

Department
of Agriculture
Regulation
of Shellfish
Farming:
What Can
Louisiana Learn
From Florida's
Experience?



*Lisa C. Schiavinato, J.D.
Louisiana Sea Grant Legal Program*

**Department of Agriculture Regulation of Shellfish
Farming: What Can Louisiana Learn From Florida's
Experience?**

**Lisa C. Schiavinato, J.D.
Louisiana Sea Grant Legal Program**

Acknowledgements

The Louisiana Sea Grant Legal Program received advice and assistance from a number of people during the course of this project and wish to thank the following people and organizations.

- Florida Department of Agriculture and Consumer Services Division of Aquaculture: Mark Berrigan, Bureau Chief of Aquaculture Development, and David Heil, Bureau Chief of Aquaculture Environmental Services
- Louisiana Sea Grant College Program Communications Department
- Louisiana Sea Grant Legal Program: David Mills and Geoffrey MacArthur, Law Clerks
- Ricky Cooke, Shellfish Farmer, Cedar Key, Florida
- Sue Colson, Shellfish Farmer, Cedar Key, Florida
- Mike Hodges, Shellfish Farmer, Cedar Key, Florida
- Ralph Pausina, Louisiana Oyster Task Force
- Leslie Sturmer, Florida Sea Grant College Program, Marine Extension Agent for Dixie and Levy counties
- John Supan, Ph.D., Associate Professor, Louisiana Sea Grant College Program, Louisiana State University
- Rick Viele, Shellfish Farmer, Cedar Key, Florida
- Fred Whitrock, Attorney, Louisiana Department of Wildlife and Fisheries

The Louisiana Sea Grant College Program is part of the National Sea Grant College Program maintained by the National Oceanic and Atmospheric Administration of the U.S. Department of Commerce. Sea Grant, a unique partnership with public and private sectors, combining research, education and technology transfer for public service, is the national network of universities meeting changing environmental and economic needs of people in our coastal, ocean and Great Lakes regions.

This report was produced April 2007. For additional copies, contact:

Louisiana Sea Grant Legal Program
227B Sea Grant Building
Louisiana State University
Baton Rouge, LA 70803
Phone: (225) 578-5931
Fax: (225) 578-5938
E-mail: slegal@lsu.edu



Louisiana Sea Grant College Program
Louisiana State University
Baton Rouge, LA 70803-7507

Charles A. Wilson
Executive Director



Table of Contents

Introduction	1
Shellfish Regulation in Louisiana	2
Shellfish Regulation in Florida	5
<i>Florida Defines Aquaculture as “Agriculture”</i>	6
<i>Shellfish Leasing Program</i>	7
<i>Operating as an Aquaculturist in Florida</i>	9
<i>Management of Shellfish Harvesting Areas</i>	11
<i>Oyster “Planting” and “Relaying” Programs</i>	11
<i>The Mixed Success of Shellfish Aquaculture in Florida</i>	13
Government and Industry Perspectives	14
<i>The Regulatory Perspective</i>	14
<i>The Shellfish Farmer Perspective</i>	16
Conclusion	18
Appendices	
A. <i>Florida Statutes, Chapter 597 (Aquaculture)</i>	
B. <i>Florida Administrative Code Chapter 5L-1 (Comprehensive Shellfish Control Code)</i>	
C. <i>Florida Aquaculture Plan (2005-2006)</i>	
D. <i>Florida Aquaculture Best Management Practices Rule (2005)</i>	

Introduction

For more than a century, oyster farming has been important to Louisiana's culture and economy. Since the development of the oyster lease program in 1886, Louisiana has provided a legal and regulatory framework for oyster farmers to utilize state-owned water bottoms for oyster production by the planting of cultch and oyster seed via private investment. This framework allowed Louisiana's oyster industry to flourish and become the national leader in oyster production, with the leasing of more than 400,000 acres of water bottoms for oyster farming under the administration of the Louisiana Department of Wildlife and Fisheries (LDWF).

However, coastal land loss has adversely affected the oyster industry. Saltwater intrusion has degraded oyster beds, and many of them are now unable to support production. As a result, oyster production is only economically feasible in a narrow salinity range across Louisiana's coast. Coastal restoration projects also have affected the industry, changing the leasing structure and the way in which farmers must do business. Therefore, some members of the industry believe a "fresh look" is needed regarding state government regulation. Some in the industry believe oyster farming is akin to traditional land farming in philosophy, approach, and business management, compared to other coastal fisheries; therefore, they believe transferring regulation from the LDWF to the Louisiana Department of Agriculture and Forestry (LDAF) may be sensible. On the other hand, others believe that since oyster farming utilizes public trust resources, the LDWF should continue to regulate the industry.

