# CHAPTER 3

# LAW & OFFSHORE AQUACULTURE: A TRUE HURDLE OR A SPEED BUMP?[1]

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## ABSTRACT

The legal and regulatory environment surrounding offshore aquaculture is cited consistently as one of the major hurdles to its development in the United States. Despite the adoption of the National Aquaculture Act in 1980, the lack of a sound legal and regulatory structure is still cited as the culprit for lack of a U.S. industry. In reality, the present regulatory regime is inadequate because it is based upon laws that were adopted to address issues or industries other than aquaculture. Because aquaculture facilities affect traditionally governed areas such as water supply, the use of navigable waters, food production, and environmental protection, multiple federal and state agencies have jurisdiction over the industry. While these agencies have excelled at regulating and permitting land-based aquaculture regimes with refined and stream-lined licensing procedures and regulations, the offshore aquaculture regulatory structure looks significantly different with no single lead agency and differences in regulations between states and regions. Many claim that these issues must be resolved before a sustainable industry can emerge. Law and policy research conducted in tandem with the environmental and technological research of the Gulf of Mexico Offshore Aquaculture Consortium revealed some specific legal mechanisms that need to be addressed but highlighted the reality that offshore aquaculture can develop within the present structure. This chapter describes some of these immediate legal hurdles but concludes that political and scientific issues serve as much greater hurdles than the legal and regulatory regime.

## INTRODUCTION

The legal and regulatory environment related to offshore aquaculture is cited consistently as one of the major hurdles to its development in the United States. In 1978, the United States National Research Council (NRC) found that the procedures required to obtain permits and licenses for offshore aquaculture "have been a severe deterrent" to the development of the industry explaining that "constraints on orderly development . . . tend to be political and administrative, rather than scientific and technological. Advances are needed in all areas, but for overall progress, the essential requirements are policy decisions and administrative actions."[2,3] The U.S. Congress responded in part in 1980 with the

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[2] National Research Council, Aquaculture in the U.S.: Constraints and Opportunities. Washington, DC: National Academy Press (1978).

[3] Additionally, the National Oceanic and Atmospheric Administration's 1977 Aquaculture Plan called for government promotion of the aquaculture industry as a key component of the United States' aquaculture future. NOAA Aquaculture Plan, Washington, DC: U.S. Gov Printing Office (1977).

passage of the National Aquaculture Act noting the "diffused legal jurisdiction" and "lack of supportive Government policies." Even with these criticisms of the lack of a legal and regulatory structure, the codified national policy in the National Aquaculture Act was to "encourage the development of aquaculture in the United States"[4] without specific direction toward creating such a structure.

Twenty-five years after the adoption of the National Aquaculture Act, shortcomings in the law is still cited as the culprit for lack of a U.S. industry. While the existence (or nonexistence) of a law is not the only (and, arguably not the primary) reason for the lack of an industry, the present regulatory regime is inadequate because it is based upon laws that were adopted to address issues or industries other than aquaculture.[5] In general, aquaculture facilities affect traditionally governed areas such as water supply, the use of navigable waters, food production, and environmental protection. As a result, multiple federal and state agencies have jurisdiction over the industry and while these agencies have excelled at regulating and permitting land-based aquaculture regimes with refined and stream-lined licensing procedures and regulations, an offshore aquaculture regulatory structure would look significantly different with no single agency consistently taking the lead and differences in application of regulations between regions.

Findings about these legal and regulatory hurdles are not new. There have been numerous calls for improvements during the last two decades.[6] Individuals interested in developing sustainable offshore aquaculture face challenges in the form of a fragmented and often inconsistent permitting process among the federal, state, and local agencies and questions regarding leasing, siting, and property rights. Many claim that these issues must be resolved before a sustainable industry can emerge. Interestingly, law and policy research that was conducted in tandem with the environmental and technological research of the Gulf of Mexico Offshore Aquaculture Consortium revealed some specific legal mechanisms that need to be addressed but highlighted the reality that offshore aquaculture can develop within the present structure. This chapter describes some of these immediate legal hurdles but concludes that political and scientific issues serve as much greater hurdles than the legal and regulatory regime.

