

Fish Carbon Briefing

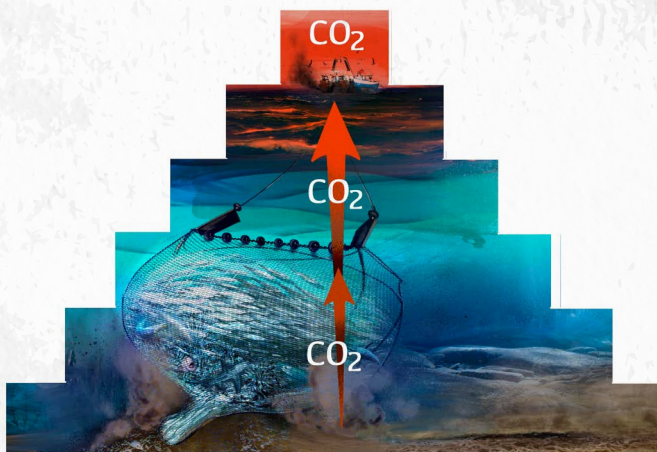
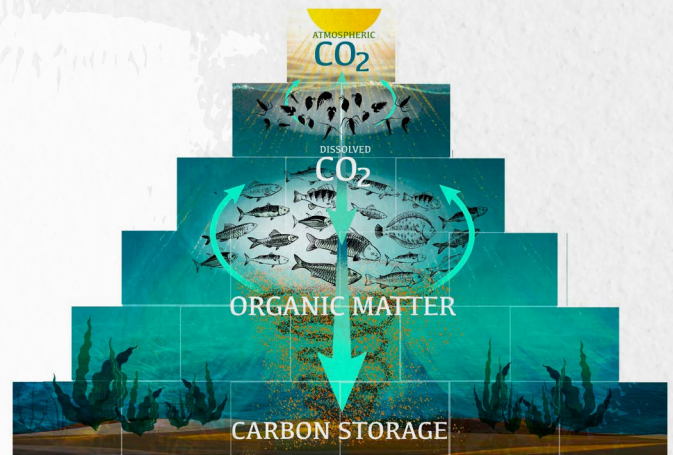
The ocean plays a vital role in regulating the Earth's climate, and fish and fisheries are important aspects of understanding the ocean's ability to absorb and store carbon.^{1,2} Recent research has highlighted that fishing activities not only reduce carbon sequestration but also increase emissions from the ocean, disturbing the entire ecosystem.³ Fishing gear's direct impacts on the seafloor can result in the re-suspension of sediment with impacts on carbon sequestration, and fishing vessels also produce direct emissions from burning fossil fuel. This new science highlights the important role of fishing from a climate change perspective and emphasises the need for ecosystem-based fisheries management.⁴

Low-impact, low-carbon fishing is the way to go

The ocean's absorption of carbon and heat depends on more than just a physical-chemical process. The wildlife of the ocean interacts as part of the biological pump, capturing much of the excess carbon in the atmosphere, and enabling the ocean to hold onto and store it. Scientists estimate that fish contribute to 16% of total ocean carbon flux.⁵ However, the benefits of the ocean's carbon storage are threatened by destructive fishing practices that extract blue carbon from the ocean, releasing it back into the atmosphere.⁶ European waters, which contain one of the largest carbon sinks globally, are the most intensively fished.⁷

Bottom trawling, one of the most destructive fishing practices widely used across Europe and in Ireland, releases an especially significant amount of carbon by stirring up the sediments and has an enormous impact on ocean ecosystems.⁸ The research by Bradshaw (2021) shows that a single trawling event can displace as much as 500 tons of sediment per kilometre of track.⁹ Moreover, the fuel consumption by EU fishing fleets adds nearly 7.3 million tons of CO₂ emissions per year, exacerbating climate change.¹⁰ In Ireland, fuel consumption rose sharply (141%) between 2014 and 2019 before decreasing in 2020. A 10% approximate increase in the cost of fuel may have been a factor in the decreased effort in 2020.¹¹ Therefore, it is critical that EU Member States such as Ireland move towards low-carbon, low-impact fishing that is based on the latest scientific data, ends overfishing and restores ocean ecosystems, ensuring that fish populations can deliver their vital ecological functions.

Relying on fuel-intensive fishing practices is not sustainable for fisheries going forward. The era where it is justifiable to use public money to support the fossil fuel industry is long gone and EU Member States can support the fishing industry with alternative subsidies that deliver more benefits for the environment, society and economy.¹² If Ireland is to fulfil its climate and biodiversity commitments and obligations, and in doing so ensure viable fisheries in the future, it is essential to consider the long-term impacts of certain fishing activities and prioritise sustainability over short-term operating costs.



Ecosystem based fisheries management is good carbon and biodiversity management

Science shows that ecosystem-based fisheries management is a solution to protect the ocean's carbon-capturing capacity.¹³ It has multiple benefits, including contributing to climate mitigation, restoring ocean health, improving fishing returns, contributing to local sustainable development and enhancing resilience to the ongoing impacts of climate change. Managing Irish fisheries in a way that minimises their impacts on biodiversity, marine ecosystems and the critical ecosystem services they provide to people is urgently needed in light of the ongoing climate and biodiversity crises.

KEY ACTIONS FOR THE IRISH GOVERNMENT

Scientists are clear: ecosystem based fisheries management is good carbon management and helps mitigate climate change. The following actions are crucial in championing ecosystem based fisheries management as carbon and biodiversity management, to bring Ireland closer towards reaching its climate and nature targets, and will ensure various socio-economic benefits:¹⁴

1. Conduct Ecosystem and Climate Impact Assessments of Irish fisheries to ensure that fisheries management decisions such as annual quota setting include the impact of fishing on the carbon sequestration potential of fish populations and the seabed, CO₂ emissions, minimisation of bycatch of protected species, food web functioning and seabed integrity.
2. Implement Article 17 of the Common Fisheries Policy to ensure access to fisheries is based on a transparent set of environmental, social and economic criteria.
3. Phase out destructive fishing, including bottom trawling by 2030.
4. Remove fuel subsidies through the current revision of the EU Energy Taxation Directive (ETD).
5. Introduce climate-smart marine spatial planning including prioritisation of sea bed protection.

These measures will also demonstrate the country's leadership in addressing the pressing issues of climate change and biodiversity loss. These measures will require cross-departmental action, with responsibility on the Department of Agriculture, Food and the Marine, the Department of Finance, the Department of Housing (Marine section), and the Department of Environment, Climate and Communications.

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