

NATIONAL Aquaculture ASSOCIATION

April 19, 2006

Senator John E. Sununu, Chair
National Ocean Policy Subcommittee
Senate Committee on Science, Commerce and Transportation
United States Senate
Washington, D.C.

Re: The National Offshore Aquaculture Act of 2005
Senate Bill 1195

Dear Senator Sununu:

The National Aquaculture Association (“NAA”) is the largest trade organization representing fish and shellfish aquaculture producers in the United States. Our members produce food fish, recreational fishing stock and baitfish, aquarium ornamental fish and shellfish. The NAA strongly supports the development of a national offshore aquaculture program that is environmentally-responsible and commercially feasible. The NAA offers the following comments regarding development of an offshore aquaculture legal framework, and looks forward to working with others to support enabling legislation that will assist the United States in meeting the seafood demand of present and future generations.

I. The United States Must Establish a Federal Marine Aquaculture Production Program

- U.S. Demand Outstrips Current Capabilities

The U.S. consumer demand for fish and shellfish continues to rise at an increasing rate. In 2005, seafood consumption in the U.S. soared to 16.6 pounds per person.ⁱ Marine and freshwater aquaculture production, as well as product from capture fisheries, will be needed to meet this demand.

Presently, foreign imports overwhelmingly dominate the U.S. seafood market. In 2005, the United States imported \$12.1 billion worth of seafood compared to \$11.3 billion in 2004.ⁱⁱ Fifty-three per cent of the 2004 imports originated in Asia.ⁱⁱⁱ Accounting for U.S. exports of \$3.8 billion, our annual seafood trade deficit has reached \$ 8.3 billion in 2005 compared to \$7.4 billion in 2004.^{iv} Remarkably, Americans rely on imports for the majority of their seafood.

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Substantial increases in the domestic capture fishing industry cannot be expected to meet projected U.S. demand. Maintaining the health of our wild seafood stocks requires careful management and monitoring. The necessity of limitations on production and fishing effort in management of natural populations can interrupt supplies to buyers, jeopardize consumer allegiance for domestic product species and cause greater demand for foreign product. Despite suggestions to the contrary, responsible management of capture fisheries cannot be expected to simply adopt aquaculture technologies in such a way as to meet demand solely through marine fishing. For example, modern hatcheries (aquaculture) produce an estimated forty percent of the harvested pacific salmon stock, but simply increasing stocking efforts will not provide reliable production increases or meet demand for other food fish species. We must look to the use of aquaculture technology to provide the substantial increased domestic production required to meet our needs for marketable seafood.

- Today's Decisions May Write the Story of our Future

For the past quarter century, Congress has recognized that our dependence on seafood imports adversely affects the national balance of payments and contributes to the uncertainty of supplies.^v Unfortunately, not a single commercial marine finfish facility has been established in federal waters over that period. In terms of offshore aquaculture, we have failed to even begin to implement the national policy established by the National Aquaculture Act of 1980 to “encourage the development of aquaculture in the United States.”^{vi}

Now more than ever, food security is becoming a critical concern for all countries, and the United States is no exception. Not long in the future, the economic strength of nations, and health of their citizens, may reflect the availability of high quality protein sources. Food security may supplant energy security as the strategic issue of the day. Our collective inability to develop the means to produce food fish in the federal waters of the exclusive economic zone may have dire consequences that should not be ignored today.

The United States was the world's food basket. Today, in addition to unexpected foreign competition in everything from Russian wheat to Central American produce, we realize we are not immune to a variety of national food production risks. Our critical protein production industries are vulnerable to natural disease risks, intentional attacks on food supplies by our enemies, transportation disruptions, and trade disputes between nations. All such factors could affect the health of generations to come. As a nation, we would be remiss not to pursue the protein production opportunities provided by offshore aquaculture on grounds that we may be faced with challenges, or that we will need to resolve our differences of opinion regarding its costs and benefits.

