As the U.S. Moves Toward Reaching its Climate Goals

Aquaculture Must be Part of the Solution

With the climate crisis at the forefront of federal legislative priorities, Stronger America Through Seafood (SATS) commissioned a report in March 2021, which was underwritten by Sea Pact, to explore the climate impacts of marine aquaculture against the backdrop of climate mitigation as a global and domestic priority. The report is based on a series of interviews with scientists and marine aquaculture experts and a comprehensive review of existing scientific literature: peer-reviewed studies, white papers, and government reports related to the climate impacts of farming finfish, shellfish, crustaceans, and seaweeds. The report demonstrates that aquaculture is healthy for our planet and must be part of any credible conversation about meeting U.S. and global climate goals. A brief description of the findings is outlined below.

Background

The Paris Climate Agreement called for efforts to limit global warming to 1.5°C above pre-industrial levels and a landmark report published in 2018 by the Intergovernmental Panel on Climate Change (IPCC) detailed that to meet this goal, we must reach net zero global carbon emissions by 2050.

With the world population projected to reach 9.7 billion by 2050[1] and the global demand for protein expected to rise by as much as 88 percent[2], we will also need to meet increasing demand for protein for a growing population. Increasingly, scientists are calling for future protein production to shift towards seafood, which is more climate-friendly than other sources of animal protein[3 4 5 6].

Wild capture fisheries production peaked in the mid-1990s and has remained level in the decades since then. During that time, aquaculture has increased to meet the growing seafood demand and today it is the fastest growing food sector, providing over half of the seafood consumed globally.[7]

> "There is a strong alignment between dietary changes that would improve human health and those that would benefit the environment. Sustainable growth in seafood production and consumption, particularly from aquaculture, is at the core of these potential benefits."
>
> – *The Ocean as a Solution to Climate Change: Five Opportunities for Action* [3]

How Marine Aquaculture Fits into the Climate Change Conversation

Several themes emerge from a review of the scientific literature which demonstrate how aquaculture is healthy for our planet and must be part of the climate change solution.

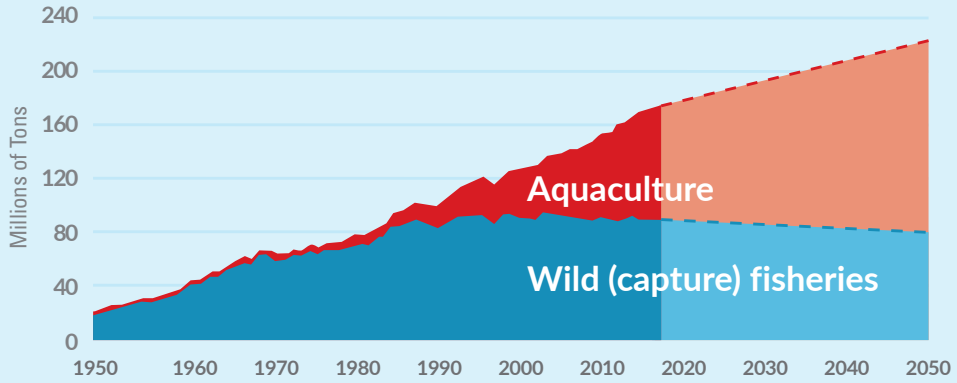
- Well-managed marine aquaculture can produce healthful protein from the ocean with low greenhouse gas emissions and no conversion of land[8].
- Certain types of marine aquaculture, such as seaweed farming, also have the potential to sequester carbon and may be used as a tool to mitigate global warming by removing CO_2 from the atmosphere[9 10].
- In addition to carbon sequestration, marine aquaculture can provide other ecosystem services such as improving water quality, regulating ocean acidification, protecting coastlines, providing habitat for other species, and more[11 12].
- There is great potential for expansion of marine aquaculture. This is especially true in the U.S., where vast expanses of favorable growing areas with suitable depths, current speeds, temperatures, and access to ports create some of the highest production potential in the world[13].

Responsible marine aquaculture has the potential to feed a growing population, increase the resilience of the global food system and mitigate climate change, making it a valuable tool for the U.S. to meet its climate goals.

"Properly executed aquaculture, paired with sustainable capture fisheries, has the potential to increase food security, sequester CO2, decrease the carbon footprint of protein sources, and stimulate economic activity in both coastal and inland communities."

– Integrating oceans into climate policy: Any green new deal needs a splash of blue [6]

Aquaculture production must continue to grow to meet world fish demand



Source: Historical data, 1950-2016: FAO (2017b) and FAO (2018). Projects to 2050: Calculated at WRI; assumes 10 percent reduction in wild fish catch from 2010 levels by 2050 linear growth of aquaculture production of 2 Mt per year between 2010 and 2050.

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