Based on discussions with members of the oyster industry and state officials, there is not a clear picture of what may be gained or lost by transferring regulation from the LDWF to the LDAF. Since other states have made a similar transfer of authority, a study of the benefits and detriments of their experiences is wise. This report is a first step, in order to develop research methods, with studies of other states anticipated in the future. This report is, therefore, a review of Florida's shellfish control agencies' regulatory framework and its application to proposed changes to the regulation of Louisiana's shellfish industry. The report will begin with an overview of shellfish regulation in Louisiana (for comparison with Florida). This will be followed by discussion on the regulatory framework of shellfish production in Florida, perspectives from the regulators and shellfish farmers, and finally issues and recommendation for the State of Louisiana to consider as it contemplates reorganizing its shellfish regulatory program.

Shellfish Regulation in Louisiana

Currently, the shellfish industry is regulated by the LDWF and the Louisiana Department of Health and Hospitals (LDHH). The LDWF regulates the oyster leasing program, develops rules regarding harvesting of freshwater mussel,¹ and has the authority to zone state water bottoms for clamming,² while the LDHH regulates the health and public safety of shellfish as a food product, including classifying growing areas. This section will present an overview of Louisiana's shellfish leasing program and the role of the LDHH.

La. R.S. § 56:425 authorizes the LDWF to lease state water bottoms for oyster production. In addition, the Wildlife and Fisheries Commission is authorized to designate and set aside areas of state water bottoms as oyster seed grounds for the planting, propagation, growth, and policing of seed oysters.³ Lessees have exclusive use of their leased water bottoms and of all oysters and cultch thereon.⁴ However, leases are subject to restrictions, and there are some circumstances under which leases would not be allowed. For instance, exclusive use of state water bottoms is "subordinate to the rights and responsibilities of the state, any political subdivision of the state, the United States or any agency thereof, to take action in furtherance of coastal protection, conservation, or restoration."⁵ Furthermore, oyster lessees cannot maintain an action against the state, any political subdivision of the state, the United States, or any agency, agents, contractor, or employee of the United States for claims arising from a project, plan, act, or activity related to coastal protection conservation, or restoration.⁶ No lease is to be granted for water bottoms for which a lease was previously acquired by the state for coastal protection, conservation, or restoration, unless otherwise determined by the Secretary of the Department of Natural Resources (LDNR).⁷

Shellfish harvested and/or sold in Louisiana for food must be taken from areas approved⁸ by the state health officer; or if taken from sources outside Louisiana, from

¹ See La. R.S. § 56:450.

² See La. R.S. § 56:477.

³ See La. R.S. § 56:434.

⁴ La. R.S. § 56:423(A).

⁵ La. R.S. § 56:423. "Coastal protection, conservation, or restoration" means "any project, plan, act, or activity for the protection, conservation, restoration, enhancement, creation, preservation, nourishment, maintenance, or management of the coast, coastal resources, coastal wetlands, and barrier shorelines or islands, including but not limited to projects authorized under any comprehensive coastal protection master plan or annual coastal protection plan issued pursuant to Part II of Chapter 2 of Title 49 of the Louisiana Revised Statutes." *Id.*

⁶ La. R.S. § 56:423(B)(1).

⁷ La. R.S. § 56:423(E).

⁸ Areas may be specified as Approved, Conditionally Approved, Restricted, and Prohibited. The LDHH and the LDWF work together to assure that shellfish are not

areas approved by that outside state's agency with the requisite jurisdiction; and the shellfish must be secured from shellfish dealers with certifications endorsed by the U.S. Food and Drug Administration for the purpose of interstate commerce.⁹