II. Legislation Should Create the Mandate; Regulation Should Provide the Operating Standards

Congress should create the mandate to pursue offshore aquaculture as an important element of our food production strategy for the 21st century. However, the legislative, policy development arena is not the proper forum for creating the detailed system that must integrate new legal authorities with numerous existing legal and regulatory standards applicable to aquaculture operations in the exclusive economic zone.

Aquaculture opponents speculate that a litany of potential dire consequences will create insurmountable environmental obstacles to development of offshore aquaculture. Those opponents would prefer that enabling legislation create numerous, specific aquaculture operating criteria without the benefit of public investigation and analysis that would be performed in rulemaking. In reality, there also exist many environmental standards that can be used to address the primary issues raised by opponents. Moreover, only in notice and comment rulemaking can all stakeholders have an opportunity to participate in the detailed scientific and governmental review required to formulate a supportive yet protective program.

What is needed is a clear legislative directive to guide both detailed rulemaking by administrative agencies and potential judicial review. Congress must be unwavering in meeting its responsibility to clearly restate that the fundamental objective of the offshore aquaculture legislation is food production.

- Available Water Quality Protection Standards Exist Today, Additional Regulation is Unwarranted

Maintaining water quality is a first priority for all successful aquaculturists. The technology for doing so is readily available, and the regulatory programs to ensure protection of water quality already exist.

In 2004, the U.S. Environmental Protection Agency completed approximately four years of work to investigate the primary methods of aquaculture production (including coastal net pen operations), and develop discharge permit regulations.^{vii} The USEPA promulgated specific effluent limitation guidelines (“ELGs”); an unfortunate term for enforceable permit standards for aquaculture operations.^{viii} Aquaculture facilities are required to meet these standards as elements of their NPDES permit under the Clean Water Act.^{ix} In addition, the Clean Water Act and its regulations have long required additional permit standards specifically tailored for discharges to ocean waters.^x The Federal ocean discharge regulations act to supplement ELG standards to provide an adaptive process to ensuring ocean water quality.

Ocean discharges are subject to criteria that require an assessment of their impact to biological community resources.^{xi} In its review of a permit application for a proposed ocean discharge permit, the EPA must consider the discharge’s effect on the receiving water ecosystem, and specifically ensure that there is no “unreasonable degradation” of

the marine environment.^{xii} The operating conditions required to meet this requirement are developed in the permit application process, where the project factors such as location, design, proposed stock species and receiving water characteristics are taken into account in order to develop appropriate safeguards.^{xiii} Existing Federal regulations require an evaluation of ten criteria to determine whether an unreasonable degradation of the marine environment will occur.^{xiv} Permits cannot be issued when there is insufficient information to determine that no unreasonable degradation will occur, unless the applicant can demonstrate that: a) the discharge will not result in “irreparable harm;” b) no reasonable alternatives to the discharge exist; and, c) the applicant complies with other permit conditions.^{xv} Permits issued under this authority are also specifically conditioned upon the risk of termination in the event that new data demonstrate that the continued discharge would result in unreasonable degradation of the marine environment.^{xvi}

A valid regulatory permit program is available to regulate offshore ocean discharges from aquaculture facilities. The proposed legislation need not duplicate this program, and efforts to do so will only create potential conflicts and unnecessary additional regulation.

- Species Restrictions and Stock Escapes

Potential impacts to native species and natural stock populations are legitimate concerns to consider in the development of offshore aquaculture facilities. However, blanket legislative prohibitions may preclude development of production technologies that are protective of native species and provide enhanced food fish production systems to the United States and others.

The aquaculture legislation should allow NOAA to review and approve proposed stock species and operating systems on a case-by-case basis, and thereby not bar the United States from the benefit of innovation and technological advancements. Sufficient levels of security for the circumstances may be achieved by incorporating a variety of safeguards. Depending on the specific circumstances, appropriate safeguards might incorporate stock restrictions (e.g. triploid (non-breeding) stock), improved containment designs (e.g. multiple netting, hard containment structures, vessel-contained stock) or new methods of protection not yet identified.

