

Overlooked

All people on Earth depend directly or indirectly on the ocean. It generates nearly every second breath we take; has absorbed 90 percent of the excess heat of the last 50 years; and sequestered up to thirty percent of all carbon emissions¹. Yet its role in supporting life on the planet and regulating the climate is overlooked, typically from the window of a carbon-burning jet aeroplane.



Overfished

Despite the role the ocean plays, we have overexploited it relentlessly - fishing too hard and too fast for the populations to maintain themselves or recover. This has put the ocean under severe pressure. Despite an EU commitment to end overfishing by 2020, at the latest, it is estimated that between 40 to 70 percent of fish stocks in European waters are at unsustainable levels, either overfished or at their lower biomass limits (Froese et al., 2018; STECF, 2019). Overfishing weakens the ocean and threatens its capacity to perform planetary functions. This was confirmed in the recently published IPCC² and IPBES³ reports.



The pressure from overfishing is being compounded by climate change. Not only would ending overfishing fulfil existing commitments⁴, it would also serve to increase the ocean's capacity to mitigate the effects of climate change, which is disrupting the physics, chemistry and ecology of the ocean, with significant consequences for marine life. Ending overfishing would be significant action on climate.

In short, a recent paper⁵ has concluded:

- 1 Healthier fish stocks would contribute to a healthier marine environment and so the ocean's capacity to cope with climate change;
- 2 Ending overfishing could also restore fish stocks and deliver more profitable fisheries and dependent communities.

Furthermore, ending overfishing automatically results in:

- 1 Reducing fishing effort to levels that ensure that fish catches do not exceed the maximum sustainable yield (MSY);
- 2 A healthier ocean with more diverse fish populations;
- 3 A more complete marine food web with fish of all trophic levels well represented; and
- 4 A marine ecosystem with healthier, more varied and more complete marine habitats.

Based on these four consequences of ending overfishing, there are five ways in which ending overfishing can increase the resilience of fish stocks and the marine ecosystem in the face of climate change.

Reduction in fish catch and increasing fish biomass

1

Overfishing removes too many fish from what is a renewable capital, similar to withdrawing more money from a savings account than the interest generated annually. And just like a savings account: taking more than the annual yield can generate makes the system more vulnerable. So overfishing makes fish populations and the marine ecosystem more vulnerable to climate change.

Have complete marine food webs

2

Overfishing has done considerable damage to marine ecosystems and has resulted in trophic cascades (i.e. restructuring of the food chain). It has taken too many large fish from higher trophic levels and high value fish out of the marine ecosystem resulting in serial depletion and fishing down marine food webs. This weakens fish stocks, making them vulnerable to stressors, including climate change.

Avoid ocean habitat disturbance and destruction

3

Maintaining the integrity of ocean habitat and biodiversity is important for planetary function e.g. carbon storage, coastal protection/erosion. Improving aspects of ocean health, such as the condition of marine habitats (corals, seamounts, mangroves and seagrass) can benefit other components of the ecosystem including fish stocks and increase resilience to climate change.

End overfishing, decrease CO₂ emissions from the fishing sector

4

According to the FAO, it is estimated that global fishing capacity is up to 60 percent over what is needed to fish at sustainable levels. Ending overfishing and rebuilding depleted stocks will entail cutting this overcapacity. Fewer vessels will also mean fewer emissions from fishing (presently at least 1 percent of global CO₂ emissions).

Increase fish biomass and CO₂ sequestration by marine life

5

The ocean is believed to have been the only net sink of human CO₂ emissions over the last 200 years with terrestrial ecosystems likely to have been a net emitter. By capturing and storing carbon that would otherwise enter the atmosphere and contribute to climate change, healthy fish stocks and marine ecosystems contribute to mitigating global warming, which in turn protects the ocean and makes marine life more resilient.

Over & Out



The combined crises of climate change and biodiversity loss including fish stock depletion, require bold and ambitious actions leading to transformative change. This may sound daunting. Taking action to end overfishing isn't: it consists of a series of simple actions which will have significant and far reaching positive impacts on the ocean, the climate, fisheries dependent communities and industries, and indeed all of us. In 2013, the EU and its member states committed to ending overfishing by 2020. It hasn't happened yet, and there are just weeks to go. So the first action which member states can take with the support and encouragement of the new European Commission, is end overfishing (set fishing limits not exceeding the scientific advice) when they meet on December 16 and 17 in Brussels.

Notes

1 IPCC Special Report on the Ocean and Cryosphere in a Changing Climate [H.-O. Pörtner, D.C. Roberts, V. Masson-Delmotte, P. Zhai, M. Tignor, E. Poloczanska, K. Mintenbeck, A. Alegría, M. Nicolai, A. Okem, J. Petzold, B. Rama, N.M. Weyer (eds.)]. In press. <https://www.ipcc.ch/srocc/>

2 As above

3 Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), 2019. Global Assessment of Biodiversity and Ecosystem Services. <https://ipbes.net/global-assessment>

4 EU Common Fisheries Policy (CFP), Convention on Biodiversity (CBD), UN Sustainable Development Goals (SDGs) and EU Marine Strategy Framework Directive (MSFD)

5 U. Rashid Sumaila & Travis C. Tai, 2019. Ending overfishing can mitigate Impacts of climate change. https://our.fish/wp-content/uploads/2019/09/2019-05-Sumaila_Ending_overfishing_can_mitigate_Impacts_of_climate_change.pdf

More details, including full report:
<http://our.fish>



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