At the time this report was written, Louisiana has placed a moratorium on oyster leases on state water bottoms not presently leased, and this includes not accepting applications for water bottoms not presently leased.¹⁰ Before the moratorium was in place, the following was the procedure one had to follow in order to lease state water bottoms for oyster cultivation. In order to lease state water bottoms, a person is required to submit a lease application to the LDWF along with the appropriate fees.¹¹ Lease applications must contain the name and address of the applicant, along with a "reasonably definite" description of the location and the amount¹² of water bottom the applicant is seeking to lease.¹³ The applicant then must request that the application be registered, that a plan or map of survey be made, and that the water bottom described be leased to the applicant.¹⁴ In response to the request, the LDWF registers the application and orders an examination to determine whether the water bottoms in question are leasable and determines the basis on which to set the rental rate.¹⁵ If the LDWF determines the area is leasable, then a survey is conducted and a plan is drafted, at the expense of the applicant.¹⁶ The purpose of the fee for the survey is to compensate the LDWF for the time needed for, and the making of, the survey.¹⁷ It is after the survey and plan are complete, and all costs paid by the applicant, that the LDWF determines whether to approve the lease application.¹⁸ If the lease is approved, the applicant may commence work and is required to submit production information each year. This information includes: 1) name of the leaseholder, 2) harvest area grid numbers, 3) amount of oyster seeds removed, 4) amount of cultch material placed, and 5) amount of seed oysters placed

harvested from areas with restrictions placed upon them. *See* LA. ADMIN. CODE tit. 51, §§ 109-115.

⁹ LA. ADMIN. CODE tit. 51, §103.

¹⁰ LA. ADMIN. CODE tit. 76, § 505. *See* this section for additional information regarding the oyster lease moratorium.

¹¹ There are various fees associated with leasing state water bottoms for oysters, including fees for extra maps, plats, lease documents, surveys, and so forth. *See* LA. ADMIN. CODE tit. 76, § 501.

¹² However, *see* La. R.S. § 56:432: "No person, partnership, or corporation shall lease more than 2,500 acres of water bottoms. Whoever leases more than the allotted amount of water bottoms forfeits, after due trial by competent court, all leases held by him on any water bottoms of the state."

¹³ La. R.S. § 56:427.

¹⁴ *Id.*

¹⁵ *Id.* The rate of rental for oyster leases is fixed by statute at \$2 per acre per year. *See* La. R.S. § 56:428(C).

¹⁶ *Id.*

¹⁷ *Id.*

¹⁸ *Id.*

plus an indication of whether the seeds were obtained from a private lease or public grounds.¹⁹

An oyster lease, once approved, continues for a period of 15 years, with the owner of an expiring lease having the first right of renewal.²⁰ However, in those areas determined by the state to be located in the projected impact area of a coastal restoration project, i.e., one that is “included within a public program officially proposed by the appropriate local, state, or federal agency,” it is within the LDWF’s discretion to renew “for an initial term of not less than one year nor more than 14 years those leases which expired on December 21, 1996, or any time thereafter.”²¹ A list of projected impact areas and recommendation are submitted by the LDNR to the Oyster Task Force by August 15 of each year, with final recommendations being given to the LDWF and the Oyster Task Force by September 30 of each year.²²

Given the moratorium and potential effects coastal restoration projects may have on oyster leases, the Oyster Lease Acquisition and Compensation Program (formerly known as the Oyster Lease Relocation Program) was passed into law. Due to the conflicts that have arisen already and potential future conflicts between the LDWF and Louisiana’s coastal restoration program, the Acquisition and Compensation Program was authorized by the Louisiana Legislature to reduce and offset potential adverse impacts of coastal restoration projects on oyster leases.²³ The program is for the acquisition of and compensation for oyster leases or portions of oyster leases by the state upon which dredging, direct placement of dredged or other material, or other activities necessary for the construction or maintenance of a coastal protection, conservation, or restoration project.²⁴

¹⁹ La. R.S. § 56:430.1.

²⁰ La. R.S. § 56:428(A).

²¹ La. R.S. § 56:428.1.

²² *Id.*

²³ La. R.S. § 56:432.1.

²⁴ *Id.*

Shellfish Regulation in Florida

Florida's main species of cultured mollusks are the hard clam and the American oyster. There are approximately 1.4 million acres spread over 38 shellfish management areas monitored by the state in accordance with the Model Shellfish Ordinance created by the Interstate Shellfish Sanitation Conference to ensure the safety of shellfish for human consumption.²⁵ Furthermore, more than 500 acres of state submerged lands are leased by the state for the culturing of the American oyster.²⁶ Currently, there are ten leases in Apalachicola Bay, which is equivalent to approximately 715 acres.²⁷ However, these leases are not currently producing oysters.²⁸ There are approximately 5,000 to 6,000 acres of public oyster reefs in the Apalachicola Bay system.²⁹ In addition, there is one lease in Escambia Bay in Santa Rosa County and two leases in East Bay in Bay County, which comprise approximately 60 acres.³⁰