- Offshore Aquaculture’s Potential Contribution to Health Quality

The increase in domestic consumption of seafood is, in part, related to greater availability of seafood in the U. S. at competitive prices and to increased realization that consumption of seafood high in omega-3 fatty acids appears to have profound health benefits. Marine fish species, particularly those that are carnivorous, are typically high in omega-3 fatty acids relative to many freshwater species. Demand for healthy seafood is expected to grow as the U. S. population increases and as seafood health benefits become more broadly acknowledged. Offshore aquaculture presents a tremendous potential for increased supply of fresh, healthy seafood to the American consumer. It is incumbent on

Congress to provide opportunity for offshore aquaculture in the US EEZ to help improve US public health.

- Antibiotic Use is Properly Regulated

Opponents of aquaculture often allege rampant misuse of antibiotics by producers. Such opponents speculate that such misuse will be a standard practice if we create a marine aquaculture system. This is a red herring issue. Aquaculture opponents never discuss the various Federal programs designed to ensure public health and environmental safety are maintained when the few available antibiotics are used. Critics fail to recognize the scientifically rigorous US Food and Drug Administration drug approval process. There are very few drugs approved for use in aquatic animal farming in the United States and the three approved antibiotics are only available for a few specific fish species. Ongoing efforts to develop vaccines will dramatically reduce the need for antibiotics. New drugs are strictly regulated, and must pass rigorous evaluation for their potential environmental impacts under the Investigational New Animal Drug approval process. Existing laws specifically protect the public health and prescribe the standards for management of drug use and quality assurance in marine aquaculture.

- Alleged Aquaculture Health Risks are Unfounded

Some aquaculture critics express fears that antibiotics used in aquaculture will harm the surrounding environment or lead to antibiotic resistance in humans. In fact, there is no credible scientific literature documenting environmental harm from the extremely low concentrations of antibiotics occurring in the environment due to treatment of aquatic animals. Moreover, antibiotics are not used to protect fish (i.e. prophylactic use) or are they used to promote growth in domestically reared fishes. The only antibiotics approved for use in the U.S. domestic aquaculture industry are approved to treat specific bacterial diseases in specific kinds of aquatic animals. Similarly, critics often mistakenly claim that hormones are used in aquaculture to promote growth. In fact, there are no U.S. FDA approved hormones for growth promotion of aquatic animals. Critics also fail to identify the ongoing efforts of the Federal Joint Subcommittee on Aquaculture to develop a national aquatic animal health plan. Lastly, opponents of offshore aquaculture argue that farming of aquatic animals will create disease or enhance disease of wild fish. In fact, infectious diseases affecting farmed aquatic animals already occur in the wild. The pathogens causing aquatic animal disease in marine species are most frequently transferred from wild fish to farmed fish.

III. Fundamental Issues Must Be Addressed in Legislation in Order to create a Viable Program

A. The Proper Role of the States

The coastal states have a legitimate interest in the development of offshore aquaculture and may have aquaculture experience that would assist in the evaluation of offshore

marine aquaculture projects. The Federal process for review of offshore marine facilities must include state participation procedures. However, the potential adverse impacts of aquaculture in federal waters must be kept in perspective. Unlike other projects that may potentially create greater, wide-range impacts to state water quality, such as offshore oil and gas production facilities, marine aquaculture facilities beyond the limits of state waters are unlikely to create similar concerns.

Offshore marine facilities in federal waters should not be required to receive a formal state consistency determination under the Coastal Zone Management Act unless the facility is reasonably likely to violate state marine water quality standards or violate an approved state coastal management program requirement in state jurisdiction waters.^{xvii} Any land-based operations or related industries that support offshore aquaculture should be reviewed under the applicable local zoning regulations and related coastal zone management standards that are part of that review.

