How can we successfully restore our vulnerable coastal areas in a changing climate?

Hosted by MEP Nicolás González Casares

European Parliament

6 November 2025, 8.00 - 9.30

AGENDA

Welcoming remarks

Setting the scene

Coastal restoration in Europe

Synergies between restoration and Climate

Q & A

Welcoming remarks

MEP Nicolás González Casares

Co-Chair of the MEP Group on Climate Change, Biodiversity and Sustainable Development

Setting the scene

Gábor Figeczky
Senior Programme Manager
IUCN European Regional Office

Coastal Restoration in Europe

Iván Cáceres
Deputy project coordinator REST-COAST
Universitat Politècnica de Catalunya

REST-COAST

Large scale RESToration of COASTal ecosystems through rivers to sea connectivity

Iván Cáceres

Policy event - How can we successfully restore our vulnerable coastal areas in a changing climate?
European Parliament, 6 November 2025

This project receives funding from the European Union's Horizon 2020 Research and Innovation action under grant agreement No 101037097

Objectives

1. Scalable **adaptation-through-restoration** plan based on **NBS** building **blocks** and increased restoration **scale/pace**
   → Increased **connectivity** and natural **dynamics** for resilient adaptation

2. Develop the **Green Deal coastal dimension** for **risk reduction** and **BDV** status
   → **Decarbonised** coastal protection & **blue C** mitigation

3. Partner commitment for a **replicable approach** and shared **upscaling** drive (38 partners in 11 countries)
   → **Systemic** restoration on **river-delta/estuary-coast** continuums

4. Overcome **barriers** by **enablers** in **techniques/finance/governance**
   → 3 **Core / 6 Fellow Pilots** (managers as **partners*/COREPLATS***) for demonstration

5. **Integrate** biophysical and socioeconomic **expertise**
   → **Transition** from local/regional **Pilots** to **worldwide** coasts

Coastal systems in
Baltic, Black, Med & North Seas

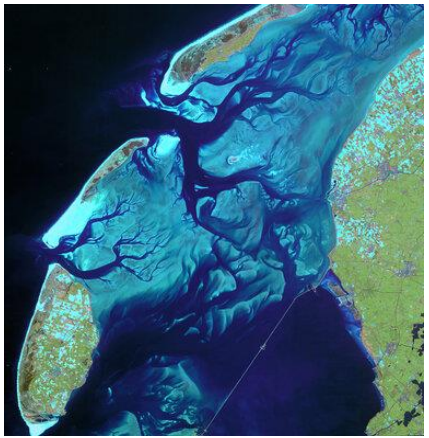
Transfer via **Cooperation Board +**
International Partners +
N Africa, S America & S Asia


WP1: Hands-on restoration of coastal ecosystems and upscaling potential
WP2: Climate risk reduction through innovative restoration (warning indicators)
WP3: Financial arrangements/business plans for restoration upscaling
WP5: Transformative governance for restoration upscaling
WP6: Dissemination/exploitation and social transformation tools
WP4: Adaptation management for restoration upscaling
WP7: REST-COAST management and cooperation at EU/International levels

