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MARINE CONSERVATION SOCIETY

REWILDING BRITAIN

Blue carbon

Ocean-based solutions to fight the climate crisis

A report by the Marine Conservation Society and Rewilding Britain

This report demonstrates that a coherent strategy to protect and restore carbon contained in the UK's marine habitats is vital to help Britain achieve its goal of net zero carbon emissions by 2050.

The problem

We are facing **interlinked climate, health and ecological emergencies** that require us to make huge changes to the way we live and to reduce the impacts we have on the planet's natural ecosystems.

As part of the UK's commitment to the Paris Climate Agreement, and to keeping global temperature rises to below 1.5˚ C, **the UK Government announced in 2020 that it aims to cut our carbon emissions by 68%** compared with 1990 levels over the next decade, with a legislated commitment to meet net zero greenhouse gas emissions by 2050 (and 2045 in Scotland).

One important way of contributing to the reduction of carbon emissions is to increase the quantity of carbon dioxide – the main greenhouse gas – that's taken out of the atmosphere and stored in long-term natural solutions. These solutions include protecting and rewilding ecosystems in our ocean.

The urgency

With COP26 occurring in six months' time, it has never been more pertinent for us to ensure that our governments take action. **Ocean-based solutions must be part of the many, urgent and varied solutions required to address the climate crisis.**

Nature-based solutions could provide one third of the climate change mitigations required to address the climate crisis, but currently they only attract less than 3 per cent of the funds invested globally in addressing climate change.

Internationally, the UK is leading the way by committing to significantly increase its spending on nature-based solutions, including those offered by the ocean. It must match this with equally ambitious actions at home. In recognition of the vital role our ocean must play in urgent climate change mitigation and adaptation, ocean-based solutions must be adopted with pace and at scale by 2030.

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The solution

It is vital that we invest in protecting our marine ecosystems. Our coastal and marine habitats also provide ecosystem services such as generating oxygen, protecting coastal communities from rising sea levels and removing pollutants from the water. They act as nursery grounds for commercial fish and shellfish species and as havens for wildlife and they store carbon in huge quantities – what scientists have dubbed 'blue carbon'.

The significant role of the world's forests in helping to reduce carbon emissions has been formally recognised in, for example, the UN's Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation (REDD+). The idea of REDD+ is that developing countries that have large forest resources are paid for not cutting them down and to manage them in a sustainable way, removing the financial incentive to fell trees and replace them with agricultural plantations.

Just as trees and other plants on land draw down carbon from the air through photosynthesis and then store it – a process known as sequestration – so does the vegetation in marine ecosystems. Globally, the important carbon-sink habitats are mangroves, salt or tidal marshes and seagrass. Mangroves are only found in tropical parts of the world, with some of our UK Overseas Territories hosting extensive mangrove forests. In the UK there are extensive saltmarshes and seagrass beds, though both of these habitats have declined greatly over recent decades.

Seabed sediments hold the greatest quantities of carbon, but are not actively taking carbon dioxide out of the atmosphere – instead, the organic matter comes from marine and terrestrial ecosystems and is deposited on the seabed to form these sediments.

Increasingly, we also understand that marine vertebrates such as fish, seabirds, whales and dolphins also store and 'move' large amounts of carbon. Large marine mammals, in particular, may contribute to processes that result in both the long-term storage of carbon in the ocean depths and accelerate the growth of phytoplankton.

The role of these ocean-based, blue carbon solutions to help fight climate change is largely unrecognised by governments around the world, however, and there is no formal mechanism, such as REDD+, to finance their conservation.

Globally, the rewilding of key blue carbon, securing marine and coastal ecosystems such as seagrass beds, saltmarshes and mangroves alone could deliver carbon dioxide mitigation amounting to 1.83 billion tonnes, that's 5% of the emissions savings we need to make globally. And this figure doesn't include the enormous quantities of carbon stored in fish and other marine wildlife, in marine ecosystems such as coral reefs, seaweeds and shellfish beds, or the vast stores of carbon in our seabed sediments. **It is vital that we better protect ocean ecosystems for both biodiversity and blue carbon**.

The call to action

Blue carbon refers to carbon held within seabed sediments and in saltmarsh, seagrass, shellfish and kelp habitats. The UK's woodlands and peatbogs are regarded as being critical to our carbon strategy, so the Marine Conservation Society is calling on the Government to treat carbon contained in marine and coastal ecosystems in the same way. Specifically, the Blue Carbon Strategy should focus on these three key nature-based action areas. We believe the UK Government and devolved administrations must:

Scale up the rewilding of our seas for biodiversity and blue carbon.

- Deliver at least 30% of UK seas as Highly Protected Marine Protected Areas (hpMPAs), including at least a third (so at least 10% of UK seas) as Fully Protected Marine Protected Areas (fpMPAs) by 2030 . This should start with the exclusion of bottom-towed trawling and dredging from all offshore MPAs designated for benthic features in UK waters by 2024 at the latest.
- Implement bottom-towed fishing gear free-zones around the entirety of the UK coast in nearshore waters, the extent of which should be dependent on local and regional considerations, to recover marine ecosystems, support the recovery of fish and shellfish stocks and protect and restore blue carbon habitats.
- Support ambitious projects to restore key blue carbon habitats such as seagrass, saltmarsh, oyster reefs and kelp forests around the UK coast.
- Unlock the value of the natural capital of our ocean, alongside the innovation and resources of the private sector, through the development of sustainable market finance initiatives.

Integrate blue carbon protection and recovery into climate mitigation and environmental management policies.

- As part of a Blue Carbon Strategy, commit the UK governments to specific and ambitious blue carbon habitat recovery, restoration and protection targets in the UK's next Nationally Determined Contribution to the Paris Climate Agreement in 2025.
- Fully account for blue carbon in UK carbon budgeting.
- Develop a comprehensive 'Ocean Charter' that integrates nature recovery plans with climate change mitigation and adaptation policies, including those for Blue Carbon. This will provide a pathway for the UK to meet its commitments to Sustainable Development Goal 14 and the Decade of Ocean Science for countries to develop national 'Sustainable Ocean Plans' to deliver a sustainable Blue Economy, by 2030.

Work with the private sector to develop and support sustainable and innovative low-carbon commercial fisheries and aquaculture.

- Commit to fully sustainable management of UK commercial fish and shellfish stocks, applying an ecosystem-based approach and halving fisheries related carbon emissions by 2030 to deliver climate and nature positive fishing.
- Fully invest in the development of innovative low-carbon aquaculture technologies and best practice, including, processing and feed production, to halve UK aquaculture carbon emissions by 2030.
- Support and invest in the development of UK markets for sustainable, low-carbon wild-caught fish and innovative aquaculture products, with a roadmap for delivery produced by 2022/23.