Initially, shellfish regulation in Florida was through the Florida Department of Environmental Protection (FDEP). Regulation was moved during the 1999 session of the Florida Legislature³¹ as part of a larger reorganization effort to move most of marine and coastal resource management from the FDEP to the Florida Fish and Wildlife Conservation Commission (FWCC).³² That is, the move of shellfish regulation into the Florida Department of Agriculture and Consumer Services (FDACS) was not the driving force. The regulatory move was largely political. The Florida Legislature wanted to save money and reduce redundancy by proposing reorganization.³³ The move was at the initiation of the legislature and did not begin with strong motivation from the commercial or recreational fisheries sectors. Shellfish regulation is now within the jurisdiction of two state agencies: the FDACS regulates shellfish farming, while the FWCC regulates wild harvesting of shellfish. The move was supported by the shellfish industry, which

²⁵ See Florida Aquaculture Plan, Florida Department of Agriculture and Consumer Services Division of Aquaculture, at <http://www.floridaaquaculture.com/publications/aquaplan.pdf>. Note: A copy of the Florida Aquaculture Plan is also included in the Appendix to this report.

²⁶ *Id.*

²⁷ E-mail from Mark Berrigan, Bureau Chief of Aquaculture Development, Florida Department of Agriculture and Consumer Services Division of Aquaculture (April 5, 2007, 1:10 pm CDT) (on file with the Louisiana Sea Grant Legal Program).

²⁸ *Id.*

²⁹ *Id.*

³⁰ *Id.*

³¹ The Florida Legislature officially approved the move in 1999 and then was "cleaned up" during the 2000 session.

³² Interview with David Heil, Bureau Chief of Aquaculture Environmental Services and Mark Berrigan, Bureau Chief of Aquaculture Development, Florida Department of Agriculture and Consumer Services Division of Aquaculture, Tallahassee, Florida (Aug. 30, 2006).

³³ *Id.*

believed it would receive “better customer service” from an agriculture agency than from FDEP.³⁴ Overall, the reorganization was not controversial and was strongly supported by the legislature.³⁵ Some legislative supporters were from the aquaculture industry itself and worked diligently to ensure aquaculture, including shellfish culture, was moved to what they believed was the “wisest” state agency.³⁶

In addition, the Florida Legislature chose to move shellfish farming to the FDACS as part of a larger policy initiative concerning aquaculture. The state had defined aquaculture as agriculture in the Florida Aquaculture Policy Act, and, therefore, believed aquaculture (including shellfish farming) would be better served under an agriculture agency rather than a conservation agency. The Division of Aquaculture (DOA) was then created within the FDACS to ensure that a team of technical and scientific experts implemented the program.

Florida Defines Aquaculture as Agriculture

The FDACS currently is the primary state agency responsible for the regulation of shellfish in Florida. Under Florida’s “aquafarm program,” state sovereign submerged lands³⁷ may be leased for aquaculture, including shellfish culture. The Florida Legislature, through the Florida Aquaculture Policy Act (FAPA), proclaimed aquaculture as agriculture and placed administration within the FDACS.³⁸ Furthermore, Florida law declared aquaculture to be in the public interest:

The Legislature declares that aquaculture is agriculture and, as such, the Department of Agriculture and Consumer Services shall be the primary agency responsible for regulating aquaculture, any other law to the contrary notwithstanding... The Legislature declares that, in order to effectively support the growth of aquaculture in this state, there is a need for a state aquaculture plan that will provide for the coordination and prioritization of state aquaculture efforts and the conservation and enhancement of aquatic resources and will provide mechanisms for increasing aquaculture production which may lead to the creation

³⁴ *Id.*

³⁵ *Id.*

³⁶ *Id.*

³⁷ Under Florida law, the definition of “sovereignty lands” is “the title to lands under navigable waters, within the boundaries of the state, which have not been alienated, including beaches below mean high water lines, is held by the state, by virtue of its sovereignty, in trust for all the people. Sale of such lands may be authorized by law, but only when in the public interest. Private use of portions of such lands may be authorized by law, but only when not contrary to the public interest.” FLA. CONST., art. X, § 11. In Florida, sovereign submerged lands include state waters in the Atlantic Ocean three nautical miles seaward from the shore and in the Gulf of Mexico, nine nautical miles seaward from the shore. A nautical mile is defined as 6,076.11549 feet.

