



## Protecting and restoring ocean carbon sinks

November 2020

It is no understatement to say that the ocean has kept our planet stable and safe to live on, absorbing over 90% of the heat and almost a third of carbon dioxide humans have ever created. The climate and biodiversity crises pose an enormous risk to the health of the ocean and the communities that depend on it, however, investment in “blue carbon” habitats offer an opportunity to simultaneously fight climate change and restore biodiversity.

Our primary focus must be on driving down emissions to put the UK on track to net-zero as fast as possible. This needs to be carried out in parallel with **a transformational ocean recovery programme** that enables the ocean to both adapt to these unprecedented stressors and help mitigate the impacts of climate change. By investing in carbon storing habitats and species, we will not only safeguard our marine wildlife, habitats and coastal communities, but be helping fight the climate crisis on all fronts. Combined, this will provide the long term security that our seas need to stay healthy and continue providing a lifeline for our planet.

### Did you know? Whales help us fight climate change

Cetaceans (whales, dolphins and porpoises) contribute to the regulation of atmospheric CO<sub>2</sub> levels by storing carbon in their bodies, transporting carbon from surface waters to the deep sea when they die and stimulating the growth of phytoplankton which locks in a massive amount of carbon from the atmosphere<sup>1</sup>. UK efforts to conserve cetaceans by defending the global moratorium on commercial whaling and reducing the deaths of cetaceans in bycatch in UK waters, will help them meet their full potential as climate heroes.

### **What is the current state of play?**

The recent IPCC report on the ocean and cryosphere in a changing climate<sup>2</sup> highlighted that over the next century, the ocean will experience profound changes at far faster rates than we previously thought. In the UK, we’re already seeing these changes with acidification, dead zones, sea level rise, frequent winter storms and flooding occurring in the waters around our shores.

However, the world is waking up to the ocean’s critical role as a key part of the solution to these challenges. If recovered, UK seas can be a true hero in this fight. Seagrass, for example, captures carbon 35 times faster than tropical rainforests,<sup>3</sup> at the same time as providing a critical nursery habitat to a fifth of the world’s major fisheries.<sup>4</sup> In the UK, **a square metre of offshore sediment stores more carbon than peatlands**,<sup>5</sup> offshore renewable energy is now cheaper than the fossil fuel based

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<sup>1</sup> 2020, Whale Pump

<sup>2</sup> 2019, IPCC Report

<sup>3</sup> 2011, A blueprint for blue carbon

<sup>4</sup> 2014, Protecting the hand that feeds us

<sup>5</sup> 2019, Seagrass carbon storage



alternatives<sup>6</sup> and if restored, fish stocks will capture carbon, contribute to food security and support sustainable livelihoods for generations to come.

Sadly, the UK has lost the vast majority of its natural coastal ecosystems, just when we now need them most to help us mitigate or adapt to the impacts of climate change. It is thought that England alone has lost 85% of its saltmarsh, 95% of its native oyster reefs, and at least 50% (but likely much more) of its seagrass<sup>7</sup>. This reflects the loss of hundreds of thousands of hectares of critical coastal habitats, vital “nature-based solutions”. **Damages to coastal assets will cost the UK economy over £15bn each year by 2050<sup>8</sup>** and the Natural Capital Committee estimates coastal habitats could contribute £1bn in CO<sub>2</sub> sequestration but this could drop to as little as £0.25bn if habitat loss continues.<sup>9</sup> Recovery is possible<sup>10</sup> but the scale of the nature and climate emergency requires protection of what’s left as well as new efforts to actively restore damaged or destroyed habitats.

### **What does success look like?**

*“Under restored seas scenario, the combined potential of seagrass, saltmarsh and macroalgae, could capture up to 137Mt CO<sub>2</sub>e with an economic value of c. £9.4bn by 2050<sup>11</sup>”*

A long-term, sustainably funded programme is in place to restore wetland, coastal, seagrass and environments, and mitigate threats to cetaceans, such as bycatch. These restored environments and recovered cetacean populations help mitigate climate change by drawing down carbon and acting as a natural defence against sea level rise and flooding for vulnerable communities.