Hands on Restoration at Pilots

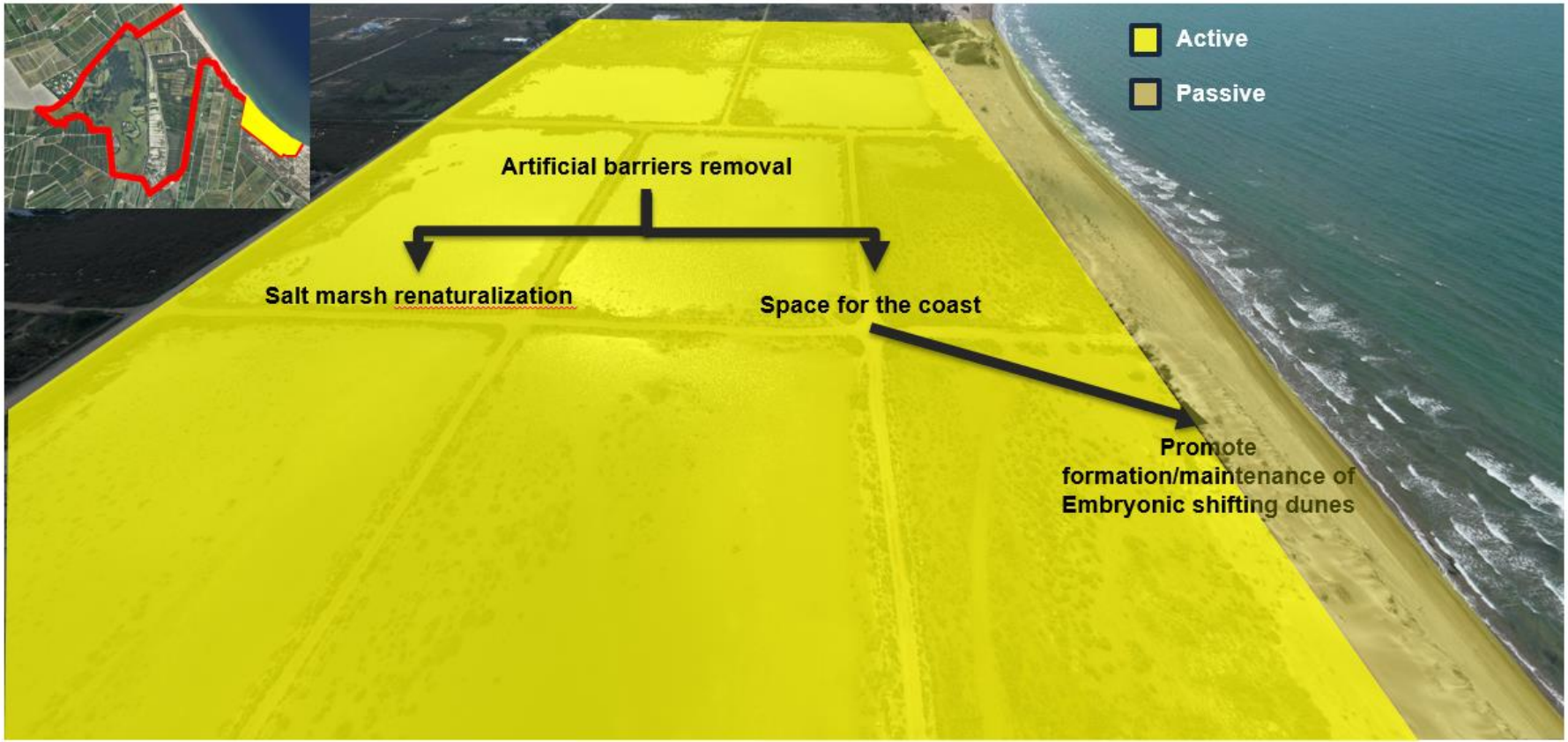
- **Wadden Sea (Netherlands/Germany)**
- **Venice Lagoon (Italy)**
- **Sicily Lagoons (Italy)**
- **Vistula Lagoon (Poland)**
- **Foros Bay (Bulgaria)**
- **Arcachon Bay (France)**
- **Rhone Delta (France)**
- **Nahal Dalia (Israel)**

- **Global case** Assessment of coastal risk reduction through ESS



Ebro Delta

- River-coast connection (controlled river floods)
- Buffer/filter dynamics (room for coast)
- Sediment re-use


Active
Passive
Artificial barriers removal
Salt marsh renaturalization
Space for the coast
Promote
formation/maintenance of
Embryonic shifting dunes

