often meant that compensatory works have been done to comply with the Regulations rather than to enhance nature where the impact could be greatest. With the introduction of net gain we have the opportunity to avoid a repetition of both this and an over complex bureaucracy, but it requires innovation, collaboration and a shared drive to reversing the environmental damage that we are good at recording but not at resolving.

An introduction to the Nature Recovery Network: links to the coast and marine

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We know we need to do more to recover nature and increase the benefits it provides to our people and our economy.

Defra and Natural England are bringing together partners, legislation and funding, to create the Nature Recovery Network (NRN). Together, we will deliver the Network by restoring and enhancing England's wildlife-rich places.

Creating a national network

The NRN will be a national network of wildlife-rich places. Our aim is to expand, improve and connect these places across our towns, cities and countryside.

The NRN is a major commitment in the [government's 25 Year Environment Plan](#) and part of the forthcoming Nature Strategy.

What the NRN will achieve

The NRN will help us deal with 3 of the biggest challenges we face: biodiversity loss, climate change and wellbeing.

NRN objectives

Through our work to create the NRN, by 2042 we will:

- restore 75% of protected sites on land (including freshwaters) to favourable condition so nature can thrive
- create or restore 500,000 hectares of additional wildlife-rich habitat outside of protected sites
- recover threatened and iconic animal and plant species by providing more, diverse and better connected habitats
- support work to increase woodland cover
- achieve a range of environmental, economic and social benefits, such as carbon capture, flood management, clean water, pollination and recreation

More information can be found at:

<https://www.gov.uk/government/publications/nature-recovery-network/nature-recovery-network>

Session 10 Restoration & Recovery – Practice & Delivery

Chair: **David Tudor**, Blue Marine Foundation

Moderator: **Tom McAleese**

ReMEDIES – Restoring and Protecting our Seabed

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LIFE Recreation ReMEDIES is a four-year partnership project to Save Our Seabed led by Natural England and funded by the EU LIFE Programme. The project runs from July 2019 until October 2023 and, along with our partners the Royal Yachting Association, Marine Conservation Society, Ocean Conservation Trust and Plymouth City Council/Tamar Estuaries Consultative Forum, our goal is to:

- Demonstrate habitat restoration and management techniques including seagrass restoration.
- Protect and improve the condition of key intertidal and subtidal habitats.
- Raise awareness and actively inspire better care of the habitats by key users.
- Monitor, record and evaluate the project to maximise public benefits, conservation impact and repeatability across Europe.

Our work will focus on five Special Areas of Conservation in the south of England: Isles of Scilly Complex, Fal and Helford, Plymouth Sound and Estuaries, Solent Maritime and Essex Estuaries.

This presentation will introduce the project, including our priorities for the coming years, our plans for restoring seagrass and the development of a habitat suitability model - a collaboration between Exeter University and Natural England.

<https://www.gov.uk/government/publications/life-recreation-remedies-project>

Experimental saltmarsh restoration in Essex

Rachel Langley

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Saltmarshes are the unsung heroes of our coasts. They provide a plethora of ecosystem services, including acting as a flood defence and they are a key nature-based solution to the climate crisis. However, in the UK we are losing nearly 100 hectares of saltmarsh a year and much of what remains is in a degraded state. In 2018, Essex Wildlife Trust and the Environment Agency embarked on an experimental, low-cost saltmarsh restoration project where we installed coir roll structures in selected saltmarsh channels. After an initial monitoring phase, we are developing our project to measure and prove the success of the approach (including developing a blue carbon workstream), with the ultimate aim to deliver saltmarsh restoration at a landscape scale.

Web-links:

- Initial installation press release inc video - <https://www.essexwt.org.uk/news/restoring-saltmarshes-blackwater-estuary>
- Saltmarsh blog inc saltmarsh restoration project - <https://www.wildlifetrusts.org/blog/guest/saltmarshes-unsung-heroes-our-coasts>

Beneficial use of dredged material – progress and challenges

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Dredging is an essential tool for the maintenance of safe navigation across the UK's ports, harbours and network of historic waterways and is therefore, a vital operation for the UK economy. However, it is not without its challenges and currently, the majority of this resource is transported over greater distances, to be deposited in licenced offshore disposal sites away from the coast, where it has a fundamentally negative impact, namely; the loss of sediment from the coastal system, an associated reduction in the resilience of local habitats, the smothering of existing habitats offshore, and the additional monetary and carbon cost resulting from increased fuel consumption.

More is required in order to change our behaviours and societal perceptions and to better recognise arising dredged sediment as the valuable natural resource that it is, fundamental to the strategic and sustainable management of our estuaries and coasts. The beneficial use of dredged sediment is the aim and ethos of treating dredged sediment as a valuable natural resource and to utilise it to create economic, social and/or environmental benefits. Through this approach, beneficial use and improved sediment management techniques can be used creatively and innovatively, to provide nature-based solutions (NbS) and support our habitat restoration ambitions, helping to restore the basic physical conditions that will allow our habitats and species to thrive.

Key barriers that have prevented wider application of this management tool across the UK include; complex regulatory frameworks and licensing processes, the strategic co-ordination of dredged sediment sources and habitat restoration projects, and the additional costs associated with beneficial use in comparison with simply depositing sediment in offshore disposal sites. This talk will discuss the challenges and progress associated with dredged sediment management, highlighting the work and collaborative efforts ongoing, in order to promote beneficial use and how together, we can change perceptions and maximise the versatility of our sediment resource to restore and sustainably manage the UK's estuarine and coastal habitats.

<https://www.rspb.org.uk/globalassets/downloads/documents/conservation-projects/seabuds-report.pdf>

Keynote 4 Monty Halls – A Personal Perspective

Chair: **Sarah Young**, WWF-UK

DAY 3 – Thursday 21st January

Session 11 Reducing the impact of our activities: plastics & noise – what can we do to make a difference?