Policy action required to achieve this:

**Implement a UK wide integrated “Blue Restoration Programme”** to coordinate and scale up protection and restoration of coastal ecosystems, funded through grant opportunities, government funding and/or the establishment of new financial instruments (including leveraging private finance). This should at least match recent commitments made to restoring peatlands and forests. Objectives, governance structure and responsibilities for delivering such a scheme should be agreed across all government departments.

**Adopt and promote best practice restoration tools.** Develop a network of restoration professionals which includes scientists, policy makers, practitioners and managers to facilitate rapid learning and lesson sharing (like [Scottish Blue Carbon forum](#)). This does not just relate to physically restoring habitats but also those developed to improve engagement of local communities in restoration projects to ensure their success and sustainability. Implement a strategic communications plan to promote

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<sup>6</sup> 2018, [Reality Check: which form of renewable energy is cheapest?](#)

<sup>7</sup> 2020, Value of Recovered UK Seas Report, WWF, publication pending

<sup>8</sup> 2020, [Global Futures Technical Report](#)

<sup>9</sup> 2020, [Natural Capital Committee: Interventions to meet net zero](#)

<sup>10</sup> 2020, [Nature: Rebuilding marine life](#)

<sup>11</sup> 2020, Value of Recovered UK Seas Report, WWF, publication pending



the role of the ocean and key marine species as ‘the heroes’ in the fight against climate change to the public.

**Assess the barriers and opportunities to support restoration** such as the Climate Act, UK Marine Strategy, Fisheries Bill, Environment Bill, Marine and Coastal Access Act. Remove existing policy barriers and introduce new policy to restore habitats where appropriate. An immediate action should be the removal of license fee costs for restoration of critical habitats such as seagrass, salt marsh, kelp and oyster reefs. A new licensing category for such nature based solutions would avoid such projects being treated in line with potentially damaging activities.

**Protect important carbon sinks and “blue carbon” areas/habitats and species** by collating evidence on blue carbon sinks for both habitats and species (e.g. large cetaceans) and implementing effective threat mitigation for those species. Undertake a mapping exercise to identify areas with potential for the greatest carbon storage and prioritise protection and restoration of these sites, based on their potential to capture carbon. Ban bottom-towed fishing in MPAs to prevent carbon sink sediments becoming net emitters. Review the current MPA network and marine plan policies in light of the Benyon Report on HPAs and designate new areas that focus on blue carbon protection and restoration.

**Advocate for international commitment** to protecting and restoring blue carbon habitats and species at events such as the climate talks at COP26, the Convention on Biological Diversity, the Marine Biodiversity of Areas Beyond National Jurisdiction (BBNJ) and the Commonwealth heads of states using UK exemplars of marine nature based solutions. Advocate for the preservation of oceanic blue carbon to be recognised as a climate mitigation strategy within UNFCCC and other international policy and incorporate carbon storing habitats and action plans to restore habitats and species populations that support UK climate adaptation and mitigation into the **UK’s nationally determined contribution for COP26**.

**De-carbonise the maritime sector.** Greenhouse gas emissions from UK shipping in 2017 were 13.8 MtCO<sub>2e</sub>. This is equivalent to 3.4% of all UK domestic emissions<sup>12</sup>. Existing carbon sinks, including the seabed, habitats such as saltmarsh, seagrass and marine species are identified, monitored and protected through effective marine planning and where necessary MPAs.

#### **Resources required:**

- The Blue Restoration programme would require at least £1.1bn to provide the funds and distribute these effectively. As we have highlighted, damages to coastal assets will cost the UK economy over £15bn each year by 2050<sup>4</sup> so this upfront investment would mitigate economic damage in years to come.
- Mapping of existing and new MPA areas related to carbon sequestration potential
- Collaborative carbon-storing coastal habitat restoration programme

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<sup>12</sup> [2019, Department for Transport](#)



- A cetacean threat mitigation and recovery strategy
- A new marine licensing regime
- A strategic public communications plan
- A network of restoration professionals
- Incorporation of Blue Carbon into the UK's national carbon accounting framework.