³⁸ FLA. STAT. ANN. § 597.002.

of new industries, job opportunities, income for aquaculturists, and other benefits to the state.³⁹

In order to foster growth of aquaculture as an industry, a state aquaculture plan was developed and has been revised over the years to coordinate state efforts regarding aquaculture, conserve and enhance aquatic resources, and provide mechanisms for increased production that could lead to new industries and job opportunities.⁴⁰ The duties of the FDACS include, but are not limited to:

- Issuing or denying aquaculture certificates of registration that identify aquaculture producers and products and collect all related fees;
- Coordinating the development, revision, and implementation of the state aquaculture plan;
- Developing memoranda of agreement with groups involved in the state aquaculture plan, which include the FDEP, the Florida Fish and Wildlife Conservation Commission, and the Florida Sea Grant College Program;
- Providing developmental assistance to the aquaculture industry; and
- Making available state lands and the water column for aquaculture production when it is compatible with state resource management and environmental protection goals, and when those areas are suitable for such production.⁴¹

The FAPA also required the creation of an Aquaculture Review Council and Aquaculture Interagency Coordinating Council as means of communication between the industry and relevant regulatory agencies.⁴² Among the Aquaculture Review Council's responsibilities are:

- Recommending rules and policies to the Commissioner of Agriculture;
- Making recommendations on aquaculture projects, activities, research, and regulation in furtherance of the industry; and
- Making recommendations to the aquaculture industry regarding research and development included in annual revisions of the state aquaculture plan.⁴³

The Aquaculture Interagency Coordinating Council was created to “establish positive interagency cooperation to foster the development of the state’s aquaculture industry.”⁴⁴ The Coordinating Council serves as a forum for discussion of regulations regarding aquaculture, reviews aquaculture issues developed by the Aquaculture Review Council, and establishes links between agencies represented on the Council, the Aquaculture

³⁹ *See id.*

⁴⁰ *Id.* *See also* Florida Aquaculture Plan, Florida Department of Agriculture and Consumer Services Division of Aquaculture, *at* <http://www.floridaaquaculture.com/publications/aquaplan.pdf>.

⁴¹ FLA. STAT. ANN. § 597.003(1).

⁴² FLA. STAT. ANN. § 597.0021(3).

⁴³ FLA. STAT. ANN. § 597.005.

⁴⁴ FLA. STAT. ANN. § 597.006(4).

Review Council and public and private institutions to ensure recommendations are responsive to the needs of the industry.⁴⁵

Shellfish Leasing Program

Florida permits the leasing of state water bottoms, water column, or bed of any state water to grow oysters or clams.⁴⁶ The FDACS, along with the FWCC and FDEP, have the authority to protect all oyster and clam beds, shellfish grounds, and oyster reefs from damage or destruction due to “improper cultivation, propagation, planting, or harvesting and control the pollution of waters over or surrounding beds, grounds, or reefs.”⁴⁷ The Florida Department of Health works with the FDACS to make available its laboratory testing facilities to meet this goal.⁴⁸ Leases are inheritable and transferable, in whole or in part, with written express approval of the FDACS. Leases are for five years, subject to renewal, and the annual rental fee is a minimum of \$15 per acre and is subject to change based on the five-year average change in the Consumer Price Index.⁴⁹

In order to be granted a lease, an application must be submitted to the DOA.⁵⁰ Information that must be included in an application are: (1) name and address of the applicant; (2) “reasonably concise” description of the location and amount of submerged land desired (if the lease is approved, a field survey of the leased area and assurances that the site is properly posted pursuant to the conditions of the lease and FLA. STAT. ANN. § 327.41 is also required, the cost for this being paid by the applicant); (3) description of the activities to be conducted; and (4) any other that may be required.⁵¹ Lessees are required to stake off the boundaries of their leases so they do not interfere with navigation, and they have exclusive use of the lands and exclusively own all oysters, clams, shell, and cultch grown on their leases.⁵²

Cultivation requirements are set forth by statute. “Effective cultivation” is defined as “the growing of oysters or clams in a density suitable for commercial harvesting over the amount of bottom prescribed by law. This commercial density shall be accomplished by the planting of seed oysters, shell, and cultch of various descriptions.”⁵³ The FDACS is allowed to stipulate in each lease the types, shape, depth, size, and height of cultch material on lease bottoms.⁵⁴ Lessees are required to begin cultivation within one year after the date of the lease, have placed under cultivation at

⁴⁵ *Id.*

⁴⁶ FLA. STAT. ANN. § 597.010.

⁴⁷ *Id.*

⁴⁸ *Id.*

⁴⁹ *Id.*

⁵⁰ *Id.*

⁵¹ FLA. STAT. ANN. § 253.69.