Chair: **Colin Moffat**, Chief Scientific Advisor Marine, Scottish Government

Moderator: **Becky Dodds**

Building networks to stop plastic pollution at source

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www.preventingplasticpollution.com @Plastic_EU @EnvAgency

Plastic pollution is a global environmental problem which is escalating. We know that connecting with nature and having access to blue and green space is essential for our health and wellbeing. We know that seeing plastic in our environment is detrimental to our wellbeing and that new health risks may be emerging from micro-plastics. A multi-faceted approach is needed to stop plastic pollution at source and everyone has a part to play in this challenge. We need everyone to understand the urgency of this issue and need people who have the knowledge, skills and enthusiasm to tackle it. Across the UK there are thousands of people working passionately in their local communities to face this problem head on.

In this presentation I will talk about how we have set up networks across the country to enable effective communication and collaboration at a local level. The networks provide a platform for volunteer groups, NGOs and local authorities to work together and provide a space to share ideas, avoid duplication and increase combined impact. The networks are supported further through working with our partners in a European Interreg funded project, *Preventing Plastic Pollution*. In this talk you will learn about the ways these networks, made up of inspirational local environmental champions, together with our Interreg partners, will feed into the existing networks within the Environment Agency. This will strengthen the great work already being done to create better places for people and wildlife.

Preventing Plastic Pollution – Raising the ambition

Anne Schroeer

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The oceans face a massive and growing threat from something you encounter everyday: plastics. An estimated 15 million tonnes of plastic leaks into the marine environment every year—this is roughly equivalent to dumping two garbage truck full of plastic into the oceans every minute. As plastics continue to flood into our oceans, the list of marine species affected by plastic debris expands. Tens of thousands of individual marine organisms have been observed suffering from entanglement or ingestion of plastics permeating the marine environment—from zooplankton and fish, to sea turtles, marine mammals and seabirds.

Plastics in our oceans threaten the viability of critical marine ecosystems, but marine plastic pollution is not just a problem for our oceans. The extent to which we, too, are being affected by the plastics that

have become so ubiquitous in our environment—in our food, water and air—is a topic of extensive research.

Unfortunately, one of the most popular solutions to plastic pollution falls far short. A meager 9% of all plastic waste generated has been recycled. Recycling alone is not enough to solve the plastics crisis. To have an impact, we must reduce the amount of single-use plastic being produced at the source. Solving the plastics problem in our oceans will ultimately take concerted action from companies, governments and advocates. At all levels, governments need to enact smart legislation and regulations that limit or eliminate single-use plastics and ensure they don't end up in our oceans.

Link: <https://plastics.oceana.org/>

Underwater noise mitigation and marine mammals

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Senior Marine Mammal Advisors, Marine Management Team, Joint Nature Conservation Committee

The marine environment is very noisy, some of it natural but much of it manmade. Of particular concern is impulsive noise from activities like piling, underwater explosives and geophysical surveys. These have the potential to injure marine mammals without appropriate mitigation.

Established mitigation methods and guidelines to reduce risks of injury have been developed worldwide (e.g. [JNCC seismic guidelines](#)) focussing on ensuring marine mammals are not within a potentially risk area close to the noise source before the activity commences. These areas are usually monitored visually and/or acoustically. There are limitations to these measures, particularly with regards to detection efficiency, and emerging techniques are promising. [Acoustic deterrent devices](#) are also sometimes used to deter animals from getting too close to the noise source. In addition, operational procedures such as soft-starts can help reduce risks.

Behavioural effects are more difficult to mitigate since these can be observed at greater distances from a noise source. Reducing the level of noise produced at source can reduce disturbance ranges (e.g. using noise abatement methods). In addition, limiting the level of disturbance in space and time can be used to manage noise in particularly important areas. This approach has been adopted in UK harbour porpoise Special Areas of Conservation.

Mitigation measures should be tailored as much as possible to the risk to animals and the uncertainty associated with this. Good [reporting](#) on mitigation undertaken during offshore operations is vital to ensure standards of mitigation are maintained, as is more research to validate mitigation methods. Regular reviews of existing and new mitigation measures are key, as is new evidence regarding the impacts of noise on marine mammals.

JNCC web page - marine mammals and offshore industries: <https://jncc.gov.uk/our-work/marine-mammals-and-offshore-industries/>

Noise Abatement in the marine environment

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Stephen Robinson

National Physical Laboratory (NPL)

- Underwater noise pollution from the installation of offshore wind turbine foundations and the detonation of unexploded ordnance (UXO) is recognised as an issue of growing concern by UK regulators and policymakers.
- Marine mammals, fish and invertebrate species can be adversely affected by exposure to noise from these activities.
- Some of these species are protected under UK law, and in order to issue a license authorising these activities it needs to be shown that there is no satisfactory alternative to the activity.
- However, for both pile-driving and UXO, technologies are available which reduce the amount of noise emitted at source (noise abatement).
- Such technologies are being routinely deployed in other parts of the North Sea in order to reduce the risk of impact on marine life, particularly marine mammals.
- A workshop of key UK representatives from industry, NGOs, government agencies, academia, and Statutory Nature Conservation Bodies held in November 2019 (and convened by the authors) concluded that:
 - i. no new policy or regulation would be needed to implement noise abatement in UK waters for offshore wind turbine installation or disposal of unexploded ordnance;
 - ii. it is feasible to deploy noise abatement technologies at all locations where offshore windfarms are proposed in UK waters.

Keynote 5 Tony Juniper, Chair Natural England

Chair: **Tim Morris**, UK Major Ports Group

Moderator: **Guy Hooper**

Session 12 Restoration & Recovery: Nature Based Solutions, Benefits & Challenges

Chair: **Mark Duffy**, Natural England

Moderator: **Chloe Honess**

Restoring Meadow, Marsh & Reef (ReMeMaRe) – the reality of a plan

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<https://ecsa.international/reach>

ReMeMaRe is a cross-Defra initiative, led by the Environment Agency, to support the restoration of our key estuarine and coastal habitats.

