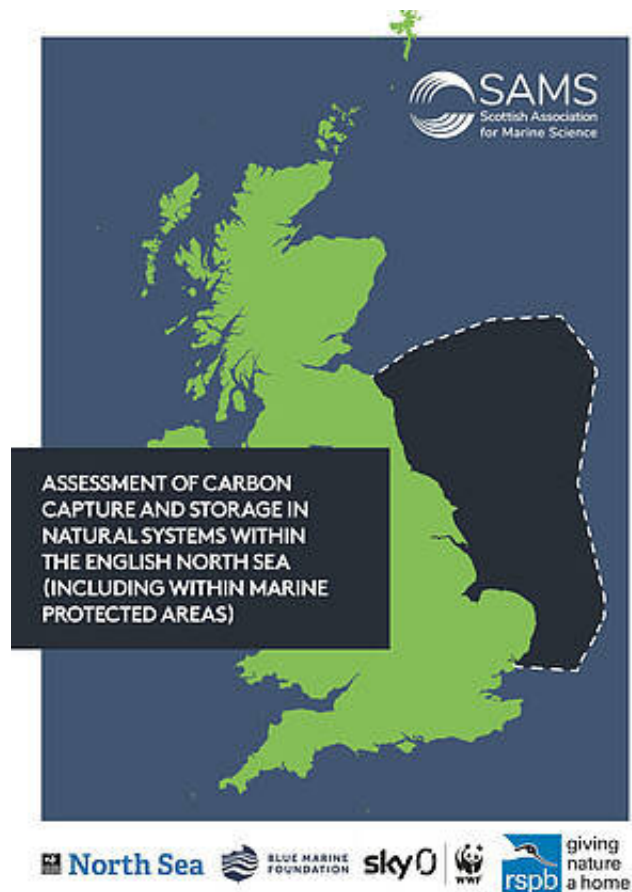


Assessment of carbon capture and storage in natural systems within the English North Sea

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Assessment of Carbon Capture and Storage in Natural Systems within the English North Sea (Including within Marine Protected Areas) Credit: The Scottish Association for Marine Science (SAMS)

Three quarters of the UK is in the sea. Among the diversity of marine

wildlife found within UK seas lies a reservoir of carbon stored in natural habitats like sand, mud, saltmarsh and seagrass. Unlike land-based sources of carbon such as forests and peatlands, marine carbon stores are less well understood. [This report](#) begins to fill in the gaps in our knowledge of where carbon can be found within the English North Sea, how much carbon is being stored and the capacity to lock carbon away in the future. This research paves the way for better understanding and protection of marine carbon and in doing so tackling the dual climate and biodiversity crises.

Key report findings

- Carbon stocks in the English North Sea amount to nearly 20% of that held in UK forests and woodlands. The top 10cm of English North Sea seabed sediments is estimated to store 100.4Mt [carbon](#). To put this into context, UK forests are estimated to [store](#) 529Mt carbon. Yet these sediments are likely to be tens to hundreds of meters in depth so these figures should be considered an underestimate of the total organic carbon stored in the seabed sediments including the significant buried peat deposits in some areas.
- 98% of the total organic carbon is stored in seabed sediments like sand and mud. Seabed sediments are thus by far the most important habitat for carbon storage in the region. We have no mechanism for 'restoring' these habitats—their protection relies on spatially managing activities so as not to disturb these sediments.
- The current English North Sea MPA network contains 51.9% of the total organic carbon stores in the English North Sea and 42.1% of total inorganic carbon stores in the English North Sea. Almost all of these MPAs are still subjected to broadscale disturbance.
- Some areas with the greatest carbon stock density, for example

the Devil's Hole region to the north of the study area, do not lie within an MPA designation and so remain vulnerable to degradation. A huge opportunity exists here to protect significant carbon sinks from disturbance.

- 0.74 MT of organic carbon are stored in the saltmarsh and seagrass beds of the region. This low figure highlights the significant reduction in saltmarsh and seagrass extent that has taken place across the UK in recent decades rather than its lack of capacity for storing carbon. In fact, both habitats are able to sequester significant amounts of carbon and commitments to restoring such habitats should be made.
- While it's estimated that a potential 1.2 Mt organic carbon are added annually to the [sediment](#) stores, disturbance to the seabed from activities including fishing, aggregate dredging, [infrastructure development](#) and others means it is unclear how much of this carbon enters the long-term stores. While we continue to disturb the [seabed](#) so extensively we undermine this natural process of locking carbon away.

More information: Assessment of carbon capture and storage in natural systems within the English North Sea:

wwfint.awsassets.panda.org/downloads/issue_03_wwf.pdf

Provided by WWF

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