The chapter begins with a background of present aquaculture laws and regulations in the United States within the context of other marine aquaculture nations. A complete list of the laws, permits, and agencies and their contacts related to offshore aquaculture siting in U.S. federal waters and the five Gulf of Mexico states waters is presented in Appendix A of this book. Next, impediments to the development of an offshore industry in the Gulf of Mexico, focusing on the maze of legal and regulatory provisions, the leasing provisions (and lack thereof), and the traditional

[4] 16 U.S.C. § 2801(7) (2004).

[5] This is not necessarily unique to the U.S. For example, Canadian aquaculturists are presently operating with policies and regulations that were, for the most part, designed for the capture fishery. Communications Directorate, Department of Fisheries and Oceans. Federal Aquaculture Development Strategy, p. 12 (1995).

[6] The National Aquaculture Act of 1980 and 1985, proposed to promote aquaculture and direct government to untangle the present legal and regulatory regimes. 16 U.S.C. 2801 *et seq*. See, "Marine Aquaculture Opportunities for Growth," Committee on Assessment of Technology and Opportunities for Marine Aquaculture in the United States, National Academy Press, Washington, DC (1992). Also see, Anne Hayden, "Current and Potential Regulation of Open Ocean Aquaculture," Open Ocean Aquaculture 1997 Charting the Future of Ocean Farming, Conference Proceedings, p.57–63.

users of marine areas under the public trust doctrine are examined. Lastly, the chapter concludes with a perspective on the legal and regulatory hurdles in the context of an underdeveloped industry that faces political and environmental challenges in its future.

## AQUACULTURE LAW IN THE UNITED STATES

The U.S. government began to promote aquaculture to develop certain sport fishing in the late nineteenth century, and the government did not regularly support marine aquaculture research until the late 1960s and early 1970s.[7] The 1980 National Aquaculture Act (NAA) established a national policy of encouraging development of aquaculture in the United States.[8] The NAA called for the creation of a National Aquaculture Development Plan to identify species with significant commercial potential and include research and development, technical assistance, and training programs as necessary.[9] The NAA also established an interagency Coordinating Group to increase the effectiveness and productivity of federal aquaculture programs and to assess the industry and report to Congress[10] and a National Aquaculture Information Center. Congress called for a review of regulatory constraints that may have a negative impact on the industry[11] and the NAA was reauthorized in 1985 with the passage of the National Aquaculture Improvement Act[12] and again in 2002 with the Farm Security and Rural Investment Act of 2002.[13]

While the National Aquaculture Act directed the development of a number of planning and policy tools and revealed the growing demand for aquatic food products, the Act itself does not provide a legal framework for aquaculture development.[14] The Department of Agriculture, named lead aquaculture agency in the NAA, has not pursued any lead regulatory or permitting authorities in the offshore aquaculture industry. The main role of the Department of Agriculture has been as a source of research and planning funds and organization. However, even though permitting and/or regulatory requirements have not grown out of the NAA, other agencies and their regulatory programs do create a maze of legal requirements for the aquaculture industry.

Both the United States Corps of Engineers (Corps) and United States Coast Guard (USCG) have a role in the placement/siting of an aquaculture facility in federal waters. Under Section 10 of the Rivers and Harbors Act of 1899, as extended by the Outer Continental Shelf Lands Act (OCSLA), the

[7] "Marine Aquaculture Opportunities for Growth," Committee on Assessment of Technology and Opportunities for Marine Aquaculture in the United States, National Academy Press, Washington, DC (1992) p. 65. In 1870, the U.S. Congress spent its first federal funds ($100.00) for fish research investigations at Woods Hole, MA, *Id* p.15.