- The **vision** of the ReMeMaRe initiative is for restored estuarine and coastal habitats that benefit people and nature.
- The **mission** is to restore at least **15% of our priority habitats** along the English coast by 2043.

The talk will discuss a theoretical estuary and coast **Blue Recovery Fund**, for £25.4 million of public investment, combined with £30.6m of partnership investment, over 4 years to deliver estuarine and coastal habitat restoration. This would restore 800 ha of saltmarshes, 25 ha of seagrass meadows and 50 ha of oyster beds, plus funds to support the development of scaling-up aquaculture facilities that would be required to achieve the larger aim of restoring 15 % of our estuarine and coastal habitats. The talk discusses the environmental and economic benefits of such a fund.

This fund will provide key long term outcomes including:

Enhanced and more resilient natural capital at the coast.

Providing functioning nature-based solutions for mitigating climate change impacts.

Improvement of local economies in deprived coastal communities.

Reduction in pollution and improvement in water quality.

The talk will also highlight ReMeMaRe products developed in 2020, including restoration potential maps for saltmarsh, seagrass and native oysters and the first of our four restoration handbooks, for European native oyster habitats.

We can circulate the document detailing the fund and benefits analysis in more detail if required, please email Ben above for further information.

A 'how to' guide to oyster reef restoration: historical perspectives and best practice

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This talk provides an overview of the *European Native Oyster Habitat Restoration Handbook*, launched in 2020 as part of the UK's drive to upscale restoration of priority coastal habitats. This 'how to' guide was produced by the Native Oyster Network in collaboration with the European Native Oyster Restoration Alliance. Both networks are communities of academics, restoration practitioners, producers and NGO's who are working to restore self-sustaining populations of *Ostrea edulis* across its biogeographic range. With an estimated decline of 95% since the 19th century, native oyster reefs are now one of the most threatened marine habitats in Europe. In some regions of Europe native oysters are now functionally extinct. The key driver behind this huge decline is historic overfishing, however habitat loss, disease, pollution and invasive non-native species are all contributors. Due to the almost total loss of this habitat and species, historical ecology provides a powerful reminder of the extent of this once abundant European coastal habitat. There are many barriers to achieving large scale marine habitat restoration; including financial, legislative, political and cultural; this handbook provides an ecologically coherent, biosecure and ambitious approach to help remove these barriers and achieve the highest standards of ecological restoration.

Web-links:

www.nativeoysternetwork.org

<https://noraeurope.eu/>

References:

Preston J., Gamble, C., Debney, A., Helmer, L., Hancock, B. and zu Ermgassen, P.S.E. (eds) (2020). European Native Oyster Habitat Restoration Handbook. The Zoological Society of London, London, UK. ISBN: 978-0-900881-80-0.

zu Ermgassen, P.S.E., Gamble, C., Debney, A., Colsoul, B., Fabra, M., Sanderson, W.G., Strand, Å. and **Preston, J.** (eds) (2020). European Guidelines on Biosecurity in Native Oyster Restoration. The Zoological Society of London, London, UK. ISBN: 978-0-900881-82-4

Community Engagement – Lessons learned

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The Pembrokeshire Marine Special Area of Conservation (SAC) Relevant Authorities Group is a partnership set up in 1999 to work collaboratively to identify, agree and implement SAC management for the SAC as provided for by Section 36 of the 'Habitats Regulations'. Through pooled resources, the Group have employed and supported a SAC Officer to co-ordinate work and provide a site focus for stakeholders since 2000. As the SAC Officer, Sue secures grant and project funding as appropriate to undertake work to improve site feature condition and raise awareness of the SAC and its management needs. Projects cover recreational activity, intertidal collection of living resources, fisheries, habitat and species restoration, development, water quality, pollution and education. In addition, liaison across Wales and the UK ensures that information is shared and lessons learnt for the benefit of the Marine Protected Area network as a whole.

PCF – Pembrokeshire Coastal Forum

Our coast is in high demand and this can be complex to manage. PCF bring the community and stakeholders together to deliver innovative solutions to coastal challenges. We are committed to delivering bespoke support for coastal collaboration as required; from community-based activity to international project delivery.

Our pioneering work often originates in Pembrokeshire and is then taken wider. Some examples include our work on responsible recreation, including the creation of a [Marine Code](#) and [Outdoor Charter](#) for Pembrokeshire and an online [Wales Activity Mapping](#) tool. Ensuring sustainable development of marine renewable energy saw the inception of Marine Energy Pembrokeshire in 2010 merging into [Marine Energy Wales](#) in 2016. Our [Ecobank – Building Resilience in Catchments](#) project is developing a framework for creating an enterprise capable of running a nutrient based trading scheme related to the Milford Haven waterway. Working on climate change adaptation includes stakeholder work in specific areas, using tools created in the partnership [CCAT](#) project. Finally, our education programmes deliver learning and skills development across all our areas of work.

As experienced partners in multiple varied projects we share with you today our **learning on engaging communities** across projects relevant to the marine environment.

Our talk seeks to highlight some of the successes and challenges we have encountered along the way, with the aim to nudge project developers to build in the 'sometimes obvious' to ensure project success.