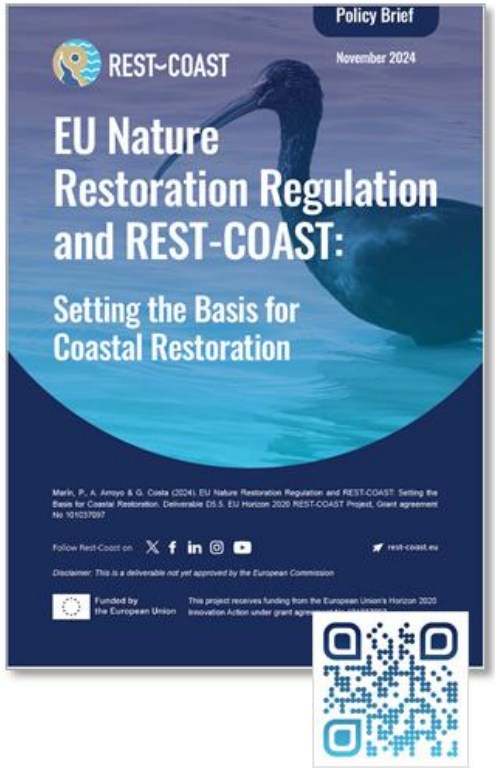
WP5 Governance for restoration upscaling

Policy Briefs SERIE

#1 NRR

#2 NDCs

#3 Connectivity



Policy Contributions

COLLABORATION WITH THE RESTORATION GREEN DEAL CLUSTER

POLICY AND PRACTICE BRIEF

"Stakeholder engagement for the development and implementation of NRPs: Key recommendations across ecosystem types"

https://doi.org/10.36333/rs14

Policy and practice brief
October 2025

Stakeholder engagement for the development and implementation of National Restoration Plans
Key recommendations across ecosystem types

Background and objectives

Research recommendations

Stakeholder mapping and understanding stakeholder perspectives and needs

Effective design and implementation of restoration actions begin with the identification of all relevant stakeholders, i.e. of all those that can affect, contribute to, or be positively or negatively affected by restoration actions. It is also crucial to gain an in-depth understanding of the needs, values and socioeconomic contexts of all stakeholders, among them local communities and the often 'silent' broader public. This includes identifying the power dynamics and any (potential) conflicts among them.

Policy Contributions

DELIVERABLE 5.4. REPORT ON NDCs


REST-COAST

D5.4 Contribution of restoration activities to NDCs (Nationally Determined Contributions)

21/03/25

WP5

Lead beneficiary: International Union for Conservation of Nature

Authors: Pilar Marín (IUCN), Flavia Cavaliere (MedWet), Alberto Arroyo (IUCN), Giulia Costa (IUCN), Zoë Zürn (IUCN), Tommaso Demozzi (IUCN), Fausto Favero (GCF)

Contributors: Umberto Pernice (Pernice), Laura Puértolas (Albirem), Bruno Boz (MedSea Foundation), Susan Gallon (MedPAN), Nil Alvarez (Eurecat)

REST-COAST

Large Scale RESToration of COASTal Ecosystems through Rivers to Sea Connectivity

This project receives funding from the European Union's Horizon 2020 research and innovation programme, under Grant Agreement 101037097

MAIN CONTENTS

- The role of Blue Carbon Ecosystems in climate action
- Strengthening the contributions of BCEs in the policy framework through NDC
- The potential of carbon credits for coastal restoration finance
- NDCs and REST-COAST
  - ✓ Exploring NDCs at national Level
  - ✓ REST-COAST contribution to NDCs
  - ✓ Exploring the international and EU policy landscape for NDCs
- **Preliminary Recommendations**