[8] 16 U.S.C. § 2801 (c) (2003) "Congress declares that aquaculture has the potential for augmenting existing commercial and recreational fisheries and for producing other renewable resources, thereby assisting the United States in meeting its future food needs and contributing to the solution of world resource problems. It is therefore, in the national interest and it is the national policy, to encourage the development of aquaculture in the United States."

[9] 16 U.S.C. § 2803 (2003).

[10] 16 U.S.C. § 2805 (2003).

[11] 16 U.S.C. § 2804 (c)(1)(B) The National Aquaculture Information Center is within the U.S. Department of Agriculture and acts as a repository for aquaculture research.

[12] The reauthorization saw the addition of two major amendments: (1) USDA was assigned lead agency for aquaculture and (2) two new studies on exotic species introductions and captured fisheries potential impacts on commercial fisheries, "Marine Aquaculture Opportunities for Growth," Committee on Assessment of Technology and Opportunities for Marine Aquaculture in the United States, National Academy Press, Washington, DC (1992) p. 68.

[13] 7 U.S.C. § 7139 (2002).

[14] 16 U.S.C. § 2801 *et seq*. (2003).

Corps requires a permit for the creation of "any obstruction to navigation" in federal waters.[15] This authority is aimed at preserving and protecting unhindered navigational access to the waters of the United States. The OCSLA grants the Corps the authority within the exclusive economic zone (EEZ) to regulate "installations and other devices permanently or temporarily attached to the seabed, which may be erected thereon for the purpose of exploring for, developing or producing resources from [the outer continental shelf]."[16]

A Section 10 permit may be granted or a nationwide or general permit may be applicable. If the latter applies, the Corps will issue a letter of permission in lieu of a permit.[17] Permits will be reviewed for cumulative impacts upon the water quality; effects of the facility or structure on recreation, fish and other wildlife; pollution problems; economic factors; safety; aesthetics; protection of navigational integrity; and, accurate charting of any structures.[18] In addition, the USCG has regulations governing the proper lighting and signals required for structures in United States waters to ensure safe passage of vessels. Aquaculture facilities will need proper structure markings as specified by the USCG.[19] Typically, the USCG marking requirements will be included in the Section 10 permit as a condition.[20]

The National Marine Fisheries Service (NMFS) and the relevant Regional Fisheries Management Council examine an aquaculture facility's impacts on fisheries resources. NMFS is directed by the Magnuson-Stevens Fishery Conservation and Management Act to regulate and manage commercial fishing operations, including aquaculture, within the EEZ.[21] For the OAC's research project and offshore cage, NMFS provided a Letter of Acknowledgement.[22]

For commercial aquaculture ventures, however, the lack of consistent federal policy has been highlighted by recent activity. At the beginning of the project, it was assumed that NMFS would have to grant an "exempted fishing permit" (EFP) in order to allow an aquaculture facility to hold juvenile fish in federal waters[23] and that the Gulf of Mexico Fisheries Management Council (Council)[24] would have a consulting role, especially regarding potential conflicts between the tra-

[15] 33 U.S.C. § 403 (2003), see 33 C.F.R. 322.1-.5, for Corps regulations governing "Permits for structures or work in or affecting navigable waters of the United States."

[16] 43 U.S.C. § 1333(a), (e) (2003).

[17] 33. C.F.R. 322.1.

[18] 33 C.F.R. 325.3(c)(1).

[19] See 43 U.S.C. 1333(e), 14 U.S.C. 81–87, 33 C.F.R. 64–67.

[20] Fletcher and Weston, The Legal & Regulatory Environment: Offshore Aquaculture Permitting Process in the Gulf of Mexico, Report published by Mississippi-Alabama Sea Grant Legal Program, available at http://www.olemiss.edu/orgs/SGLC/Offshore%20Aquaculture.pdf (last visited 9/2/04).