- State Veto Authority Must be Limited

Giving states the ability to close federal waters to offshore aquaculture creates a dangerous precedent, and is inconsistent with the national objectives of the proposed legislation. States should not have *carte blanche* authority in federal waters; whether it concerns the operation of proposed aquaculture facilities, management of fish stocks, or the presence of nuclear-powered vessels or armaments in the U.S. exclusive economic zone.

There would be little incentive for private industry to develop offshore production facilities if their operation could be terminated and investment forfeited by subsequent state opt-out decisions. Any opt-out authority provided to states must be reasonably limited in scope and reflect a valid public policy purpose. States should be limited to a one-time opt-out decision, and should be required to notify NOAA of their opt-out decisions within six months of promulgation of the program regulations. The state opt-out decision also should be limited in effect to only the area within five nautical miles from the state-federal boundary. A similar procedure could apply to state-federal boundaries areas that create jurisdictional “donuts.” The five nautical mile boundary area could be considered a rationally defined setback area to further protect state waters from potential aquaculture facility impacts. Naturally, NOAA would still be able to consider specific impact factors and additional, appropriate protective standards under regulations established for review of proposed facilities.

An additional limitation needed to support the concept of a legitimate decision by states to remove federal waters from potential development would be to condition a state opt-out decision upon the existence of a corresponding state prohibition of finfish or shellfish aquaculture in state waters. It would be unreasonable to allow states to prohibit aquaculture in neighboring federal waters when such activities are allowed in state waters.

B. Aquaculture is Not a Fisheries Management Issue

The NAA strongly supports exempting offshore commercial aquaculture from regulation under wild fisheries management programs such as the Magnuson-Stevens Fishery Conservation and Management Act and the jurisdiction of the fisheries management councils^{xviii}. As is the case with other Federal entities with offshore responsibilities, the Councils should be provided with an opportunity to comment on proposed offshore aquaculture programs but not be provided with approval or veto authority, or the ability to regulate aquaculture operations. The only proper application of such a management program with respect to offshore aquaculture is the regulation of the release of farmed fish under wild stock enhancement programs. Otherwise, aquaculture fish stocks are to be recognized as private property; they are not part of a wild fishery resource.

Fish farm operations also should not be subject to standards established by the Councils that are not part of the regulations promulgated under authority of the proposed offshore aquaculture legislation. While Congress is only now first considering offshore aquaculture enabling legislation, some Councils have already produced onerous environmental and operations policies for potential aquaculture operations in the exclusive economic zone. These policies have been drafted without the benefit of formal rulemaking processes, or rulemaking safeguards with respect to economic evaluations, small business considerations or protections against anticompetitive effects. Congress should confirm that the evaluation, approval and operation of offshore aquaculture facilities will be performed under the regulations promulgated by NOAA to implement the aquaculture legislation, and that such operations are not intended to be regulated by policies created by the Councils under the wild resource programs. Of course, there are also other existing regulations and specific statutory directives for regulating aspects of federal offshore aquaculture, such regulations under the Federal Water Pollution Control Act and regulations of the U. S. Environmental Protection Agency.^{xix}

C. Site Permit Terms

The proposed offshore legislation establishes a site permit to authorize an aquaculture production facility in federal waters. The proposed term of this permit is an initial period of ten years, renewable at five year terms thereafter. This approach does not present a viable development and investment option. The proposed length of the site permit presents a significant obstacle to business and financial planning. Offshore aquaculture operations will be expensive, and will typically require private sector financing. The uncertainty created by potential disruption of established operations after a 10 year initial permit periods will create too great a degree of risk. The transaction costs attendant to initial permitting of production sites, and potential additional costs to re-permit initial sites, or new sites, is a substantial burden that must be supported by product prices. These significant transaction costs may make product prices unmarketable.