⁵² FLA. STAT. ANN. § 597.010.

⁵³ *Id.*

⁵⁴ *Id.*

least one-half of the leased area by the end of the second year, and each year thereafter shall place in cultivation at least one-fourth of the leased area until the whole area that is suitable for bedding oysters or clams is cultivated.⁵⁵ The FDACS may include natural oyster or clam reefs or beds in lease agreements. When an application for a shellfish leased is filed and a resource survey identifies natural reefs or beds, the FDACS then determines whether to include them in the lease.⁵⁶

Operating as an Aquaculturist in Florida

Although shellfish leases are separate from aquaculture leases in Florida's statutory and regulatory scheme, an explanation of how aquaculture leases are granted in Florida is nonetheless relevant. In order to operate in Florida, each person who wants to engage in aquaculture activities is required to apply for an aquaculture certificate of registration and submit the required fee, per the Aquaculture Certification Program (ACP).⁵⁷ These certificates are issued annually and subject to renewal.⁵⁸ The purpose of the ACP is to identify all aquaculture producers and products in the state. Florida law requires that an Aquaculture Certification Number be placed on all aquaculture products from harvest to the point of sale, to identify aquaculture products as agriculture products.⁵⁹ Certification gives aquaculture producers the same benefits as other agricultural producers, e.g., exemption from certain requirements of wild-harvested species, tax advantages, and reducing the number of permits required from other regulatory agencies.⁶⁰

In addition to conducting aquaculture activities on private lands, an aquaculture producer is also allowed to lease sovereignty lands and the overlying water column for aquaculture activities, as long as the person obtains a submerged lands lease from the state. A body known as the Board of Trustees of the Internal Improvement Trust Fund (BOT), which is comprised of the Governor and Cabinet, approves or declines applications for submerged lands leases.⁶¹ The BOT may grant leases of submerged lands for aquaculture activities for either commercial or experimental purposes.⁶² The rationale behind giving the BOT the authority to lease public submerged lands for commercial or experimental activity is the statutory declaration in the FAPA of aquaculture as an activity beneficial to the state that serves the public interest.⁶³ While

⁵⁵ *Id.*

⁵⁶ However, no natural reefs can be included in shellfish or aquaculture leases located in Franklin County, as separate rules govern lease agreements in this area to protect the environment, existing leaseholders, and the public fishery. *Id.*

⁵⁷ FLA. STAT. ANN. § 597.004(6).

⁵⁸ *Id.*

⁵⁹ *See* FLA. STAT. ANN. § 597.004.

⁶⁰ *See* FLA. STAT. ANN. § 597.004.

⁶¹ FLA. STAT. ANN. § 253.68.

⁶² *Id.*

⁶³ FLA. STAT. ANN. § 597.002.

the BOT is the main body that grants submerged lands leases, the DOA is responsible for administering the aquaculture lease program. Among the DOA's duties regarding the lease program is to identify tracts of submerged lands throughout the state for aquaculture development.

To obtain a lease, one must complete an application and file it with the BOT for consideration,⁶⁴ and it is recommended that prospective lease applicants contact the DOA prior to submitting a lease application. The DOA then reviews the lease application. This may take four to six weeks to complete, depending on the complexity of the application. During its review, DOA staff will inspect the proposed site to determine whether it is appropriate for leasing for aquaculture activities. If the DOA determines the proposed site is unsuitable, then initial site boundaries may be modified via surveys and additional site inspections. After the DOA determines that the lease application is complete, notice is then provided to local entities, and the BOT determines whether the proposed lease is in the public interest.⁶⁵ The county in which the lease would be located may object to proposed leases by resolution approved by a majority of county commissioners to the BOT.⁶⁶

As a condition of the lease, lessees are required to follow the Aquaculture Best Management Practices Manual (BMP Manual), which was drafted and is maintained by the FDACS.⁶⁷ The purpose of the BMP Manual is to maintain environmental integrity while simplifying the permitting process.⁶⁸ The DOA distributes copies of the BMP Manual to those who become certified by the DOA to engage in aquaculture activities, and an electronic version of the manual is available at the DOA's website for easy access by the public as well as the aquaculture industry.⁶⁹

⁶⁴ FLA. STAT. ANN. § 253.69.