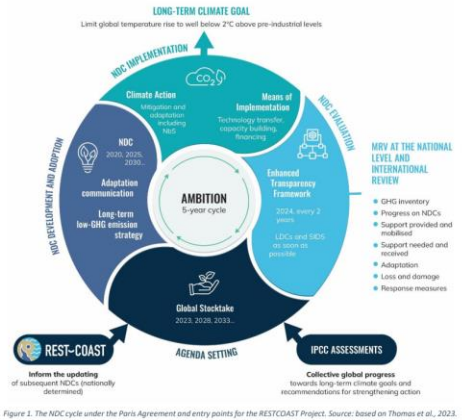


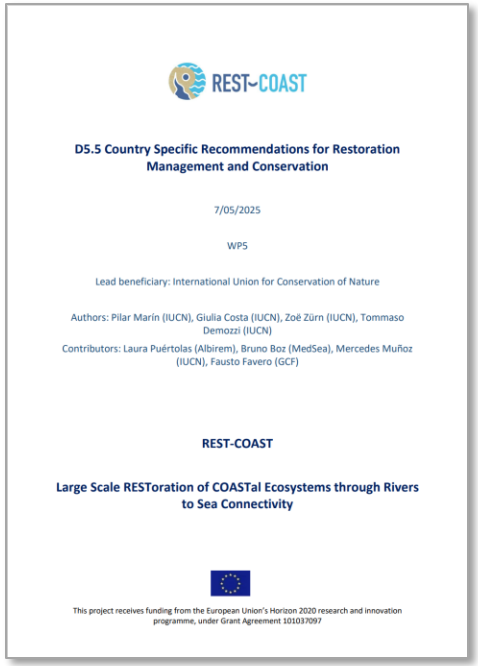
Figure 1. The NDC cycle under the Paris Agreement and entry points for the RESTCOAST Project. Source: based on Thomas et al., 2023.

DOCUMENT (YEAR)	ECOSYSTEMS IN GENERAL			COASTAL ECOSYSTEMS		
	MENTION	MITIGATION (targets/ measures)	ADAPTATION (targets/ measures)	MENTION	MITIGATION (targets/ measures)	ADAPTATION (targets/ measures)
BULGARIA						
NECP (2024)						
DENMARK						
NECP (2023)						
EU						
NDC (2023, 2020)						
FRANCE						
NECP (2024)						
NDC Overseas Territories (2021, 2016)						
GERMANY						
NECP (2023)						
ISRAEL						
NDC (2015, 2021)						
ITALY						
NECP (2024)						
NETHERLANDS						
NECP (2024)						
POLAND						
NECP (2024)						
SPAIN						
NECP (2023)						

Policy Contributions

- ADVANCE -

DELIVERABLE 5.5. REPORT ON COUNTRY-SPECIFIC RECOMMENDATIONS



REST-COAST

D5.5 Country Specific Recommendations for Restoration Management and Conservation

7/05/2025

WP5

Lead beneficiary: International Union for Conservation of Nature

Authors: Pilar Marín (IUCN), Giulia Costa (IUCN), Zoë Zürn (IUCN), Tommaso Demozzi (IUCN)

Contributors: Laura Puértolas (Albirem), Bruno Boz (MedSea), Mercedes Muñoz (IUCN), Fausto Favero (GCF)

REST-COAST

Large Scale RESToration of COASTal Ecosystems through Rivers to Sea Connectivity

This project receives funding from the European Union's Horizon 2020 research and innovation programme, under Grant Agreement 101037097

MAIN CONTENTS

- Country by Country: Analysis of Restoration and Conservation Supportive Policies

  BULGARIA (Foros Bay Pilot Site)

  GERMANY, THE NETHERLANDS (Wadden Sea Pilot Site)

  FRANCE (Arcachon Bay and Rhone Delta Pilot Sites)

  ITALY (Sicily Med Island and Venice Lagoon Pilot Sites)

  ISRAEL (Nahal Dalia Pilot Site)

  POLAND (Vistula lagoon Pilot Site)

  SPAIN (Ebro Delta Pilot Site)

