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## Offshore Aquaculture Legislation

FISH FARMING IS FLOURISHING ALONG COASTLINES IN MANY COUNTRIES. BUT THE United States is turning instead to the open ocean for aquaculture expansion. The National Oceanic and Atmospheric Administration (NOAA), a unit within the U.S. Department of Commerce, justifies this move on several grounds: America's seafood appetite continues to grow, ocean waters are overfished, and marine fish farming near the shore is limited by state regulations. As a result, the United States faces a large and growing seafood deficit, now around \$8 billion annually. With technology such as submersible cages with robotic surveillance becoming available for open-ocean farming, why not move aquaculture into the high seas? After all, the United States has the largest exclusive economic zone (EEZ) in the world, amounting to roughly 1.5 times the landmass of the lower 48 states. Facilitating aquaculture development in federal waters of the EEZ (3 to 200 miles offshore) could result in substantial commercial benefits. But at what cost to sustainable fisheries, wild fish populations, and marine ecosystems remain sticky questions for legislation.

On 8 June 2005, Commerce Committee Co-Chairmen Senators Ted Stevens (R-AK) and Daniel Inouye (D-HI) introduced the National Offshore Aquaculture Act of 2005 (S. 1195). This bill, crafted by NOAA, establishes a permitting process for offshore aquaculture development within the federal waters of the EEZ and encourages private investment in aquaculture operations, demonstrations, and research. It gives the Secretary of Commerce the authority and broad discretion to promote offshore aquaculture—in consultation with other relevant federal agencies, but without firm environmental requirements apart from existing laws. Just how much NOAA should be promoting versus overseeing aquaculture development is debatable, particularly because many of the needed environmental safeguards are missing. Without a clear legal standard for environmental and resource protection within the bill, marine fisheries and ecosystems are vulnerable to further decline.

Ample evidence from near-shore systems indicates major environmental risks from fish farming: The escape of farmed fish from ocean cages can have detrimental effects on wild fish populations through competition and interbreeding, parasites and diseases can spread from farmed to wild fish, there is damaging nutrient and chemical effluent discharge from farms, and the use of wild pelagic fish for feed can deplete the low end of the marine food web in certain locations. Species targeted for offshore systems, such as halibut and cod, are also caught in the wild, so commercial fishing interests worry about the economic as well as ecological consequences. Most existing open-ocean systems are experimental. They experience predator attacks, escapes, and high use of wild fish for feed, and the full ecological impact of commercial-scale offshore aquaculture remains unknown.

Since the introduction of S. 1195, environmental and fishing groups have worked hard to stop the legislation. The bill was roundly criticized before a Senate committee in June 2006 and has yet to reach the House. In the likely event that S. 1195 resurfaces in the next legislative session, stakeholders and the public should be attentive to three points. First, states have an important role to play. For example, California's recent Sustainable Oceans Act (SB 201) sets high environmental standards for marine finfish production in state waters and could help shape national legislation. An amendment to S. 1195 also permits states to opt out of aquaculture development in federal waters off their shores. Second, industry leaders whose business strategy strongly incorporates environmental and social stewardship should contribute to the bill's revision. Positive participation by the industry would help move the legislative process forward. Finally, the revised legislation must permit firms operating in U.S. federal waters to be internationally competitive. This will only happen if the bill is crafted in an international context, with sound environmental standards adopted in all countries with marine aquaculture, whether near shore or offshore. Commerce is eyeing the global picture. So too should the global environmental community.



— Rosamond Naylor

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