



Offshore Aquaculture

Bad News for the Gulf

food&waterwatch



About Food & Water Watch

Food & Water Watch is a nonprofit consumer organization that works to ensure clean water and safe food. We challenge the corporate control and abuse of our food and water resources by empowering people to take action and by transforming the public consciousness about what we eat and drink. Food & Water Watch works with grassroots organizations around the world to create an economically and environmentally viable future. Through research, public and policymaker education, media, and lobbying, we advocate policies that guarantee safe, wholesome food produced in a humane and sustainable manner and public, rather than private, control of water resources including oceans, rivers, and groundwater.

Food & Water Watch
1400 16th St. NW, Suite 225
Washington, DC 20036
tel: (202) 797-6550
fax: (202) 797-6560
foodandwater@fwwatch.org
www.foodandwaterwatch.org



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Introduction

The National Oceanic and Atmospheric Administration has been promoting offshore aquaculture – growing fish in nets or cages between three* and 200 miles from shore – as the best way to increase U.S. seafood output.

Now, NOAA wants to establish this large-scale fish farming off the U.S. Gulf of Mexico coast. Since January 2007, the Gulf of Mexico Fishery Management Council, one of eight regional councils Congress established to help manage U.S. fisheries, has been developing a plan to streamline the permitting and regulation of open water aquaculture.

Unfortunately, the Gulf Council's draft Generic Offshore Aquaculture Amendment fails to really consider, among

other matters, the possible negative economic consequences of ocean fish farming, also known as open ocean or offshore aquaculture. The plan itself concedes that “the increased supply of aquaculture fish from the Gulf may tend to decrease the ex-vessel price commercial harvesters receive for their catch if the increased supply does not come on the market slowly, or if new markets for products are not created, or if the demand for seafood does not increase.”¹ Yet, there is little further discussion of this issue.

Based on experience elsewhere, the practice of offshore aquaculture, combined with the influx of farmed fish imports, could threaten the economic wellbeing of the Gulf's active fishing industries. In 2006, the commercial fisheries there landed more than half a billion dollars' worth of seafood.² And from 2004 to 2005, Gulf recreational fishing pumped \$5.6 billion, including expenditures on such items as hotels, food, and ice, into the regional economy.³

* Throughout most of the United States, “federal waters” lie between three and 200 miles offshore. Off Texas and the West coast of Florida, however, federal waters begin at about nine miles from shore and extend out to 200 miles.



Rather than pressing forward with this plan, the U.S. government would best serve the public interest by delaying any move toward offshore aquaculture in the Gulf of Mexico until completion of comprehensive, peer-reviewed economic and environmental studies showing that it will not harm the economy or environment of the region.

Background

Federal government and other proponents of offshore aquaculture claim that developing such an industry here in the United States will narrow our country's \$9.2 billion seafood trade deficit without further depleting our wild fish stocks. However, increasing

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*– Woods Hole
Oceanographic Institution*

U.S. fish production will not necessarily reduce our reliance on imports. In fact, we actually export some 70 percent of domestic production, driving up our own demand for imported fish.⁴

NOAA is pushing this Gulf plan as a model for other regions because attempts to pass national legislation to widely develop commercial open ocean aquaculture have failed in recent years.

Too Many Environmental Questions About Offshore Aquaculture in the Gulf

Offshore aquaculture could hold negative consequences for commercial and recreational fishing in the Gulf of Mexico. For example, fish waste, uneaten fish feed, and any antibiotics that may be used to maintain the health of fish crowded into the pens or chemicals to try to keep organisms from growing on the nets and cages can pollute the seafloor and surrounding ocean ecosystem.