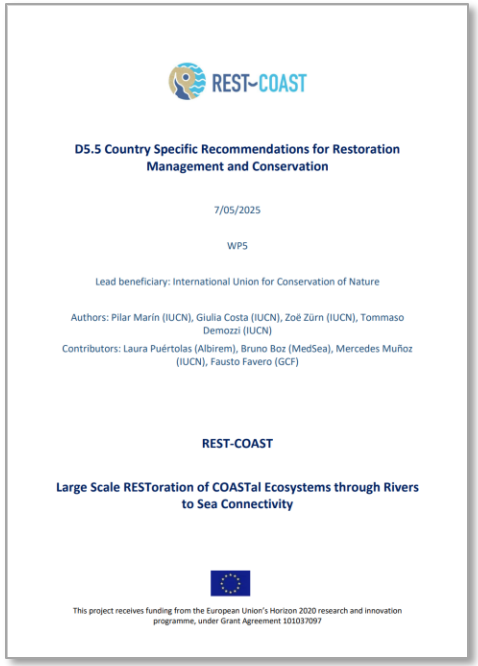
- **Recommendations**

PILOT LEVEL CONTEXT
RESTORATION ACTIONS
NATIONAL POLICIES RELEVANT FOR THE RESTORATION ACTIONS IN THE PILOT SITE
ASSESSMENT - CHALLENGES AND NEEDS AT PILOT LEVEL
NATIONAL LEVEL OVERVIEW
LEGAL AND INSTITUTIONAL FRAMEWORKS FOR MARINE AND COASTAL CONSERVATION
NDCs / NECPs AND NATIONAL ADAPTATION PLANS
NATIONAL TOOLS FROM REGIONAL SEA CONVENTIONS
PROGRAMME OF MEASURES (MSFD/WFD)

Policy Contributions

- ADVANCE -

DELIVERABLE 5.5. REPORT ON COUNTRY-SPECIFIC RECOMMENDATIONS



REST-COAST

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REST-COAST

Large Scale RESToration of COASTal Ecosystems through Rivers to Sea Connectivity

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1. STRATEGIC PLANNING AND INTEGRATION INTO EXISTING FRAMEWORKS	COMMON RECOMMENDATIONS (Shared across countries)
2. TECHNICAL CAPACITY	
3. COORDINATION AND STAKEHOLDER ENGAGEMENT	
4. MONITORING TOOLS AND DATA	COUNTRY-SPECIFIC RECOMMENDATIONS
5. NbS AND ECOSYSTEM-SPECIFIC NEEDS	
6. FUNDING	

Policy Contributions

- ADVANCE -

D5.6. REPORT ON INTERNATIONAL/EU RECOMMENDATIONS

REST-COAST

D5.6 A Blueprint for Coastal Restoration. REST-COAST recommendations for transformative governance and policies at international and EU levels

29/08/25

WP5

Lead beneficiary: International Union for Conservation of Nature

Authors: Zoë Zürn (IUCN), Tommaso Demozzi (IUCN), Marianne Courouble (MedWet), Giulia Costa (IUCN), Pilar Marín (IUCN)

Contributors: Carole Martínez (MedPAN), Mark Schuerch (UoL), Fausto Favero (GCF), Mercedes Muñoz (IUCN)

REST-COAST

Large Scale RESToration of COASTal Ecosystems through Rivers to Sea Connectivity

This project receives funding from the European Union's Horizon 2020 research and innovation programme, under Grant Agreement 101037097

1. REGIONAL ACTION PLANS FOR BASIN-WIDE IMPACT	6. DEFINING AND INTEGRATING COASTAL CONNECTIVITY INTO STRATEGIC PLANNING TOOLS
2. STRENGHTENING COASTAL RESTORATION IN THE EXISTING POLICY FRAMEWORK	7. BUILDING FINANCIAL FOUNDATIONS FOR COASTAL RESTORATION
3. FOSTERING TRANSNATIONAL COOPERATION FOR COASTAL RESTORATION	8. BUILDING PUBLIC SUPPORT FOR COASTAL ECOSYSTEM RESTORATIONS
4. STANDARDISED MONITORING FOR COASTAL RESTORATION	9. STRENGTHENING POLICY THROUGH BROAD ENGAGEMENT OF KEY ACTORS
5. EMBEDDING COASTAL NbS IN ENVIRONMENTAL AND CLIMATE POLICIES	10. BUILDING TRUST THROUGH INCLUSIVE RESTORATION POLICIES

@RESTCOAST_H2020 rest-coast.eu RESTCOAST.H2020

Thank you!