Points covered include:

- Plan of action
- Communication
- Resources
- Challenges

Links:

Dale Seagrass Ocean Rescue updates

<https://www.pembrokeshirecoastalforum.org.uk/seagrass-ocean-rescue/>

SWEPT - Surveying the Waterway Environment for Pollution Threats report

http://www.pembrokeshiremarinesac.org.uk/english/background/news_c.htm

Marine Code toolkit

<https://www.pembrokeshirecoastalforum.org.uk/projects/pembrokeshire-marine-code/marine-code-toolkit/>

Summit to Sea Mid-Term evaluation report

<http://www.summit2sea.wales/independent-evaluation-of-early-project-development/>

Pembrokeshire Coastal Forum <https://www.pembrokeshirecoastalforum.org.uk/>

Pembrokeshire Marine SAC <http://www.pembrokeshiremarinesac.org.uk>

Session 13 **Fisheries: Supporting Ocean Recovery**

Chair: **Helen McLachlan**, WWF

Moderator: **Danielle Grumann**

UK Fisheries Act – opportunities for ocean recovery

Sarah Denman

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We are facing a climate and ecological emergency and delivering ocean recovery is more vital now than ever. The UK Fisheries Act will govern UK fisheries now that the UK has left the EU and could prove an invaluable tool with which to recover our seas.

The UK Fisheries Act is intended to provide a framework for fisheries management, with much of the policy and technical detailed to be developed in the future. It contains ambitious new plans. The first is a joint policy statement that will be developed between Westminster and the devolved administrations and will set out how authorities will achieve progressive new fisheries objectives such as a climate change objective, a bycatch objective and a sustainability objective. The second are new Fisheries Management Plans which aim to deliver stock recovery. Finally, there are new powers in the Fisheries Act for authorities to make rules to enhance conservation and monitor illegal fishing, which could include the provision of Remote Electronic Monitoring.

The UK Fisheries Act provides the opportunities for ocean recovery in the UK – but Westminster and the devolved administrations will need to effectively use and implement these powers to ensure that the UK is a world-leader in fisheries management post-Brexit.

1. Greener UK briefing on the landing obligation (2020) -
https://greeneruk.org/sites/default/files/download/2020-01/GreenerUK_landing_obligation_briefing.pdf
2. Greener UK briefing on Remote Electronic Monitoring (2020) -
https://greeneruk.org/sites/default/files/download/2020-01/GreenerUK_REM_briefing.pdf
3. Letter from the Sustainable Seafood Coalition to the Secretary of State urging Government to put sustainable fishing at the heart of the Fisheries Bill (2020) -
<https://www.sustainableseafoodcoalition.org/fisheries-bill/>

UK Fisheries Act – putting ocean recovery into practice

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The new UK Fisheries Act provides the tools to control who fishes in UK waters, the level of fishing within offshore Marine Protected Areas and, through Fisheries Management Plans, the amount of commercial extraction of any particular stock.

As the new act recognises that fish are not just a commercial asset, but an important part of the marine ecosystem and a clear objective to aid in the achievement of Good Environmental Status.

For example, the sandeel is a small shoaling fish critical to the healthy functioning of marine food webs in UK waters that include populations of some of our most threatened seabirds. Among those that breed in the UK in internationally important numbers, the kittiwake – which is particularly sandeel dependent and thus sensitive to changes in sandeel availability – has shown a chronic decline of around 50% since the 1960s.

Given the dual threats of a Climate and Ecological emergency, these tools provide the opportunity to reverse declines and deliver significant progress towards Good Environmental Status. This presentation looks at seizing this opportunity through the case study of sandeel fishing in the North Sea.

Ending wildlife bycatch

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Bycatch is a significant threat for cetaceans, seals and seabirds in range of different fisheries in UK waters, by UK and non-UK fishing fleets, causing considerable suffering and that may result in population level impacts. The Fisheries Act has received Royal Assent in October 2020 and UK and devolved governments are implementing a number of policies to prevent bycatch and these will be discussed. The benefits of using remote electronic monitoring to understand levels of sensitive species bycatch are introduced here, and the requirement for concurrent measures to prevent bycatch. Introduction of REM is not a reason to delay mitigation action. Bycatch prevention success stories from South Africa and Scotland will be highlighted. Bycatch solutions are suggested, including the steps required to prevent bycatch, and specific, measurable and time-limited objectives, where our ambition is to eliminate bycatch in UK waters.

Resources:

ACAP review of seabird bycatch mitigation measures and summary advice for reducing the impact of fishing on seabirds. <https://www.acap.aq/resources/bycatch-mitigation/mitigation-advice>

Clean Catch UK website: <https://www.cleancatchuk.com/>

Course, G.P., Pierre, J., and Howell, B.K., 2020. What's in the Net? Using camera technology to monitor, and support mitigation of, wildlife bycatch in fisheries. Published by WWF.
<https://wwfeu.awsassets.panda.org/downloads/whatsinthenetfinal.pdf>

Dolman, S.J. and Brakes, P. 2019. Sustainable Fisheries Management and the Welfare of Bycaught and Entangled Cetaceans. *Frontiers in Veterinary Science*, 5, 287.
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6262414/>

Good, S.D., Baker, J.B., Gummery, M., Votier, S.C. and Philips, R.A. 2020. National Plans of Action (NPOAs) for reducing seabird bycatch: Developing best practice for assessing and managing fisheries impacts. <https://www.sciencedirect.com/science/article/pii/S0006320719314545>

Northridge, S., Kingston, A. and Coram, A. 2020. Preliminary estimates of seabird bycatch by UK vessels in UK and adjacent waters.
http://randd.defra.gov.uk/Document.aspx?Document=14932_ME6024PrelimestseabirdbycatchinUKfisheries19Oct2020rev.pdf

WDCS. 2008. The animal welfare implications of cetacean deaths in fisheries.
<https://uk.whales.org/wp-content/uploads/sites/6/2018/08/wdc-bycatch-report-2008.pdf>

Wildlife and Countryside Link briefing. 2018. Gearing up to eliminate cross-taxa bycatch in UK fisheries.
<https://www.wcl.org.uk/docs/Gearing%20up%20to%20eliminating%20cross-taxa%20bycatch%20in%20UK%20fisheries%20FINAL.pdf>

Scotland's Future Fisheries Management

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Scotland's Future Fisheries Management Strategy was published on 17 December 2020. The Strategy sets out a course for Scotland to be a world class fishing nation delivering responsible and sustainable fisheries management. The publication of the Strategy follows the national Discussion Paper on the Future of Sea Fisheries Management which was published on 4 March 2019 and a successful discussion phase which engaged fisheries stakeholders across Scotland to share their ideas, aspirations and hopes for the future.