By comparison, other federal leases that authorize the consumptive use of public trust resources (as opposed to use of a site for private resources) provide even longer use periods than the proposed aquaculture legislation. Federal oil and gas leases run for

twenty years.^{xx} Federal deep seabed mineral leases run for initial recovery periods of twenty years, and indefinitely thereafter if minerals are being recovered.^{xxi} The term of aquaculture site permits should be extended to initial periods of twenty-five years, and should be renewable for terms of twenty-five years. Shorter periods result in business instability, substantial overhead and transaction costs, and potential lease speculation that could create bidding wars for established production sites. The objective of Federal legislation should be reliable production of food fish, not speculative markets in production sites.

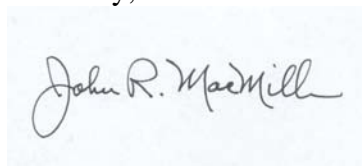
IV. Aquaculture Development in a Global Market

Large-scale marine aquaculture of the type likely to be considered for development in the U.S. exclusive economic zone is being undertaken in many other countries as we speak. In fact, we must recognize that this type of operation will be a much larger scale and more capital intensive than most other forms of aquaculture in the United States. As such, many of those who would consider undertaking these projects will readily evaluate foreign development locations as alternatives to development in the United States. To the extent that we create obstacles to development in this country, marine aquaculture projects will be located in Australia, Belize, Canada, Chile, China, Mexico, Norway, New Zealand, Scotland, Spain, Vietnam and other countries. The transportation requirements do not present a significant barrier to U.S. markets from these locations, particularly when we consider the disparity in labor costs and regulatory costs.

If we are to have any hope of creating a commercial offshore aquaculture industry in the United States, and addressing food security requirements and the current seafood trade imbalance, we will have to eliminate existing unwarranted barriers to development and create a reasonable program for evaluation and approval of offshore aquaculture projects.

Thank you for the opportunity to provide these comments.

Sincerely,

A handwritten signature in cursive script that reads "John R. MacMillan". The signature is written in black ink on a light blue rectangular background.

John R. MacMillan, Ph.D.
President

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- ⁱ U. S. Department of Commerce, NOAA, Import and Export of Fishery Products Annual Survey 2005 (“Survey 2005”), (<http://www.st.nmfs.gov/st1/trade/documents/TRADE2005.pdf>, visited April 2006).
- ⁱⁱ *Id.*; NOAA, Fisheries of the United States 2004 (“Fisheries 2004”), p. 53, (http://www.st.nmfs.gov/st1/fus/fus04/08_perita2004.pdf).
- ⁱⁱⁱ *Id.*, p. 55
- ^{iv} Survey 2005, Fisheries 2004, p. 53.
- ^v National Aquaculture Act of 1980, 16 U.S.C. 2801 et seq., 16 U.S.C. 2801(a) (2).
- ^{vi} National Aquaculture Act of 1980, 16 U.S.C. 2801 et seq., 16 U.S.C. 2801(c).
- ^{vii} See, 69 FR 51891, 51897 (December 23, 2004).
- ^{viii} See, 40 CFR Part 451.
- ^{ix} 33 U.S.C. § 402
- ^x 33 USC 403; See also, 40 CFR §§ 125.120 through 125.124.
- ^{xi} 40 CFR § 125.122 (a) (3).
- ^{xii} 40 CFR §§ 125.121 (e), 125.122.
- ^{xiii} 40 CFR § 125.122
- ^{xiv} 40 CFR § 125.122 (a).
- ^{xv} 40 CFR § 125.123.
- ^{xvi} 40 CFR § 125.123 (d) (4).
- ^{xvii} See, 16 USC §1456(c) (3) (A); See also, 16 U.S.C. §1453 (1).
- ^{xviii} 16 USC 1801 et seq.
- ^{xix} 33 USC 1251 et seq., 40 CFR Part 451.
- ^{xx} 30 USC § 223.
- ^{xxi} 30 USC § 1417(b).