This project receives funding from the European Union's Horizon 2020 Research and Innovation action under grant agreement No 101037097.

Restoration & Climate

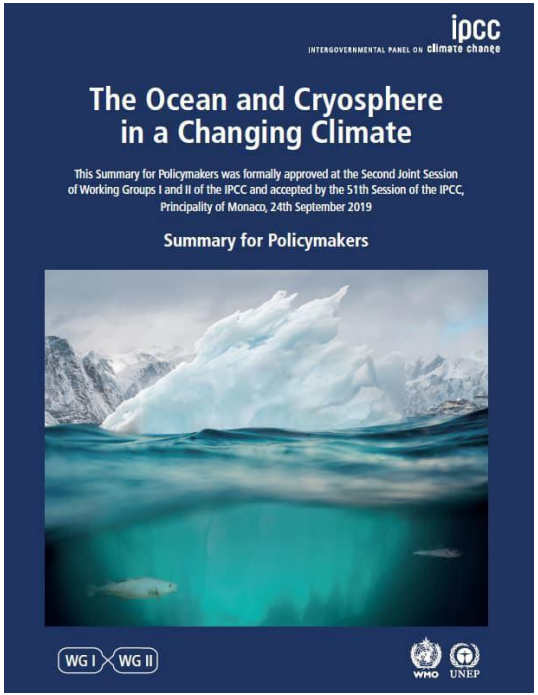
Jacob Armstrong
Ocean Policy Manager
WWF European Policy Office

Claire Boudy
Nature Restoration Senior Officer
IUCN EU Representative Office

Ocean action is climate action

Jacob Armstrong, Ocean Policy Manager, WWF EU

Context: in hot water



- Heat absorption causes **coral bleaching and species shift**
- Significant increase in frequency of **extreme weather events and storm surges**
- Observable frequency of **marine heatwaves** (especially in recent years)
- **Ocean acidification** and oxygen decrease through absorption of 20-30% of anthropogenic carbon dioxide since the 1980s
- Sea-level rise causes "**coastal squeeze**" and thereby threatens coastal ecosystems that cannot retreat or adapt fast enough
- **Less food supply** for deep sea organisms
- **Loss of 20-50% of blue carbon ecosystems** over the past century
- **The ocean has absorbed 90% of global heating since 1970**

Why this matters for communities

- Presently about **40% of the world's population** lives within 100 kilometers of the coast
- Over **600 million people** live in coastal areas that are less than 10 meters above sea level
- Average **population density** in coastal areas is **twice the world's average** population density
- Approx. **3 billion people rely on wild-caught and farmed seafood** as a primary protein source
- Almost **60 million people** are engaged in fisheries and aquaculture

REST-COAST

Why the ocean is a key ally for people and the planet

CARBON SEQUESTRATION

Rates of carbon sequestration per hectare in blue carbon habitats can be up to 10 times greater than those of terrestrial ecosystems.

BUFFERING OCEAN ACIDIFICATION

Ocean acidity has increased by 30% since the beginning of the Industrial Revolution. Healthy blue carbon habitats enhance the ocean's resilience to its harmful effects.

COASTAL PROTECTION

Blue carbon habitats help provide protection from the impacts of climate change, such as extreme weather events and rising sea levels.

BOOSTING FISHERIES PRODUCTIVITY

Blue carbon habitats are vital for food security. Almost 80% of global fish catches are directly or indirectly dependent on mangroves.

MEETING GLOBAL FOOD TARGETS

Seaweed production helps meet world food targets and offers a path to alternative crops and fuels that do not require arable land.

BENEFITING BIODIVERSITY

Healthy blue carbon ecosystems provide critical habitat for marine and terrestrial species. Seagrass harbours 40 times as many species as the sea floor.

