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U.S. DEPARTMENT OF COMMERCE**

**HEARING ON
“OFFSHORE AQUACULTURE”**

**BEFORE THE
SUBCOMMITTEE ON INSULAR AFFAIRS, OCEANS AND WILDLIFE
COMMITTEE ON NATURAL RESOURCES
U.S. HOUSE OF REPRESENTATIVES**

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Chairwoman Bordallo and members of the Subcommittee, thank you for the invitation to testify on offshore aquaculture in the United States. I am Dr. James Balsiger, the Acting Assistant Administrator of the National Marine Fisheries Service (NMFS) within the National Oceanic and Atmospheric Administration (NOAA). Within the Department of Commerce, NOAA is one of the primary federal agencies charged with addressing U.S. aquaculture. Other components of the Department of Commerce also have an interest in aquaculture from the perspective of seafood industry investment, jobs, production, trade, and contribution to the U.S. economy.

I appreciate the opportunity to appear before the Subcommittee today. In your invitation, you asked me to address three main areas:

- The need for a comprehensive Federal permitting and regulatory system for offshore aquaculture;
- The necessary components of such a system, including siting, permitting, and operating requirements and precautionary measures to protect the environment and coastal communities; and
- Additional issues that are important for the Subcommittee to consider.

I applaud this Subcommittee for its recognition of the important issues that necessitate today's discussion, including declines in many wild capture fisheries and rising worldwide seafood demand. The Subcommittee also has recognized that the development of U.S. aquaculture must not occur at the expense of the marine environment or native fish and shellfish populations. Aquaculture has the potential to provide a safe and nutritious local seafood supply to complement supply from U.S. commercial fisheries; create jobs in U.S. coastal communities; and maintain working waterfronts. But importantly, it must be conducted in a manner that safeguards U.S. coastal and ocean environments. I commend the Subcommittee for recognizing these important realities.

Madame Chairwoman, your invitation asked me to focus on offshore aquaculture, which generally refers to open ocean aquaculture in Federal waters, and the need for a comprehensive permitting and regulatory system for this emerging aquaculture sector. Before I address your

specific questions, I want to put U.S. aquaculture and NOAA's efforts with respect to aquaculture into context. So often, the big picture gets lost in the issue of the day and, in this case, I want to make sure that the breadth of NOAA's long-established involvement with aquaculture does not get lost in a more specific discussion about a forward-looking regulatory program for offshore aquaculture – a component of the industry that is still in its infancy. Aquaculture could be an important source of future domestic seafood supply. I urge the Subcommittee to focus on a more comprehensive approach to sustainable aquaculture in general – not just offshore aquaculture - that helps to meet our need for additional domestic seafood supply and stock enhancement while protecting the marine environment.

NOAA'S CURRENT AQUACULTURE EFFORTS

NOAA and its predecessor agencies have been involved with commercial marine aquaculture and enhancement of wild finfish and shellfish stocks since the 1880s. To date, much of the scientific information and technology developed by NOAA has been used in the commercial aquaculture, commercial fishing, and recreational fishing sectors, where it has been instrumental in the development of finfish and shellfish hatcheries and culture operations.

Today, NOAA has a comprehensive approach to aquaculture that addresses farming of marine shellfish, finfish, and algae, as well as hatchery stock replenishment of commercial, recreational, and endangered species and stock replenishment for habitat restoration. NOAA works with stakeholders and interest groups to identify and address major issues in aquaculture. The triple bottom line of environmental, economic, and social sustainability is integral to the Agency's broad approach to aquaculture. In recent years, the Agency has focused on developing guidance and scientific knowledge that contribute to:

- Well-informed, science-based management of aquaculture activities within the context of NOAA's broader marine management, protection, and regulatory missions;
- New technologies that enable sustainable marine aquaculture; and
- Restoration of depleted marine species, including important commercial and recreational fisheries (such as salmon and Alaska king crab) and habitat (such as native oyster restoration).