The Strategy has published against the backdrop of the COVID-19 crisis, uncertainties around Brexit, and the publication of the UK Fisheries Act (2020). It provides a strategic framework to deliver a 12 point action plan which will ensure the long-term sustainability and profitability of the marine fisheries sector whilst also ensuring that the right protections are in place for our fish stocks and our rich and diverse marine environment.

The publication can be found at: <https://www.gov.scot/isbn/9781800041950>.

Session 14 Inshore Fisheries

Chair: **Jerry Percy**, Director of the New Under Tens Fishermen's Association (NUTFA)

Moderator: **Megan Lloyd**

IFCAs delivering Ocean Recovery in English Inshore Waters

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Marine protected areas (MPAs) in various forms (SAC, SPA, MCZ, SSSI & etc.) protect our most important inshore marine areas, according to various national and international biological conservation criteria. There are over 120 MPAs in English inshore waters and these zones cover over 56% of the area within IFCAs jurisdiction (>16,000km²). The productivity and biological diversity of these zones, and our inshore waters, is the reason we have rich and diverse fisheries.

IFCAs have transformed the management of fisheries in MPAs. They have done so by assessing all commercial fishing activity in the MPAs to ensure it's compatible with the designation of these sites. Management, whether by byelaws or otherwise, has been introduced where necessary. The IFCAs have worked with local communities to achieve this transformation in an open, accountable and transparent manner. The continued protection afforded by this management is delivered by IFCA officers. IFCA officers and members are engaged with local communities to promote the wider understanding of the regulations. IFCAs deliver effective risk-based intelligence led enforcement.

IFCAs embody the principles of co-management and deliver management of inshore fisheries to develop and enhance sustainable exploitation. Examples include the management of our significant shellfisheries, as well as, amongst other things, the protection of juvenile fish and important fish nurseries.

IFCAs demonstrates that effective fisheries management requires devolution to the local level. Fisheries Management Plans (emerging as a consequence of the Fisheries Act, 2020) must now integrate the best practice of inshore fisheries management into wider stock management systems. With the opportunities that emerge as a consequence of developing domestic fisheries policy, local authorities and IFCAs, working ever closer together, have an important role in shaping priorities and objectives in the FMPs; by so doing we can realise the further benefits of ocean recovery for sustainable coastal fishing and the communities who depend upon them.

Web-links and/or reference

<http://www.association-ifca.org.uk/>

<http://www.association-ifca.org.uk/marine-protected-areas>

The Future of Our Inshore Fisheries – The Journey Continues

Kirsten Milliken

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The Future of Our Inshore Fisheries (FOIF) is an ambitious, collaborative programme to reform UK inshore fisheries management. The goal is to establish an effective inshore fisheries management regime; that enables a sustainable and profitable inshore fishing industry, which in turn can support flourishing coastal communities.

In June 2019 the FOIF group convened a workshop with industry stakeholders to begin a dialogue around the challenges and opportunities in inshore fisheries management. Workshop findings were published in a [report](#) and the insight gained through the event set the agenda for the larger scale event.

In October 2019 The Future of Our Inshore Fisheries Conference in London was attended by 180 inshore fisheries stakeholders including 50 active fishermen. The event focussed around 6 discussion themes; it gave stakeholders a voice and began a collaborative process of knowledge exchange, discussion, and problem-solving.

Findings from the conference discussion sessions were summarised in a [report](#) and following the conference the Steering Group expanded, and now includes 8 inshore fishermen. The Steering Group published an [action plan](#) in June 2020 highlighting several priority actions under the themes of Co-Management, Collaborative Science, Credible fisheries management, and Rights and Access. Now, eight months into that action plan many of those are underway and in coming months the Steering Group will launch a number of other projects.

For more information on the FOIF, news, updates and publications visit our webpage: <https://www.seafish.org/responsible-sourcing/fisheries-management/future-of-our-inshore-fisheries/> or contact Kirsten Milliken at Seafish: Kirsten.milliken@seafish.co.uk.

Offshore Aquaculture: The developing landscape and multiple benefits

Tim Huntington

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English aquaculture is one of a number of economic activities competing for space off our crowded coasts. It is this competition - combined with the potential for larger-scale operations in deeper, less polluted waters - that is driving the move offshore. However this brings a number of challenges, including developing more robust stock containment systems and adapting operational practises to the challenges of more distant and often hostile environments. The presentation examines the current state of art for offshore aquaculture, such as submersible and semi-enclosed production systems and considers how the sector might work and co-exist with other maritime economic activities such as capture fisheries and offshore renewable energy production. The presentation concludes with some thoughts on the next steps for developing sustainable offshore aquaculture, including supporting the current cadre of entrepreneurs pioneering offshore seaweed and shellfish farming, the building of alliances and partnerships between different offshore economic activities and supporting the development of a more holistic English 'blue economy'.

Web-links and/or references:

For more information on Poseidon or Tim Huntington, see <http://www.consult-poseidon.com>. For more information on English aquaculture development, the movement offshore and the aquaculture's place in the blue economy, see the English Aquaculture Strategy (2021 – 2040) at <https://www.seafish.org/about-us/working-locally-in-the-uk/working-with-the-seafood-industry-in-england/seafood-2040/english-aquaculture-strategy-from-seafood-2040/#:~:text=The%20development%20of%20an%20aquaculture%20strategy%20was%20one,in%20moving%20towards%20a%20thriving%20English%20aquaculture%20sector>.