“Little is known about the assimilative capacity of the marine environment for these pollutants,” concludes a new report commissioned by the Woods Hole Oceanographic Institution. “Pollution from a greatly expanded industry could have significant effects locally and regionally.”⁵

Parasites and disease can spread from fish farms to wild species. In British Columbia, the Pacific Fisheries Resource Conservation Council found that fish farms increased the number of parasitic sea lice and likely caused the collapse of

pink salmon in the Broughton Archipelago in 2002.⁶

Farmed fish, which come from a genetically limited breeding stock,^{7,8,9,10} can escape to the open water. There they could mate with native species, spawning genetically inferior wild fish that could be more susceptible to disease. In addition, escaped farmed fish also can compete with wild species¹¹ for increasingly scarce food resources. Both of those factors could lead to fewer – and possibly less desirable – wild fish for commercial and recreational fishermen to catch.

Although it may not yet be the case in the Gulf, offshore aquaculture in other parts of the world might be contributing to the unsustainable harvest of smaller wild fish used to feed farmed finfish. What is more, their wild counterparts are in jeopardy because they are losing the food they need to survive.¹² In some cases, it can take two to six pounds of wild fish to produce one pound of farmed fish.¹³

Price Matters

Unsurprisingly, many fishermen do pay heed to how various factors, including aquaculture, might affect the prices they receive for fish.

David Letson, a University of Miami economics professor, noted that the potentially greater supply of fish from aquaculture in the Gulf could depress fish prices in the longer term. However, he did stress that other factors might lessen or eliminate any price decline.¹⁴



Meanwhile, past experience from aquaculture in other places with other fish could portend potential problems in the Gulf.

In 2006, offshore cod farming in Norway got a thumbs-down from a professor at the Norwegian College of Fisheries Science. Terje Vassdal pointed out that it could decrease the price of wild cod, which “could be a national economic catastrophe” for the country.¹⁵

The lower prices commercial fishermen were receiving “contributed to such financial instability in fishing fleets along the Pacific coast of the United States that many fishermen simply went out of business.”

– Michael Weber



Similarly, a 2005 University of British Columbia study concluded that “a decrease in the price of sablefish will ultimately follow an increase in sablefish supply to market from aquaculture. This decrease will be at the expense of both sablefish farmers and fishers in Canada but beneficial to sablefish consumers, which in this case are mainly Japanese. Thus, benefits are exported while costs are entirely absorbed within Canada.”¹⁶

For two decades prior to that, commercial fishermen in British Columbia had seen the prices they received for salmon decrease by two thirds, in large part because of aquaculture increasing the salmon supply worldwide.¹⁷

The story was similar next door in Alaska in the late 1990s and into the 21st century when “very rapid growth in farmed salmon production outstripped the growth in demand, glutted farmed salmon markets and severely depressed prices for farmed (and wild) salmon,” according to Gunnar Knapp, an economist at the University of Alaska at Anchorage. His research found that the large supply of farmed fish contributed to a “drastic drop in the ex-vessel value of the Alaska salmon harvest.”¹⁸

Researcher Michael Weber found that the lower prices commercial fishermen received “contributed to such financial instability in fishing fleets along the Pacific coast of the United States that many fishermen simply went out of

Cash Crash

- Professor Terje Vassdal of the Norwegian College of Fisheries Science believes offshore cod farming in Norway “could be a national economic catastrophe” because of the price decrease it could cause.
- A study at the University of British Columbia in Canada concluded that “a decrease in the price of sablefish will ultimately follow an increase in sablefish supply to market from aquaculture,” coming “at the expense of sablefish farmers and fishers.”
- Salmon prices were up to 90 percent lower in 2002 than in 1988. Many who bought boats and permits during high price years can’t afford to stay in operation.
- From 1992 to 2001, the value of the Alaskan salmon harvest plunged from \$600 million to a bit more than \$200 million.

business, with dramatically negative effects on the economies of rural coastal communities.”¹⁹

Other studies paint a similar picture of salmon prices after the emergence of salmon aquaculture: “Peak salmon prices in 2002 were 54-92 percent lower than they were in 1988. Many salmon fishers in the region [Pacific northwest] who bought their boats and permits during the high price years of the late 1980s and early 1990s can no longer afford to stay in operation and pay off their debts.”²⁰