[21] 50 C.F.R. 229.2. In a February 7, 1993 memorandum to James W. Brennan, then NOAA's Acting General Counsel, from Jay S. Johnson, Deputy General Counsel, and Margaret F. Hayes, Assistant General Counsel for Fisheries, it was stated that, "Aquaculture facilities are subject to the Magnuson Fishery Conservation and Management Act because they engage in the "harvest" of fish from the EEZ. Barges and other vessels used to support such facilities are "fishing vessels" within the meaning of the Magnuson Act. U.S. vessels that support such facilities and that measure five net tons or larger must obtain Coast Guard documentation, including a "fishery endorsement." U.S. vessels are subject to additional regulations at the discretion of a Regional Fishery Management Council, subject to the approval of the Secretary of Commerce.

[22] Fletcher and Weston, supra note 20.

[23] 50 C.F.R. 600.745. An "exempted fishing permit" is needed to harvest a federally regulated species in federal waters. Without an EFP an aquaculturist may violate regulations by possessing fish that are less than minimum size, out of season, beyond regulated fish trip limits, or fish that are altogether banned from possession in federal waters.

[24] See generally, 16 U.S.C. 1801 *et seq*; later amended and renamed the Magnuson—Stevens Fisheries Conservation and Management Act, See, 16 U.S.C. 1852(a)(1)(E), for creation of Fisheries Councils, See 50 C.F.R. 601 and 605, for the regulations governing Fisheries Councils.

ditional users of commercial fish resources in the Gulf of Mexico and aquaculture planning and siting. In fact, in preparation for new sites, the Council developed a Mariculture Policy, which is designed to "encourage environmentally responsible mariculture."[25]

However, when the NMFS was faced with a request for an exempted fishing permit, the agency responded that taking fish from an aquaculture cage was considered "harvesting" under the Magnuson-Stevens Act and would be regulated by the size and catch restrictions determined by the agency for all federally managed species. This instance highlights the inadequacy of both the Magnuson-Stevens Act and the National Aquaculture Act to address the distinctions between commercial fishing and aquaculture. If the NMFS continues to use this interpretation of harvesting under the Magnuson-Stevens Act, then the Act will need to be amended to allow for commercial facilities.

Beyond the fishing permit requirements, potential environmental concerns related to aquaculture facilities in offshore waters are addressed by the U.S. Environmental Protection Agency (EPA). The Clean Water Act specifically directs the EPA to require point source pollution discharges from aquaculture facilities.[26] These facilities will be permitted under the National Pollution Discharge Elimination System (NPDES).[27] On June 30, 2004, EPA finalized a new rule establishing regulations for concentrated aquatic animal production (CAAP), or farm raised fish facilities, in response to a legal settlement with the Natural Resources Defense Council (NRDC) and others which required EPA to set regulations for 19 industrial categories.

The regulation applies to approximately 245 facilities that generate wastewater from their operations and discharge that wastewater directly into U.S. waters. The rule was adopted to reduce discharges of conventional pollutants (such as total suspended solids), as well as non-conventional pollutants (such as nutrients). To a lesser extent, the rule is to reduce drugs that are used to manage diseased fish, chemicals used to clean net pens, and toxic pollutants (metals and PCBs).[28]

Other natural resources and natural resource production that may be affected by aquaculture are under the authority of the United States Fish and Wildlife Services (USFWS) and Minerals Management Service (MMS). The Fish and Wildlife Coordination Act[29], Endangered Species Act[30] and the Marine Mammals Protection Act[31] require that the USFWS review and comment on any federal permit application for any activities that impact aquatic plants and animals, specifically endangered species or marine mammals. Furthermore, aquaculture sites proposed near oil and gas leases on the outer continental shelf will need to consult with MMS,

[25] Gulf of Mexico Fisheries Management Council, Mariculture Policy, on file with author.

[26] 33 U.S.C. § 1328 (2003).

[27] 33 U.S.C. § 1342, NPDES statutory provisions and 40 C.F.R. §122.24, NPDES regulations. (2003).