The Importance of Recreational Angling in The Inshore Marine Environment

David Mitchell

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Recreational fishing is an activity which for decades has been overlooked by policy makers, scientists, and economists. In part, this is a result of the failure of the EU Common Fisheries Policy to recognise it. Finally, with its inclusion in the new UK Fisheries Act, it is in a position to establish itself more prominently as a full stakeholder in the management of the UK's publicly owned fisheries.

Economic Importance

Within the region of 800,000 individuals taking part in angling each year throughout the UK, contributing to a total economic impact of nearly £2bn annually, we explore the economic importance of recreational angling to the UK and its coastal communities and economies.

Social Importance

More research to document the social importance of recreational angling is needed. However, we already know that recreational fishing brings communities, cultures, ages, and people together, as well as improving physical health, mental health and well-being. It is also an important part of the cultural identity for many coastal communities.

Biological Importance

As part of the catching sector recreational angling does have a biological impact on fish stocks and the marine environment. More and more research is now being collected to establish the extent of its impact in order to understand how to manage fisheries most effectively, particularly within the context of the government's stated aim of achieving 'world class' fisheries through the new UK Fisheries Act.

World Class Fisheries Importance

International examples show us that if the UK wishes to achieve the ambition of having world class fisheries then allowing the £2bn angling industry to play a full role as a recognised stakeholder in fisheries is essential, as is including the 800,000 angling members of the public in the management of public fishery resources.

Science and research Importance

Recreational angling contributes immense amounts of scientific data to the management of marine habitats and species. With species such as sharks angling is often the only way to collect this data. Recreational angling is now contributing to the international management of stocks through the data provided by the tagging and recording carried out by anglers in partnership with scientific institutions and governments.

References:

- Angling Trust www.anglingtrust.net
- Sea Angling Diary project results 2016-2017 [Sea Angling in the UK in 2016 & 2017 \(publishing.service.gov.uk\)](http://Sea Angling in the UK in 2016 & 2017 (publishing.service.gov.uk))
- European Anglers Alliance presentation to EU Commission webinar [EAA - Including marine recreational fisheries in the CFP: can the EU afford not to? \(eaa-europe.org\)](http://EAA - Including marine recreational fisheries in the CFP: can the EU afford not to? (eaa-europe.org))
- Marine recreational fishing and semi-subsistence fishing – its value and its impact on fish stocks [Research for PECH Committee - Marine recreational and semi-subsistence fishing - its value and its impact on fish stocks - Think Tank \(europa.eu\)](http://Research for PECH Committee - Marine recreational and semi-subsistence fishing - its value and its impact on fish stocks - Think Tank (europa.eu))
- Angler Attitudes Research 2020 [Recreational sea anglers are calling for greater consideration of their needs and better regulation of commercial fishing practices, says new study. - GOV.UK \(www.gov.uk\)](http://Recreational sea anglers are calling for greater consideration of their needs and better regulation of commercial fishing practices, says new study. - GOV.UK (www.gov.uk))
- Bass Anglers' Sportfishing Society tagging [Bass Tagging – Bass Anglers' Sportfishing Society \(ukbass.com\)](http://Bass Tagging – Bass Anglers' Sportfishing Society (ukbass.com))

Session 15 Marine Protected Areas – Beyond Paper Parks

Chair: **Joan Edwards**, The Wildlife Trusts

Moderator: **Shion Reynell**

The Road to 30x30: the Need for Real Ocean Protection - Greenpeace's Campaign on Offshore MPAs

Chris Thorne

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- In contrast to Government rhetoric, the UK's offshore MPA network offers protection in name only
- Just 5 MPAs are moving towards their conservation objectives, while destructive fishing is rife – with destructive supertrawlers and bottom trawlers threatening MPA health
- Greenpeace is campaigning for the Government to ban supertrawlers & bottom trawlers from the offshore MPA network, as a first step towards fully or highly protecting 30% of UK waters by 2030. This has widespread public, political & media support
- Due to Government inaction, last year Greenpeace was forced to take drastic action; placing 34 granite boulders on the seabed across the Dogger Bank MPA, to create a 50 square mile bottom trawling exclusion zone
- The Government then launched a consultation on strengthening protection in 5 MPAs. It's welcome progress, but falls far short of the ambition required to transform the UK's network of paper parks. Politicians must be bold and use new powers from Brexit & the Fisheries Act to ban supertrawlers & bottom trawlers from offshore MPAs. Only then can the UK be credibly considered a world leader in ocean protection, and only then will our most precious ocean life have a chance to recover

The Dogger Bank – a plea for adequate management to enable ocean recovery

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The Dogger Bank is an iconic place, fishing ground, and Marine Protected Area. It has a unique archaeological history and value, in large part because it is a place of recent massive change. 'Doggerland' existed as recently as just after the last ice age about 8,000 years ago¹; Woolly mammoth tusks and bones have been trawled up from it. It is named after fishing – the 17th century Dutch fishing vessels were called 'Doggers'. So there is a prolonged cultural heritage of fishing associated with the site that was a marshy boggy land at the end of the last ice age....

Such a story of relative change has been lost perhaps in our discourse over current drivers to protect this MPA. Change – it could be argued – has been largely down to global factors such as sea level rise, sea temperature increases, increased acidity, increased 'storminess'. Some would argue that the significance of these global changes makes any 'site level' management meaningless. Global politics will have to deal with these effects over many years and between multiple nations. By contrast we could manage the footprint of the large-scale fishing relatively easily and cheaply. But we don't.