⁶⁵ Public access, while an issue in regard to oyster leases in Louisiana, is generally not a contentious issue in Florida because the State avoids issuing leases in public access "hot spots." First, most shellfish leases are located in areas where public access is already limited. Second, there are only a small number of acres devoted to shellfish leasing. Third, there are strict criteria on the type of area eligible for leasing, i.e., outside traditional public use areas. Interview with David Heil, Bureau Chief of Aquaculture Environmental Services and Mark Berrigan, Bureau Chief of Aquaculture Development, Florida Department of Agriculture and Consumer Services Division of Aquaculture, Tallahassee, Florida (Aug. 30, 2006).

⁶⁶ FLA. STAT. ANN. § 253.69.

⁶⁷ FLA. STAT. ANN. § 597.004(2). *See also* FLA. ADMIN. CODE Chapter 5L-3.

⁶⁸ *See* Aquaculture Best Management Practices Manual, Florida Department of Agriculture and Consumer Services Division of Aquaculture, October 2002 at http://www.floridaaquaculture.com/bad/bad_bmp.htm. Note: A copy of the Aquaculture Best Management Practices Manual is also included in the Appendix to this report.

⁶⁹ FLA. ADMIN. CODE 5L-3.004.

Management of Shellfish Harvesting Areas

Florida is a member of the Interstate Shellfish Sanitation Conference⁷⁰ and, therefore, adopts laws and regulations for the sanitary control of the shellfish industry, conducts shellfish harvesting area surveys, and also adopts control measures so that shellfish are grown, harvested, and processed safely for human consumption.

The FDACS Bureau of Aquaculture Environmental Services' Shellfish Environmental Assessment Section (SEAS) classifies and manages the state's shellfish harvesting areas to provide optimal use of shellfish resources while keeping the risk of shellfish-borne illness to a minimum.⁷¹ The SEAS headquarters is located in Tallahassee, with a shellfish laboratory located in the town of Apalachicola.⁷² The SEAS manages 1,200 bacteriological sampling stations in the state's shellfish harvesting areas, encompassing 1,421,479 acres.⁷³ The SEAS has authority over shellfish classification of the following coastal waters:

- Apalachicola office: St. Joseph Bay (Gulf County) through Wakulla County;
- Cedar Key office: Horseshoe Beach (Dixie County) through Homosassa Springs (Citrus County);
- Palm Bay office: Martin County north to the Florida-Georgia line on the Atlantic coast;
- Panama City office: Florida-Alabama line through East Bay (Bay County), located on the Gulf of Mexico coast; and
- Port Charlotte office: Boca Ciega Bay (Pinellas County) through Ten Thousand Islands (Collier County).⁷⁴

Oyster "Planting" and "Relaying" Programs

Florida maintains an oyster planting program, and planting activities currently are located in the Apalachicola Bay region.⁷⁵ Cultch planting, oyster relaying, and

⁷⁰ The Interstate Shellfish Sanitation Conference is a voluntary association of states, the Food and Drug Administration, the National Marine Fisheries Service, the Environmental Protection Agency, and the shellfish industry to promote sanitary and wholesome shellfish products. For more information about the Interstate Shellfish Sanitation Conference, visit <http://www.issc.org/index.htm>.

⁷¹ Florida Department of Agriculture and Consumer Services Division of Aquaculture, "Shellfish Harvesting" at http://www.floridaaquaculture.com/SEAS/SEAS_intro.htm (accessed March 30, 2006).

⁷² *Id.*

⁷³ *Id.*

⁷⁴ *Id.*

⁷⁵ While Florida has an oyster planting program, it should be noted that seed may be taken from public oyster grounds and placed on leases. However, unlike in Louisiana, this is not often done. Interview with David Heil, Bureau Chief of Aquaculture

transplanting are used as resource management tools to maintain productive oyster habitat. Placing processed shell on existing oyster reefs and bay bottom areas has been successful, i.e., enhancing the resource and providing economic benefit to the oyster fishery.⁷⁶ When processed shells are not available for planting, cultch is generally provided by a FDACS' stockpile of shell.⁷⁷ This material is obtained from Apalachicola and is distributed to other bay systems in Florida.⁷⁸

Shell planting on public reefs has been a practice in Florida reportedly since 1914, and the State has maintained an oyster planting program since 1949.⁷⁹ The FDACS has reportedly planted more than 9.3 million bushels of shucked oyster shells, and since 1999 the FDACS has maintained a level of planting 250,000 bushels of shucked shell each year.⁸⁰ The agency believes planting cultch helps maintain productivity of public reefs.⁸¹

