

GAO

Report to the Chairman, Committee on
Natural Resources, House of
Representatives

May 2008

OFFSHORE MARINE AQUACULTURE

Multiple
Administrative and
Environmental Issues
Need to Be Addressed
in Establishing a U.S.
Regulatory
Framework



Appendix III: Comments from the Department of Commerce

Note: GAO comments supplementing those in the report text appear at the end of this appendix.



THE SECRETARY OF COMMERCE
Washington, D.C. 20230

April 25, 2008

Ms. Anu K. Mittal
Director
Natural Resources and Environment
U.S. Government Accountability Office
441 G Street, N.W.
Washington, D.C. 20548

Dear Ms. Mittal:

Thank you for the opportunity to review and comment on the Government Accountability Office's draft report entitled *Offshore Marine Aquaculture: Multiple Administrative and Environmental Issues Need to be Addressed in Establishing a U.S. Regulatory Framework* (GAO-08-594). On behalf of the Department of Commerce, I enclose the National Oceanic and Atmospheric Administration's comments on the draft report.

Sincerely,

A handwritten signature in black ink, appearing to read "Carlos M. Gutierrez".

Carlos M. Gutierrez

Enclosure

**Department of Commerce
Comments on the Draft GAO Report Entitled
“Offshore Marine Aquaculture: Multiple Administrative and Environmental Issues
Need to Be Addressed in Establishing a U.S. Regulatory Framework”
(GAO-08-594/May 2008)**

General Comments

The Government Accountability Office (GAO) Offshore Marine Aquaculture Report captures the growing interest in offshore aquaculture in the United States as an additional form of domestic seafood production. The report accurately presents the opportunities and challenges for this new form of seafood production by succinctly summarizing information from major publicly and privately funded studies, representatives of key stakeholder groups, and the experience of selected coastal states. GAO’s report will contribute to the discussion of environmentally responsible and sustainable offshore aquaculture in the broader context of the National Oceanic and Atmospheric Administration’s (NOAA) overall marine aquaculture program.

Issues of considerable interest to the public not examined in the report are the role of aquaculture and its relevance to a safe, sustainable domestic seafood supply, the net environmental benefits of aquaculture production, and the creation of jobs from coastal communities to the American heartland.

As the Nation’s oceans and fisheries agency, NOAA has already begun to address the administrative and environmental issues highlighted in the GAO report. The agency established an aquaculture program in 2004, and has been working with Congress on national offshore aquaculture legislation since 2005. NOAA is also supporting internal and external marine aquaculture research and collaborating with other federal agencies on broader initiatives such as the implementation of a National Aquatic Animal Health Plan.

In addition to its dual mandate to protect the marine environment and manage sustainable use of living marine resources, NOAA is already tasked with providing the best available science about marine aquaculture to policymakers and the public so that government agencies can make informed regulatory and policy decisions. NOAA’s existing grant programs such as the National Marine Aquaculture Initiative support priority aquaculture research topics identified in the GAO report, including projects to evaluate sites for offshore aquaculture and assess the environmental risks and mitigation options for offshore production technologies and species.

Consistent with GAO’s findings, stakeholders at a National Marine Aquaculture Summit, which was organized by NOAA and hosted by the Secretary of Commerce in June 2007, emphasized the need for transparent, consistent, and predictable regulations and environmental protections in order for the offshore aquaculture industry to move forward in the United States. Similarly in 2007, NOAA adopted a 10-Year Plan for Marine Aquaculture, which also includes a comprehensive regulatory program for environmentally sustainable marine aquaculture as a priority goal. Summit participants and NOAA’s 10-Year Plan also pointed out the need for additional research, as indicated in GAO’s report.

See comment 1.

See comment 2.

By highlighting the importance of the siting, monitoring, and management of marine aquaculture operations, GAO accurately reflected stakeholders' concerns over preventing or minimizing adverse environmental impacts of marine aquaculture. However, its focus on the lack of data on the environmental impacts of commercial scale offshore aquaculture operations (since these do not yet exist) diminishes the importance of findings based on environmental monitoring and research at the five small-scale open ocean operations in U.S. state waters. These operations have shown insignificant environmental effects to date, and the adaptive monitoring approaches that GAO describes in the report will provide a way to ensure that these impacts remain minimal as projects scale up in size. Also, the lessons learned from managing and regulating commercial finfish aquaculture in Maine, Washington State, and elsewhere, as cited in the report, as well as the experience with stock enhancement and shellfish farming in the United States, provide a substantial body of knowledge about the net environmental effects of marine aquaculture and the regulatory approaches that will apply to offshore aquaculture.