Fishing activity at Dogger has changed in the past 140 years from set nets, line fishing and rudimentary trawls using sail power (fishing 'smacks' were common on the Dogger in the early to mid-1800s) through steam power to industrial diesel trawlers that have payloads of fuel costing upwards of

£20,000 before setting out to sea. Such intensification and power of these fleets has allowed fish to be exploited ever harder, deeper (in depth), and deeper down the food chain. Yet such intensification has only occurred at offshore fishing grounds since the early 20th century, and possibly with the advent of steam trawlers in the late 1800's. 140 years of the recent of 8,000 years (since the last major natural change occurred at the site) is 1.75% of the current 'ecological' history of the site. I view that for 1.75% of the evolutionary history of Dogger. Its 'typical species' have had to rapidly adapt to industrial seabed fishing. Perhaps that puts into perspective the statement over the Anthropocene from fishers that 'we've always fished there'. Yes, but not like this!

The Dogger Bank SAC was only designated in the 2010s for the three countries that 'share' the site (UK with the largest section of approximately 12,000 km², & Holland, then Germany). Clearly we were about 120 years too late (Come on JNCC – where were you?). Post war food security concerns fuelled the cultural norms of the 'freedom to fish' in order to feed the nation as the UK was practically starving. Such support for the fishing and farming industry was inflated since CAP and CFP that added perverse subsidies to continue exploitation of the resource. This artificial psychological boost to fishing makes the consideration of 'closed areas' (and moreover, those who advocate for them, and where 'we' come from) an anathema to subconscious feelings of 'rights' in fishers and their representatives.

The law has its place for ensuring effective management, but so does genuine cost-benefit analysis. Fish and 'jobs' vs biodiversity (that can have anyone's metric applied to its value), increased and different fish assemblages vs the current scallop; sandeel; (small, truncated) cod; (small) haddock, some ling; (small) plaice; (few, little) sole – and a relatively moribund seabed.

Arguments will continue to rage over proximate and distant factors affecting species composition of the site whilst the 'cropping' continues, and continues, leading to some scientists effectively only monitoring what's inside the sand, rather than what's on top of it. Largely because 'statistics' aren't powerful enough to now deal with the lack of epifauna on many of our offshore sites that are fished using seabed trawls (ICES, pers comm.).

Setting the 'baseline state' for offshore MPAs for when they were designated is hopeless - and doesn't relate to 'typical species' that evolved on the bank since 8,000 years ago. 'Typical species' remain missing from the site that were once 'natural' 'commonplace', 'large'. They may still be there (soft corals, sponges, bryozoa, large cod, a transient halibut, a petrified lonely angelshark). But they are functionally extinct. Do we want any of this 'stuff' back in our sites? Do we want them to absorb carbon? Do we want to have the ability for a line fishery to operate under strict quota to take some of the biomass of fish from the system (leaving a growing seabed), rather than what are essentially factory boats extracting the base of the food chain (sandeels)? What is the point of this place and other MPAs and designations if we cannot recover Dogger?

And it doesn't just end at Dogger. This narrative exists for most offshore MPAs. We have current 'norms' associated with society, don't we? Driving a car to work, eating meat, buying cheap clothes. What are the impacts of these choices? It is no longer acceptable to smack children any more. Smoking is on the wane..... these 'norms' are changing. The absence of responsibility of the consumer comes from the huge distance to the exploitation of the resource. Activities in UK MPAs – our 'building blocks for marine life' – are essentially completely out of control. It cannot continue this way for the sake of wildlife, society, people and the security of the planet. Dogger is the canary in the coalmine, and the coalmine is burning.

¹ <https://www.bbc.co.uk/programmes/m0006707>

References:

Doggerland - <https://en.m.wikipedia.org/wiki/Doggerland>

Is the cost of managing MPAs worth it? <https://www.pnas.org/content/101/26/9694>

Habitat structuring species on North Sea seabeds:

[https://www.researchgate.net/publication/259950339 Protecting the Commons the use of Subtidal Ecosystem Engineers in Marine Management](https://www.researchgate.net/publication/259950339_Protecting_the_Commons_the_use_of_Subtidal_Ecosystem_Engineers_in_Marine_Management)

NE report – benign vs damaging fishing balance: <https://neweconomics.org/2013/04/sustainable-fisheries-make-economic-sense/>

UK Shelf Sea carbon assets: <https://www.sciencedirect.com/science/article/pii/S2212041618300536>

What should a fisheries Appropriate Assessment for large-scale offshore MPAs look like?
<https://thefishingdaily.com/latest-news/marine-experts-call-for-end-to-illegal-fishing-on-dogger-bank/>

Where are our marine protected areas managing out the trawling? <https://map.mpa-reality-check.org/>

What next for Scotland? A network of paper parks or real protected areas that allow recovery?

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The Community of Arran Seabed Trust (COAST) was established in the face of catastrophic collapses in the Clyde sea fisheries, damage to seabed habitats and loss of marine life that were witnessed directly by the local Arran community. These ecosystem-wide impacts in the Clyde occurred as a result of the failure of fisheries management to address overfishing, and the opening up of all coastal waters to towed bottom fishing gear in 1984 when the 3-mile inshore fisheries limit was repealed.

COAST was founded by two local Arran divers who worked with the community on Arran to successfully campaign for protection of areas of sea around the Isle of Arran in the southern Clyde region of Scotland. Their sustained efforts over many years resulted in the establishment of the Lamlash Bay No Take Zone (NTZ) in 2008 and, following this, the designation (2014) and subsequent legal protection from mobile bottom fishing (2016) of a larger area of nearly 300km² as the South Arran Marine Protected Area (MPA).

The NTZ and South Arran MPA provide a special opportunity to study seabed habitats and species populations that are protected from bottom-towed fishing gear. Research undertaken through long-standing collaborations with Universities and other research institutes is showing how properly protected marine areas can help recover marine biodiversity, ecosystem function and populations of commercially important species.

As a community-led organisation, COAST has championed the rights of local communities to have their voices heard in decision-making about their local sea area including fisheries management. Community involvement in survey, research and monitoring of the protected areas around Arran also highlights the invaluable contribution which local groups and citizen scientists make to survey and monitor the marine environment, the majority of which is currently done on a voluntary basis.