[28] The final rule applies to direct discharges of wastewater from existing and new facilities that produce at least 100,000 pounds of fish a year and discharge at least 30 days a year and facilities that produce at least 100,000 pounds of fish a year in net pens or submerged cages. When the rule is fully implemented, discharges of total suspended solids will be reduced by more than 500,000 pounds a year and biochemical oxygen demand and nutrients will be reduced by about 300,000 pounds per year. This affects newly permitted facilities, and existing facilities upon renewal of their (CAAP) permits. Issuance of this rule completes all regulations addressed under the settlement agreement. Information about this program and the final regulation is available at: http://www.epa.gov/guide/aquaculture (last visited 9/3/04).

[29] 16 U.S.C. § 661 *et seq*. (2003).

[30] 16 U.S.C. § 1531 *et seq*. (2003).

[31] 16 U.S.C. § 1361 *et seq*. (2003).

because the Outer Continental Shelf Lands Act grants jurisdiction over these leases.[32] Any facility that connects to an oil and gas rig or depends on the transfer of ownership of a rig structure will need permission from MMS.

Along with the questionable application of the Magnuson-Stevens Act to aquaculture facilities and the implementation of the new EPA effluent rule, several other legal components are missing from the present system. Most noticeable is the lack of a federally designated agency responsible for coordinated leasing or siting of offshore aquaculture facilities. Furthermore, there is no mechanism to ensure that efforts to regulate the industry are approached in an efficient and streamlined manner. Overlapping and unclear jurisdictional lines between agencies lead to repetitive requirements and unnecessary paperwork.

## STATE LAWS ADDRESSING OFFSHORE AQUACULTURE

For the most part, waters in the Gulf of Mexico are so shallow that many cage facilities will need to be located in federal waters (three miles offshore of the shorelines of Alabama, Mississippi and Louisiana and nine miles offshore of Texas and Florida). Thus, state laws and policies applicable to offshore aquaculture in the Gulf of Mexico pertain to the potential effects of aquaculture facilities on the coastal area of the neighbor state and laws that states have put in place regarding landings, access through state waters, and water quality protections.

One of the most powerful tools provided to states to protect their coastal waters from activities in adjacent federal waters can be found in the consistency provisions of the federal Coastal Zone Management Act (CZMA).[33] The CZMA states in part, "Each Federal agency activity within or outside the coastal zone that affects any land or water use or natural resource of the coastal zone shall be carried out in a manner which is consistent to the maximum extent practicable with the enforceable policies of approved State management programs." While the types of activities that fall under the CZMA consistency provision have been subject to dispute and litigation, in the case of aquaculture leasing and permitting, states may claim that a federally permitted aquaculture facility is not consistent with the coastal program of that state. In short, states will play an important role in the development of offshore aquaculture and ensuring that their coastal environmental concerns are addressed.

The states also have some permitting, licensing and registration requirements that could affect activities in federal waters that require passage through state waters. All of the Gulf of Mexico states have their own particular sets of laws and regulations designed to manage and conserve fishing resources, targeting transportation, gear types, and tagging and container regulations. For example, Alabama requires that boats transporting fish/equipment through Alabama state waters, in order to conduct activities within federal waters, acquire an Alabama state permit. Similarly, Mississippi law requires vessels

[32] 43 U.S.C. § 1331–1356 (2003).

[33] 16 U.S.C. § 1456(c) (2003). "[The CZMA] has as its main purpose the encouragement and assistance of States in preparing and implementing management programs to preserve, protect, develop and whenever possible restore the resources of the coastal zone of the United States . . . *There is no attempt to diminish state authority through federal preemption*. The intent of this legislation is to enhance state authority by encouraging and assisting the States to assume planning and regulatory powers over their coastal zones." *Granite Rock Co. v. California Coastal Comm'n*, 107 S.Ct. at 1431, quoting S. Rep. No. 753, 92d Cong. 2d Sess. at 20 (1972).