See comment 3.

NOAA is fully engaged in issues relating to the use of fish meal and fish oil in aquaculture feeds, a priority issue identified in the report. As stated, fish meal and fish oil are important components in the feeds for many farm-raised species, from pigs and poultry to farmed fish. As ingredients in aquaculture feed, fish meal and fish oil support normal growth for cultured species, and maintain the important human health benefits of seafood. However, both the relatively high cost of fish meal and fish oil, and growing pressure on the wild fisheries that supply it, are fueling research on suitable alternative feed ingredients. This research has led to significant improvements in reducing the reliance on fish meal and fish oil for feeds for many cultured fish species. NOAA and other federal agencies play a vital role in continuing to fund feeds research and the transfer of technology to industry. For example, in 2008, NOAA is partnering with the U.S. Department of Agriculture on an initiative to advance the development and commercialization of alternatives to fish meal and fish oil in aquaculture feeds.

See comment 4.

Two additional topics of importance to NOAA are not adequately addressed in the report: offshore shellfish aquaculture and regional initiatives to regulate offshore aquaculture under existing fishery management authorities. Shellfish aquaculture accounts for most of the current U.S. marine aquaculture production (over 80 percent by value), and in 2008, NOAA is sponsoring a symposium on Shellfish Aquaculture and the Environment. Although the symposium will focus mainly on issues associated with existing operations in coastal areas, expansion of coastal shellfish aquaculture production is limited by coastal development—which has made it difficult to find appropriate, affordable sites closer to shore—and interest in open ocean mussel farming is growing rapidly in the United States. Commercial fishermen and others in New Hampshire, Massachusetts, and California have established open ocean production of mussels as a way to supplement their income. This highlights the natural synergy linking aquaculture with many aspects of commercial and recreational fishing.

It should also be noted the Gulf of Mexico Fishery Management Council is developing a generic amendment to several of its Fishery Management Plans that would establish a permitting program for aquaculture facilities in federal waters in the Gulf of Mexico. All of the issues identified in the GAO report have been addressed in various scoping documents prepared by the Council in cooperation with NOAA and have been informed by extensive public input. It is possible the Council may submit its proposal for Secretarial review later this year.

The following are GAO's comments on the Department of Commerce's letter dated April 25, 2008.

GAO Comments

1. The issues identified by NOAA are outside the scope of our review, which was to identify key elements of a federal regulatory framework for offshore aquaculture.
2. We believe our statements regarding the lack of data on the environmental impacts from large-scale commercial offshore aquaculture operations are appropriate. As NOAA points out, these large-scale operations do not yet exist. On page 9 of the report, we stated that environmental monitoring at the existing small-scale research and commercial open-ocean aquaculture operations in Hawaii, New Hampshire, and Puerto Rico has found modest environmental impacts. However, as facilities begin to scale-up, their impacts on the marine environment could become more pronounced. Given the lack of such large facilities to date, it is too early to know what the environmental impacts of large-scale commercial offshore aquaculture facilities will be.
3. We believe that the report adequately discusses offshore shellfish aquaculture within the context of offshore aquaculture. Most of the policy issues raised in the report apply equally to shellfish and fish aquaculture. For instance, the need for clear federal leadership, a sound permitting system, and additional research all apply equally to shellfish and fish. In cases where the issues differ for shellfish and fish aquaculture—such as for environmental monitoring protocols—we discussed shellfish aquaculture separately from fish aquaculture.
4. We are aware of the efforts of the Gulf of Mexico Fishery Management Council to develop a generic amendment to their fishery management plans to establish an offshore aquaculture program in the Gulf of Mexico. While we discuss the roles and responsibilities of fishery management councils on pages 19 and 20, we did not discuss this regional initiative in our report because it was outside our scope of identifying key elements of a federal regulatory framework for offshore aquaculture.