

DEFINING FISHERY FRIENDLINESS

For the purposes of this analysis, we define “fishery-friendly” climate solutions as those that:

- Reduce, sequester, or avoid greenhouse gas emissions;
- Avoid collateral impacts on the physical, chemical, and ecological properties and processes of ocean, coastal, estuarine, and watershed environments;
- Avoid interference with the harvest and provision of wild seafood;
- Wherever possible, contribute conservation co-benefits that enhance the resilience of ocean, coastal, estuarine, and watershed ecosystems;
- Help the fishing industry address its own carbon footprint by supporting transition to low-carbon fishing vessels; and
- Contribute to putting the U.S. on track to reduce its share of greenhouse gas emissions to a level that will hold warming well below 2°C while pursuing efforts to limit warming to 1.5°C.

From a climate impacts perspective, deployment of *any* scalable climate solution can be assumed to provide some level of benefit to fisheries *if* it is implemented as part of a large-scale (e.g., global) strategy to combat climate change. Although climate change has varying effects on different species and regions (creating both losers and winners), its net effect is to act as a major stressor on marine and aquatic ecosystems, especially when combined with other anthropogenic impacts such as habitat degradation and harvesting. As a result, *any* climate solution that contributes to slowing global temperature rise will presumably also reduce the impacts of climate-related stressors on fisheries and can therefore, from a climate angle at least, be viewed as beneficial to fisheries.

An important caveat, though, is that no single solution or jurisdiction can slow global temperature rise on its own. The impacts of climate solutions on global temperature act in the aggregate, and they will only make a difference if expanded rapidly to a level that meets the scale and timeline of the global climate crisis. If enough partial measures are implemented, they may perhaps have a slight effect on global temperatures, but according to scientists, this effect will not be large enough to avert cataclysmic climate change.¹ Although we refer to individual technologies, projects, and practices as “climate solutions” throughout this analysis, it is important to remember that each one can *only* make a contribution to “solving” climate change if implemented as *part* of a *comprehensive* global transition that results in reaching net-zero GHG emissions as soon as possible.

Because all solutions that contribute to slowing global climate change are assumed to benefit fisheries from a climate perspective -- just as they benefit other ecosystems and natural resource-dependent economies -- we do not include climate-related benefits to fisheries in our

¹ United Nations Environment Program. 2021. *The heat is on: A world of climate promises not yet delivered. Emissions gap report 2021*. <https://www.unep.org/resources/emissions-gap-report-2021>

assessment of fishery friendliness. Rather, we focus our analysis of “fishery friendliness” on the ancillary and/or unintentional impacts of climate solutions on fisheries.

In some cases, climate solutions may have non-climate impacts that are detrimental to fisheries, possibly even cancelling out their climate-related benefits so as to make their overall impact on fisheries net-negative. The most obvious candidates for this category are those that introduce energy-producing structures into waterways and waterbodies, such as hydropower and offshore wind development. In other cases, climate solutions can have *positive* non-climate impacts to fisheries. For instance, co-benefits are likely to result from nature-based solutions to climate change, such as restoration of carbon-sequestering forests, mangroves, sea grass meadows, and salt marshes.

In our efforts to gauge the potential impacts associated with climate solutions on fisheries ecosystems and fishing communities, we have done our best to consider the full lifecycle impacts of each relevant technology or practice, including:

- Material inputs and the impacts of mining, production, and transportation processes necessary to provide a continuous supply of such inputs;
- Impacts of deployment (exploration, construction, and operations); and
- Impacts of decommissioning and waste.

In many cases, the answer to the question of whether a particular technology or practice is fishery friendly or not will be “it depends.” Predicted impacts of a single “solution” may vary widely based on:

- Location in which it is deployed (e.g., proximity to fish habitat, sensitivity of local fishery resources and habitats, cumulative stressors);
- Scale and duration of deployment;
- Sourcing and type of inputs, such as minerals, water, and fuels;
- Procedures for addressing any potential negative impacts (e.g., policies and agreements to avoid, minimize, or mitigate externalities); and
- Procedures for dealing with any waste (e.g., handling, recycling, disposal)

To our knowledge, this is the first comprehensive attempt to understand the potential for such impacts across a wide range of climate solutions. As such, the assessment performed in this series is qualitative and general. Future work is needed to gain greater clarity on the ancillary/unintended impacts of climate solutions on fisheries and on how these impacts can be minimized or avoided through prioritization of fishery-friendly climate solutions and application of fishery-protective management practices.

Continue reading at <https://fisheryfriendlyclimateaction.org/solutions>