used to "transport fish in the waters of the State of Mississippi for commercial purposes shall, before beginning operations, obtain an annual license from the commission and pay a license fee."[34] As highlighted above these laws could impact aquaculture activities in federal waters by requiring facility operators to meet certain state requirements, however these state requirements are not likely to completely prohibit the development of offshore aquaculture ventures. If federal aquaculture legislation is passed, many of these issues may be solved due to the preemption of state law by federal legislation.[35] Aquaculture requirements contained in federal law may either directly and expressly preempt the state laws mentioned above or an implied preemption may be found.[36]

## IMPEDIMENTS TO DEVELOPING AN OFFSHORE AQUACULTURE INDUSTRY IN THE GULF OF MEXICO

### *The Public Trust Doctrine & Aquaculture*

The Public Trust Doctrine (PTD) provides that the state holds submerged and submersible lands in trust for public use in navigation, fishing, and commerce and recreation. As one commenter explains, "the doctrine's operation exacerbates a growing clash in liberal ideology within natural resources law—between the need for individual autonomy and security, traditionally tied up in private property rights, and the demands of longer-term collectivist goals expressed in environmental protection and resources conservation laws."[37]

It is this need for autonomy and security over a particular area of surface water, water column, and, in some cases, submerged lands, by the offshore aquaculture industry that is challenged by the traditional uses allowed under the PTD. The PTD has not completely halted the use of zoning in marine areas, both coastal and offshore, but certainly does present additional hurdles for new activities or new industries that cannot claim the same traditional uses. For example, areas in federal waters have been designated for offshore oil and gas exploration through a lease system that grants rights to the minerals below the surface. The owners and operators of the platforms have the limited right to exclude others from the area for the purpose of protecting the platform and associated property or for other safety concerns. Oil and gas companies have made few efforts to enforce these safety zones around the platforms, allowing local fishers to "hook up" to the platform in order to fish its rich artificial reef below. Other areas are off-limits to traditional uses for military purposes or environmental protection with varying levels of enforcement and restrictions on uses.

Depending on the type of cage and fish and depth of water, the siting of offshore aquaculture pens potentially requires a greater level of protection for the property and fish from traditional users as it is significantly easier to access a submerged or partially submerged cage than an elevated platform and significantly more difficult to protect without a human presence.

### *Leasing*

Once public trust issues are addressed, a sustainable industry in the Gulf of Mexico

[34] MS RS § 49-15-80 (2003). *Also see*, La R.S. 56:307 (2003) (requires state license for transportation of fish in state waters).

[35] Supremacy Clause, U.S. Const. art. VI, cl. 2. Federal activities, such as implementing regulations, federal common law, treaties and executive agreements, all possess the same status as legislation for purposes of preemption.

[36] 435 U.S. 151, 157–158 (1978) Ray v. *Atlantic Richfield Co* (an instructive case on federal preemption of state regulation dealing with marine affairs.)

[37] Richard J. Lazarus, *Changing Perceptions of Property and Sovereignty in Natural Resources: Questioning the Public Trust Doctrine*, 71 Iowa L. Rev. 631, 692 (1986).

(and in federal waters in other regions) will require a mechanism to ensure the availability of a secure property right to the water column and associated bottom area within and upon which the aquaculture cage/net pen will reside. Any significant investment of capital will require such a property right. The federal government manages both federal waters and water bottoms as natural resources owned by the government in trust for the public. The leasing of these resources would give the aquaculturists the needed property rights and security, while the resources would remain in the ownership of the federal government.

A lease is an agreement under which the owner (here, the U.S. government) gives up use of certain property for valuable consideration and for a definite term; at the end of the term, the owner has the absolute right to retake, control and use the property.[38] Leasing is key to the industry because ownership of property gives the owner a number of rights and responsibilities, often analogized to a bundle of sticks. When leasing land the owner grants the lessee some of these rights and responsibilities, or gives the lessee a few of his sticks, according to the terms of the lease.