WATER FILTRATION

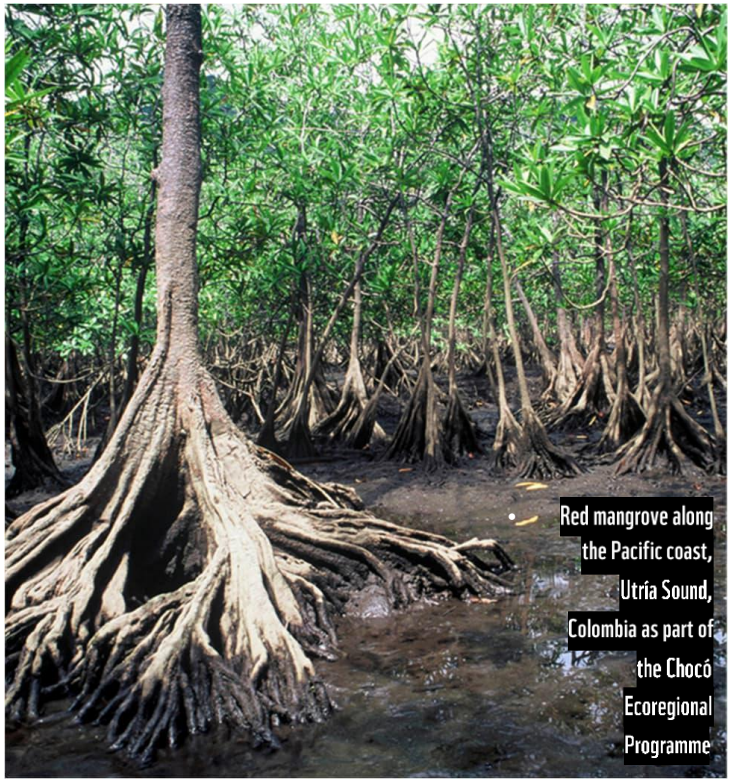
Blue carbon habitats are effective water purifiers, helping to filter out excess nutrients and sediment that threaten water quality and ecosystem health.

JOB CREATION

Blue carbon habitats support the livelihoods of coastal communities by creating opportunities for tourism and recreation.

ECONOMIC BENEFITS

Blue carbon habitats hold great potential for building the socio-economic resilience of vulnerable coastal communities.



Red mangrove along the Pacific coast, Utría Sound, Colombia as part of the Chocó Ecoregional Programme

Mangroves

Salt marshes

Salt marsh at Cley, Norfolk, UK

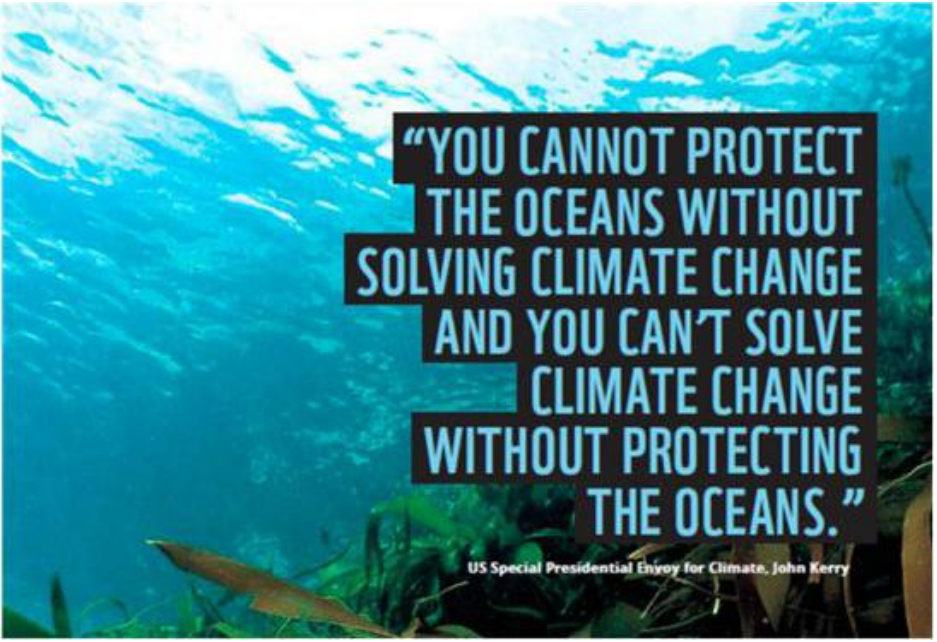
Seagrasses

Spiny seahorse female in a meadow of seagrass. (Zostera marina) Studland Bay, Dorset, England, UK

Kelp forest off the coast of Ucluelet, British Columbia, Canada.

