

Potential of seagrass in combating climate change

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Credit: Dr Martin Skov, Bangor University

Seagrass ecosystems could play a key role in combating climate change, researchers at the University of York have discovered.

The marine flowering plant also helps sustain abundant sea life and protects shorelines around the world from coastal erosion.

Yet with seagrass habitats suffering rapid global decline and despite the plant's huge potential; there are currently no functioning seagrass restoration or conservation projects.

Due to their shallow coastal habitat the aquatic plant is particularly prone to human disturbance - globally 24 per cent of seagrass species are now classified as threatened or near threatened.

Researchers at the University's Environment Department say the neglect of seagrass ecosystems represents "both a serious oversight and a major missed opportunity."

Lead author PhD student Adam Hejnowicz said: "Seagrass meadows could play a vital role in combating [climate change](#) as they are regarded as

a net global sink for [carbon](#).

"They have the capacity to bury significant deposits of organic carbon beneath the sediment, up to many metres thick in places and over millenary time scales."

However, realizing the "true" potential of [seagrass meadows](#) requires international cooperation, he said. The research is published in *Frontiers in Marine Science*.

Seagrass meadows are able to store large amounts of carbon but historically they have been virtually ignored in global carbon budgets.

The prospects for developing a pure carbon credit scheme remain slim, especially if targeted at the regulatory carbon market, the researchers argue. However, opportunities exist for voluntary carbon market schemes.

Adam Hejnowicz added: "The main problem is that seagrasses are still not properly and adequately accounted for in formal carbon climate policies.

"We advocate complementing any carbon-based management approaches with other incentive schemes such as payment for ecosystem service programmes."

He stressed that seagrass ecosystems also play a critical role in protecting coastlines from damaging waves.

He added: "The mixed seagrass meadows of tropical waters provide a home for abundant and biodiverse marine communities, acting as fish nurseries and important ecosystems for charismatic and globally threatened species such as turtles and dugongs."

More information: "Harnessing the climate mitigation, conservation and poverty alleviation

potential of seagrasses: prospects for developing blue carbon initiatives and payment for ecosystem service programmes." *Front. Mar. Sci.* [DOI: 10.3389/fmars.2015.00032](https://doi.org/10.3389/fmars.2015.00032)

Provided by University of York

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