Leasing state and federal lands and water bottoms for private uses is not uncommon.[39] For example, "the U.S. Department of the Interior leases federal land for logging, grazing, and mining; states lease shellfish beds for oyster culture and harvest; piers, docks, and marinas extending into public waters may be built by riparian landowners."[40] However, leasing of activities offshore in the EEZ has thus far been reserved for oil and gas activity. The Minerals Management Service, acting on behalf of the Department of the Interior, grants oil and gas leases in the EEZ through a competitive bidding process.[41]

Leasing of state coastal water bottoms for aquaculture ventures is a practice employed by all the Gulf of Mexico states; all five states have general leasing authority granted to either the state lands office or natural resource department.[42] This authority gives one agency or state office the ability to lease state lands and submerged water bottoms to private persons or entities. Generally, the states' (water bottom) leases grant the lessees the exclusive right to conduct a specified activity on the water bottom, however, activities in the associated water column are not always under the exclusive control of the aquaculture lessee. Florida and Mississippi law do provide for aquaculture leases to grant control over the water column "to the extent required by such activities."[43]

Furthermore, some of the Gulf of Mexico states have made a connection between obtaining a water bottom lease and specific aquaculture requirements. In Mississippi, obtaining a lease will require application for an aquaculture lease, which is tailored to

[38] Black's Law Dictionary 889 (6th ed. 1990).

[39] See, Mayer, Carl J., and George A. Riley, *Public Domain, Private Dominion A History of Public Mineral Policy in America*, 1985, p. 33, for discussion of an early Supreme Court decision upholding leasing of federal lands. "The decision in *United States v. Gratiot* was a victory for the government; it firmly established the power of Congress to retain and manage public property. If Benton [representing the Gratiots] had succeeded, the legal history of the public domain would have been drastically altered. Benton's interpretation of the Constitution would strip Congress of the power to create national parks, lease rights to grazing land, and sell timber in national forests. In rejecting this position, the Court recognized Congress's broad latitude in managing federal lands."

[40] Rubino, Michael and Charles A. Wilson, I*ssues in Aquaculture Regulation*, p. 15.

[41] See 43 U.S.C. § 1331–1356 (2003).

[42] See Alabama - Code of AL § 9-17-62, Mississippi - Miss. Code Ann. § 29-1-107, Louisiana - La. R.S. § 30:172, Florida - Fla. Stat. 18 § 253 *et seq*. and Texas - TX Natural Resources Code § 51 *et seq*.

[43] Fla. Stat. 18 § 253.68, Rule 5 (D)(3).

review of the scope and type of aquaculture venture.[44] Also, in Florida a lease for aquaculture purposes is connected to the lessee obtaining an aquaculture certificate.[45] Florida aquaculture certification provides the state with a mechanism to ensure best management practices for aquaculture are being met.[46]

Looking outside of the Gulf of Mexico, Hawaii has made history in recent years by granting an aquaculture lease for offshore cages. The Hawaii Department of Land and Natural Resources agreed to lease a 28-acre patch of ocean for the commercial production of fish in sea cages.[47] The 15-year lease between the state and Kailua-based Cates International Inc. allows for up to four cages, to be anchored, 40 feet below the water surface, to the ocean floor two miles off 'Ewa Beach for the production of moi, a valuable local species.[48] While the lease has not been finalized at present, Cates is expected to lease the ocean floor substrate, a column of water above it, and corresponding surface area, with a ten-year option to extend the lease. Rent will likely be based on a percentage of gross revenues to be determined by state officials and appraisal.[49]

The movement toward offshore aquaculture must establish a leasing mechanism that addresses questions of agency jurisdiction, property rights, enforcement and environmental concerns. Designation of an agency that has authority to grant offshore leases specifically for aquaculture enterprises will increase the transparency of the process. Clearly, a structure designed for aquaculture will facilitate problem-solving that does not occur when aquaculture is governed by a system designed for another activity. A single leasing agency will also provide more consistent public interest reviews to analyze the interference with access by riparian owners, navigation, fishing or other uses of the area, the ability of the lease site and surrounding area to absorb environmental changes or damages, the use of municipality, state or federally owned beaches, parks or docking facilities, and to determine size limits for leases based on type and scope of the facility.