As examples of the breadth of NOAA's engagement in aquaculture, I wish to highlight current initiatives in four key areas environmental and policy issues, science, alternative feeds and aquatic animal health. Regarding environmental and policy issues, agency initiatives are providing policy and technical guidance to decision-makers on aquatic animal health, finfish genetics, marine spatial planning, and shellfish and the environment. In terms of science, NOAA is funding competitive research and development grants and in-house research at NOAA Science Centers. These investments help pioneer technologies and methods to support, monitor, and evaluate sustainable aquaculture initiatives. Another milestone effort by NOAA is the NOAA-USDA Alternative Feeds Initiative. Through this initiative, NOAA and the U.S. Department of Agriculture are identifying promising new technologies along with federal research priorities on alternative ingredients to fish meal and fish oil for aquaculture while maintaining the human health benefits of seafood. Finally, with respect to aquatic animal health, NOAA has worked with the U.S. Department of Agriculture and the U.S. Fish and Wildlife Service, through the Joint Subcommittee on Aquaculture, to develop a national health plan for aquatic animals. The

plan, which is currently open for public comment, provides principles and guidelines for federal agencies with jurisdiction over aquatic animal health. Implementation of this plan will protect both farmed and wild resources, facilitate safe commerce, and make laboratory testing, training, and other programs available as needed to implement the plan.

AQUACULTURE IN THE GLOBAL MARKETPLACE

Worldwide, aquaculture is a \$70-billion-per-year enterprise, according to the United Nations Food and Agriculture Organization. The annual U.S. seafood trade deficit –second only to oil in the natural resources category – has grown to \$9.4 billion. Even with modest gains in domestic seafood supply, the United States likely will remain a net importer of seafood in the near term since more than 80 percent of the seafood consumed in this country is imported. About half of what we import from other countries is farmed.

Currently, U.S. aquaculture is a small but vibrant industry that supplies about 5 percent of our national seafood supply. Total U.S. aquaculture production is approximately \$1.2 billion annually (just 1.5 percent of total global aquaculture production of \$70 billion, according to the United Nations Food and Agriculture Organization). Approximately 20 percent of U.S. aquaculture production cultures marine species, while fresh water species constitute the remaining effort. The largest single sector of the U.S. marine aquaculture industry is molluscan shellfish culture (oysters, clams, mussels), which accounts for approximately 65 percent of total U.S. marine aquaculture production, followed by salmon (approximately 25 percent) and shrimp (approximately 10 percent). Current production takes place mainly on land, in ponds, and in coastal waters under state jurisdiction. However, technological advances in aquaculture technology have enabled several commercial finfish operations to operate in more exposed, open-ocean locations in state waters in Hawaii and Puerto Rico. There are also commercial mussel farms in open-ocean locations in New Hampshire and California, and permit applications have been filed for open-ocean mussel farms in Massachusetts and Rhode Island.

In the absence of a national approach that enables sustainable domestic aquaculture, the United States likely will continue to increase imports from foreign sources which may not have similar conservation regulations, as well as suffer the continued loss of jobs and livelihoods that have made our coastal communities unique. Promoting and enabling sustainable aquaculture here at home makes good sense.

THE NEED FOR NATIONAL MARINE AQUACULTURE LEGISLATION, INCLUDING A COMPREHENSIVE FEDERAL PERMITTING AND REGULATORY SYSTEM FOR OFFSHORE AQUACULTURE

While the U.S. Army Corps of Engineers and the Environmental Protection Agency have some regulatory authority over siting and monitoring the water quality impacts of offshore aquaculture operations, and the U.S. Food and Drug Administration has the regulatory authority over the safety of aquaculture products, NOAA has the mandates, technical expertise and appropriate infrastructure to ensure such operations adequately safeguard our Nation's living marine resources. Additionally, because NOAA is within the Department of Commerce, it is well placed to balance the goals of developing an economically viable offshore aquaculture industry

while protecting our Nation's valuable living marine resources and the ecosystems and communities they support.

On September 3, 2009, the first regional permitting program for offshore marine aquaculture took effect in the Gulf of Mexico under the Magnuson-Stevens Act. As we work to create a national policy, the Department of Commerce did not believe it was prudent to take action on the fishery management plan for regulating offshore marine aquaculture in the Gulf of Mexico at this time. Under the Magnuson-Stevens Act, if the Secretary does not notify the Council within a certain time period that he has approved, partially approved, or disapproved the action, the statute provides that the fishery management plan shall take effect as if approved. Because the statutory period passed without Secretarial action, the fishery management plan has entered into effect by operation of law. Implementing regulations will need to be published before any aquaculture projects can begin in the Gulf of Mexico. The Plan, which was developed by the Gulf of Mexico Fishery Management Council (Gulf Council), is far broader in scope than any aquaculture activity previously proposed to or approved by NOAA. Although the program has legally taken effect, I do not believe that regional approaches to offshore aquaculture are in the Nation's interests. Our review of the Gulf Council's program and related issues has highlighted the need for a comprehensive national policy that ensures a coordinated federal regulatory process for permitting aquaculture facilities in federal waters. If a national policy is adopted, it will be necessary to examine the plan in the context of that policy. If the Gulf Council plan is inconsistent with the national policy, we will consider appropriate action, which could include seeking an amendment or withdrawal of the plan through the Magnuson-Stevens Act process.