COAST continues to press for effective actions to recover the health and biodiversity of the seas around Arran and the Firth of Clyde and to improve Scotland's marine environment. While some progress has been made around parts of Arran, collapsed fish stocks and seabed damage from highly impacting mobile bottom fishing gear is still the more common situation throughout much of Scotland's inshore waters. There are also issues with unsustainable growth of some marine industries such as open cage salmon farming which has numerous undesirable impacts on marine habitats and species.

Progress in designating MPAs is being undermined by the lack of effective protection for these areas and a lack of joined-up spatial management that recognises the ecological contribution of these MPAs within the wider context of regional marine planning.

If we want to pass on a better marine environment – and the social and economic benefits of that – to the next generation, we need decisive action now to recover and protect our inshore waters. It is time for the protection and management of our inshore waters to be aspirational and fit for purpose to meet the biodiversity and climate change challenges we now face.

Web links and references:

- **COAST**
 - [website](#)
 - **Facebook:** arran.coast
 - **Twitter:** @ArranCoast @howardlwood
 - **Instagram:** arran.coast
 - **Youtube:** Arran Coast
- [Coastal Communities Network](#)
- [OurSeas](#)
- Stewart et al. 2020. [Marine Conservation begins at home: how a local community and protection of a small bay sent waves of change around the UK and beyond](#). Frontiers in Marine Science, February 2020, Vol 7
- Howarth-Forster, L. 2020 [Marine Social Attitudes on Arran](#)
- [How a no-take zone revived a Scottish fishery devastated by dredgers](#). The Guardian, 25 February 2020
- [Islanders try to turn tide on famine of the sea](#). The Guardian, 11 Dec 2003
- Langton et al. 2020. [Are MPAs effective in removing fishing pressure from benthic species and habitats?](#)
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- [Programming Inaction – Five years of Scottish Government Delays](#). Open Seas, 31 August 2020
- [Government leak reveals destruction of marine wildlife](#). The Ferret, 1 November 2020
- [When is a Marine Protected Area not a Marine Protected Area?](#) Fauna and Flora International, 5 February 2019

Highly Protected Marine Areas

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After a year's work the independent review into Highly Protected Marine Areas was published in June 2020. The Review was chaired by Richard Benyon with a 7 strong Panel containing industry, conservation and scientific expertise.

The Review recommends that HPAs are an essential part of the UK MPA network for protection and recovery of the marine environment. It states that HPAs should take a whole site approach and should prohibit extractive, destructive and depositional uses, allowing only non-damaging levels of other activities. The review includes 25 recommendations covering the definition, purpose and identification of HPAs, in addition to recommendations on stakeholder engagement and how to minimise impacts.

The government welcomes the Benyon Review's report and recognises the potential role of HPAs in securing our vision to leave the environment in a better state than which we found it. In July 2020 the Secretary of State stated his intention to pilot HPAs.

Government are currently working on a cross-departmental response and will be responding to Richard and the panel over the coming months. We have made good progress on the response to the Review, engaging with a broad range of stakeholders to hear their views which are feeding into the response.

Web-links and/or references:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/890484/hpma-review-final-report.pdf

Keynote 6 Rebuilding Marine Life Callum Roberts, Exeter University

Chair: **Dan Laffoley**, Marine Vice Chair of The World Commission on Protected Areas, IUCN

Moderator: **Megan Lloyd**

Rebuilding Marine Life

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Early in 2020 a paper was published in Nature lead by Carlos Duarte; I was one of the co-authors. Its message is one of optimism and need for action.

Nature Abstract ‘Sustainable Development Goal 14 of the United Nations aims to “conserve and sustainably use the oceans, seas and marine resources for sustainable development”’. Achieving this goal will require rebuilding the marine life-support systems that deliver the many benefits that society receives from a healthy ocean. Here we document the recovery of marine populations, habitats and ecosystems following past conservation interventions. Recovery rates across studies suggest that substantial recovery of the abundance, structure and function of marine life could be achieved by 2050, if major pressures—including climate change—are mitigated. Rebuilding marine life represents a doable Grand Challenge for humanity, an ethical obligation and a smart economic objective to achieve a sustainable future.’

Oceans can be restored to former glory within 30 years, say scientists

‘Major review paper in Nature highlights recovery of marine life but a redoubling of efforts is still needed.

The glory of the world’s oceans could be restored within a generation, according to a major new scientific review. It reports rebounding sea life, from humpback whales off Australia to elephant seals in the US and green turtles in Japan.

Through rampant overfishing, pollution and coastal destruction, humanity has inflicted severe damage on the oceans and its inhabitants for centuries. But conservation successes, while still isolated, demonstrate the remarkable resilience of the seas.

The scientists say there is now the knowledge to create an ocean renaissance for wildlife by 2050 and with it bolster the services that the world’s people rely on, from food to coastal protection to climate stability. The measures needed, including protecting large swathes of ocean, sustainable fishing and pollution controls, would cost billions of dollars a year, the scientists say, but would bring benefits 10 times as high.

However, the escalating climate crisis must also be tackled to protect the oceans from acidification, loss of oxygen and the devastation of coral reefs. The good news, the scientists say, is a growing awareness of the ability of oceans and coastal habitats such as mangroves and salt marshes to rapidly soak up carbon dioxide and bolster shorelines against rising sea levels. “We have a narrow window of opportunity to deliver a healthy ocean to our grandchildren, and we have the knowledge and tools to do so,” said Prof Carlos Duarte, of King Abdullah University of Science and Technology in Saudi Arabia, who led the review. “Failing to embrace this challenge, and in so doing condemning our grandchildren to a broken ocean unable to support good livelihoods is not an option.”

"One of the overarching messages of the review is, if you stop killing sea life and protect it, then it does come back. We can turn the oceans around and we know it makes sense economically, for human wellbeing and, of course, for the environment."

[Click here to read the paper](#)