A comprehensive leasing statute at the federal level can provide the aquaculture industry and lenders with the property rights certainty needed for capital investment. The right of exclusive use of the water column and water bottom within the leased area and the assurance of a sufficient term length, combined with the zoning designations, can provide the stability that proponents of the aquaculture industry are seeking.

## CHALLENGES FOR DEVELOPING U.S. OFFSHORE AQUACULTURE

Bills introduced in recent years have noted that even though the National Aquaculture Act has been reauthorized through 2007, the U.S. has still "not adequately address[ed] emerging national issues such as offshore aquaculture development, water quality concerns, invasive species impacts, and a coordinated siting, permitting, and licensing process."[50] These bills call for the following:

1. ensuring the sustainable development of production where aquaculture is econom-

[44] *Id*.

[45] Fla. Stat. 35 § 597.004.

[46] Fla. Stat. 35 § 597.004(2).

[47] Joint News Release from The Department of Land and Natural Resources and the Department of Agriculture, State of Hawaii, NR01-06, March 9, 2001, *State Authorizes First Ocean Leasing Agreement*.

[48] *Id*.

[49] *Id*.

ically viable, environmentally feasible, and culturally acceptable;

2. analyzing the supply and demand for domestic and exported aquacultural products to enable the United States to compete in the global marketplace;

3. increasing the availability of new technical and scientific information that supports aquacultural development;

4. with regard to marine aquaculture, providing encouragement and identification of marine zones favorable to aquaculture that take into consideration desired environmental conditions and potential use conflicts; and,

5. establishing a goal of a 5-fold increase in United States aquacultural production by 2025.[51]

The question remains whether a change to the Magnuson-Stevens Act to clarify the permitting of aquaculture facilities as distinct from commercial fishing operations and the implementation of the EPA rule regarding discharges from such facilities will magically pave the way for the development of an offshore aquaculture industry in the U.S. As difficult as implementing new discharge rules and amending the nation's fisheries statute might seem, the development of offshore aquaculture in this country faces other greater hurdles. Even with a unified governmental approach, the development of an industry is challenging at best; without a unified approach, the questions of economic and environmental feasibility might represent those greater hurdles.

[50] See S. Res. 160, 108th Cong., 1st Sess. (June 5, 2003) ("To express the sense of the Senate that the Federal Government should actively pursue a unified approach to strengthen and promote the national policy on aquaculture."). And, see H. Res. 301, 108th Cong., 1st Sess. (June 26, 2003) ("Expressing the sense of the House of Representatives that the Federal Government should actively pursue a unified approach to strengthen and promote the national policy on aquaculture").

[51] *Id*. at S. Res. 160, 108th Cong., 1st Sess. (June 5, 2003).

## CONCLUSION

Questions abound: will non-native species be used and how is "non-native species" defined in the context of an ecosystem such as the Gulf of Mexico? If a species is shown to be viable, is the technology available to construct a cage that can withstand offshore environmental pressures? Once we have the cage prepared, how will we avoid widespread disease within the farm and escapees from the farm that might affect wild stocks? Will the markets bear the influx of domestic aquaculture species? Lastly, will the offshore aquaculture industry be able to climb the political mountain as a new industry in public waters that see heavy traffic already?

These questions are not presented as insurmountable; rather, they are offered as food for thought. When determining if the offshore aquaculture industry should develop in the U.S. and creating a strategy for it, the legal and regulatory hurdles should be kept in their proper perspectives. For better or worse, law often responds to industry needs (as will likely occur with the interpretation of aquaculture as commercial harvesting under the Magnuson-Stevens Act) as the industry develops. The first inland aquaculture farmers in the U.S. did not have the clear, streamlined permitting process guided by one lead agency when the industry began; it developed over time and laws were tweaked during its development. Also during that time, the industry, like many around the country, addressed the political, economic, environmental, and technological needs in tandem.

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