Kelp forests

WWF Blueprint for A Living Planet Report



THE PRINCIPLES

WWF HAS PROPOSED FOUR OVERARCHING PRINCIPLES TO GUIDE EFFECTIVE INTEGRATED OCEAN AND CLIMATE ACTION:

1. Raise ambition and urgently deliver stronger and sustained mitigation and adaptation actions
2. Make nature a key part of the solution
3. Put people at the centre
4. Join up the climate and ocean finance agendas

How the EU should take action

Ocean Act:

- Enshrine 30x30 into law – and make sure marine protection is truly effective
- Consider and ensure the connectivity of the MPA network
- Consider the effect of warming seas in maritime spatial planning and MPA designation
- Consider additional 'dynamic' MPAs that take into account changing habitats
- MSFD – include climate change as an indicator of ocean health (what you measure, you manage)

Blue carbon strategy:

- Use benefits of blue carbon to support coastal communities and build support for the green transition
- Build scientific knowledge on blue carbon and marine habitats: what is their role for climate and biodiversity

Nature Restoration:

- Member States need to prioritise marine habitats
- Countries must provide adequate support and funding
- Reduce human pressures on the sea: ban destructive fishing in marine protected areas

Thank you

HOW CAN WE SUCCESSFULLY RESTORE OUR VULNERABLE COASTAL AREAS IN A CHANGING CLIMATE?

CLAIRE BOUDY, NATURE RESTORATION SENIOR OFFICER
IUCN EU REPRESENTATIVE OFFICE

SUPPORTING THE NATURE RESTORATION REGULATION IMPLEMENTATION

Technical Support Instrument – SG Reform: **Support the French Ministry of Ecological Transition in the elaboration of the French Nature Restoration Plan**

Recommendations on restoration measures and their co-benefits (climate, biodiversity, etc.)

Estimate costs of implementation and showcase low hanging fruits

Recommendations on funding options

Funded by the European Union

CHALLENGES AND RECOMMANDATIONS

Increasing pressures on coastal ecosystems : urban sprawl, maritime trade, port installations, coastal erosion, etc.

Coastal ecosystems in good conditions are key to face climate change threats (sea level rise, erosion, carbon sequestration)

Preserve natural coastal ecosystems from degradation

- Sinks of carbon, both on land (wetlands) and at sea (mud flats, seagrasses, etc.)
- Natural barriers against erosion

Restore damaged coastal ecosystems and implement adaptative and flexible coastal ecosystem management

Restore connectivity

Proven efficiency in most cases of reversibility and limited costs of NBS, ecological engineering and restoration

Redirect funds in natural green infrastructure rather than post-storm coastal defences traditional grey infrastructure

Good practices: LIFE Adapto+

Funded by the European Union

IUCN KEY MESSAGES

- Promote coastal resilience by providing tools for anticipatory coastal planning and nature-based adaptation, risk reduction and resilience building.

- Support adaptive planning to climate change and early decision-making, taking into account the precautionary approach, and ensure long-term monitoring of the footprint of maritime activities and coastal dynamics.

IUCN Resolutions
7.012 - Aquatic biodiversity conservation of shallow marine and freshwater systems
7.035 - Promoting IUCN leadership in the implementation of the UN Decade on Restoration 2021–2030
7.030 - Enhancing the resilience of coastal areas in the face of climate change, biodiversity crisis and rapid coastal development

Funded by the European Union

THANK YOU

REST-COAST


Q&A

Many thanks!