There is a pressing need for a national approach to regulating offshore aquaculture. But I urge the Committee to provide a broader aquaculture mandate than what already exists in the Magnuson-Stevens Act, to allow for a transparent regulatory structure consistent with ecosystem-based management and marine spatial planning that enables sustainable aquaculture production, safeguards environmental resources, and balances multiple uses. Additionally, legislation must ensure that relevant federal agencies and key stakeholders, including regional fishery management councils, coastal states, and the public, will be provided the opportunity to contribute to the development of environmental analyses, rulemaking, and permit decisions, including details on environmental requirements and siting criteria. Stakeholders also need access to information on proposed projects and potential environmental impacts. We would appreciate an opportunity to provide the Subcommittee with views on legislation concerning aquaculture.

ELEMENTS OF A COMPREHENSIVE FEDERAL PERMITTING AND REGULATORY SYSTEM IN NATIONAL MARINE AQUACULTURE LEGISLATION

The Committee has asked that I discuss the necessary components of a potential permitting and regulatory system including siting, permitting, and operating requirements, as well as precautionary measures to protect the environment and coastal communities.

In brief, requirements for permitting, operating, and siting should have terms and conditions that are consistent with good ecosystem-based management, minimize the risks of escapes, disease transfer, water quality effects, food safety, negative impacts on wild stock or habitat, or

overexploitation of forage fish, and provide protection for sensitive ecological areas and ecosystem functioning. These standards should ideally be established in the legislative provisions.

NOAA recognizes that stakeholders in the environmental community, the aquaculture industry, seafood processors, and other relevant industries want to ensure that the regulatory requirements are clear, the regulatory process is efficient, and the provisions provide suitable environmental and food safety protection while allowing the industry to develop and be a viable business model under appropriate standards. As is typical of many industries, earlier efforts (including NOAA's contributions), focused primarily on enhancing production – i.e., how to produce more product rapidly and at lower costs – and on creating markets and facilitating distribution. As the industry has matured, a more balanced focus is emerging on environmentally sustainable production. National legislation is needed to facilitate and ensure that aquaculture is truly sustainable. I commit NOAA to assisting the Subcommittee in drafting language that is protective of the environment and the rights of other ocean users, and assuring the safety of the products produced while encouraging investment and providing regulatory certainty for those considering investing in aquaculture development in federal waters.

ADDITIONAL ISSUES THAT ARE IMPORTANT FOR THE SUBCOMMITTEE TO CONSIDER

One of the priorities of this Administration is to examine the existing regulatory and policy framework that governs the Agency's activities with regard to marine aquaculture. To that end, we are reassessing existing Department of Commerce and NOAA Aquaculture Policies. We believe this process will allow us to move forward more effectively with a national aquaculture policy that will address the Administration's goals and enhance opportunities for economically and environmentally sustainable U.S. aquaculture.

In addition, this national aquaculture policy will take into account the ongoing work of the Interagency Ocean Policy Task Force, particularly its charge to develop a recommended framework for effective coastal and marine spatial planning.

Our goal is to build on the past hard work and consideration as well as the ongoing work of the Ocean Policy Task Force to create a comprehensive framework that facilitates safe and sustainable aquaculture operations in U.S. federal waters. Requirements that emerge from our evaluation will ensure that all marine aquaculture proceeds in an environmentally responsible manner that protects wild stocks and the quality of marine ecosystems and is compatible with other uses of the marine environment.

CONCLUSION

Madame Chairwoman and members of this Subcommittee, I look forward to working with you, the public, the fishing and aquaculture industries, and the environmental community to craft national marine aquaculture legislation. A strong, comprehensive framework that addresses federal agency responsibilities in both offshore and coastal areas will offer the regulatory certainty that industry needs while safeguarding the marine environment, as well as create economic opportunities for Americans. The United States must take the initiative to become

more self-sufficient in the production of healthy seafood, provide jobs for coastal communities, and reduce the seafood trade deficit. We must develop aquaculture as a tool to complement commercial fishing because we will need both to produce seafood to meet the growing demand.

Madame Chairwoman, I stand ready to work with you to these ends and again thank you for the opportunity to testify on this issue.