From 1992 to 2001, the value of the Alaskan salmon harvest plunged from \$600 million to a bit more than \$200 million, a drop of more than 60 percent, according to a Food & Water Watch analysis of economist Gunnar Knapp’s research.^{21,22} A similar price crash would devastate the U.S. Gulf of Mexico fishing industry, which in 2006 landed more than \$41 million worth of cobia, pompano, grouper, and snapper, all valuable finfish.²³

Jobs, Jobs, and...Fewer Jobs?

Proponents of aquaculture often claim that it will lead to more jobs. However, history and the facts do not necessarily support such assertions. A 2003 study found that a 200 percent increase in salmon production from fish farming in British Columbia would create few new jobs. In the 1990s, industry in the province tripled but added no new jobs.²⁴ Meanwhile, the salmon farming industry in Scotland and Norway “dramatically expanded” production, but em-



ployment decreased due to increased mechanization.²⁵

Aquaculture Fish Biz Consolidates

Does offshore aquaculture benefit local communities? Although it is too soon to say, some of the trends appear ominous. It does help a few foreign companies, at least judging from the salmon farming industry. In 2001, 30 companies accounted for two-thirds of the world’s salmon and trout.²⁶ But that number has slowly dwindled to half a dozen or so multinational companies, most of which are based in Europe.²⁷ “Unlike salmon fishing enterprises, most of which consist of boats and permits owned by individuals who sell their catch to processors or, in some cases, to niche markets – the large salmon aquaculture enterprises consist of vertically integrated feed, hatchery, grow-out (where the smolts are raised to maturity), distribution, and value-added processing companies.”²⁸

Economist Gunnar Knapp concluded that, “unlike many kinds of fishing, off-

shore aquaculture is not likely to develop as a small, family-owned businesses [sic]. It would be a larger-scale, corporate activity.”²⁹

Conclusion and Recommendations

Gulf commercial and recreational fishing communities support thousands of jobs and haul in billions of dollars in revenue for the region. Offshore aquaculture is fraught with uncertainty for that continued economic vibrancy. Given this, the U.S. government should not promote offshore aquaculture that could threaten coastal communities and the marine environment in the Gulf of Mexico, and further research is needed on the issue before moving forward.

“Unlike many kinds of fishing, offshore aquaculture is not likely to develop as a small, family-owned businesses [sic]. It would be a larger-scale, corporate activity.”

*– Gunnar Knapp, economist,
University of Alaska*



Endnotes

¹ Public Hearing Draft to the Generic Amendment to: Coral and Coral Reef FMP, Coastal Migratory Pelagics FMP, Red Drum FMP, Reef Fish FMP, Shrimp FMP, Spiny Lobster FMP, and Stone Crab FMP To Provide for Regulation of Offshore Marine Aquaculture. Gulf of Mexico Fishery Management Council, National Oceanic & Atmospheric Administration, National Marine Fisheries Service. September 2007, Pg. ix.

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⁴ Calculations conducted by Food & Water Watch based on data drawn from: “Fisheries of the United States 2006.” Office of Science and Technology, National Marine Fisheries Service, National Oceanic and Atmospheric Administration, Silver Spring, MD, July 2007; “Imports and Exports of Fishery Product Annual Summary, 2006.” Fisheries Statistics Division, National Marine Fisheries Service, National Oceanic and Atmospheric Administration, Silver Spring, MD, 2007. For more information, please contact Food & Water Watch at (202) 797-6550 or foodandwater@fwwatch.org

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Food & Water Watch

1400 16th St. NW, Suite 225

Washington, DC 20036

tel: (202) 797-6550

fax: (202) 797-6560

foodandwater@fwwatch.org

www.foodandwaterwatch.org

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