However, many of the Florida's productive oyster reefs are located in specified waters⁸² where harvest for direct market sale is prohibited due to potential health problems from water pollution. A solution the state developed to deal with this issue an "oyster relaying" program. Intertidal oyster bars sometimes contain juvenile oysters, which continually come out of the water and, due to poor growing conditions, rarely grow to legal, marketable size.⁸³ Oyster relaying offers a way to use a resource that otherwise couldn't be used by moving oysters and clams to unpolluted waters so they may depurate and become safe for human consumption.⁸⁴ In addition, oysters moved from poor quality intertidal areas are able to recover and grow to marketable size.⁸⁵ Oyster relaying is usually conducted as a cooperative activity between the FDACS and local oyster associations, and over a 20-year period, more than four million bushels of oysters have been relayed and transplanted in six coastal counties.⁸⁶

Environmental Services and Mark Berrigan, Bureau Chief of Aquaculture Development, Florida Department of Agriculture and Consumer Services Division of Aquaculture, Tallahassee, Florida (Aug. 30, 2006).

⁷⁶ Florida Department of Agriculture and Consumer Services Division of Aquaculture, "Oyster Planting" at http://www.floridaaquaculture.com/bad/bad_oysterplant.htm (accessed May 25, 2006).

⁷⁷ *Id.*

⁷⁸ *Id.*

⁷⁹ *Id.*

⁸⁰ *Id.*

⁸¹ *Id.*

⁸² Waters must be classified as Restricted or Conditionally Restricted, Not Prohibited, or Unclassified. See FLA. ADMIN. CODE 5L-1.003.

⁸³ *Id.*

⁸⁴ *Id.*

⁸⁵ *Id.*

⁸⁶ *Id.*

The Mixed Success of Shellfish Aquaculture in Florida

Shellfish is a recent addition to the regulation of aquaculture in Florida. Clam farming is a growing segment of the state's aquaculture industry, with \$15.9 million in sales by 351 growers in 1999 versus 1995 sales of \$5.41 million by 142 growers, due to retraining programs completed in Dixie, Levy, Taylor, Volusia, Charlotte, and Lee counties.⁸⁷ These training programs have been held during the past several years after Florida voters approved a state constitutional ban on net fishing in 1994. These programs are federally and state funded to teach clam and oyster culture techniques to eligible commercial fishers.

The FDACS measures changes in market demand and product valuation through shellfish wholesale buyer and consumer surveys and analysis of market prices.⁸⁸ For the past several years, there has been a shift in distributor and consumer perception toward Florida farm-raised hard clams, and this has been reflected by increases in market value and supply.⁸⁹ According to the FDACS, these trends are a result of: 1) promotional support from private and public sources to increase buyer knowledge of Florida farm-raised clams; 2) consumer directed hard clam promotional and educational efforts; 3) improved product quality and handling practices implemented by a conscientious hard clam industry; and 4) adoption of the Hazard Analysis Critical Control Point (HACCP) program.⁹⁰ In addition, a nationwide educational campaign by the Seafood HACCP Alliance boosted consumer confidence in seafood safety and quality.

Oyster culture is currently being conducted on shellfish leases located in Apalachicola Bay.⁹¹ Most shellfish leases in other parts of Florida are either out of production or are being used for clam culture. Oyster growers do not use the more "intensive" techniques used by clam farmers, but instead enhance the natural productivity of the leased area by placing oyster shell on the bottom.⁹² However, Florida's oyster industry, on par with the oyster industry in other states such as Louisiana, has seen reduced product demand and prices over the past several years.⁹³

⁸⁷ Florida Department of Agriculture and Consumer Services Division of Aquaculture, "Industry Segments," at http://www.floridaaquaculture.com/bad/bad_industrysegs.htm (accessed June 1, 2006).

⁸⁸ *Id.*

⁸⁹ *Id.*

⁹⁰ *Id.*

⁹¹ *Id.*

⁹² *Id.*

⁹³ *Id.*

Florida Government and Industry Perspectives

On-site interviews were conducted from August 30-31, 2006 with the FDACS DOA, Leslie Sturmer of the Florida Sea Grant College Program Marine Extension Program,⁹⁴ and local shellfish farmers from the town of Cedar Key for their input on the differences between being regulated by FDACS versus FDEP and the benefits and detriments of moving regulation to an agriculture agency.

The Regulatory Perspective

The FDACS DOA believes transferring regulation of shellfish from FDEP to FDACS has benefited the industry. They believe FDACS has provided a different kind of support for the shellfish farmer as a “farmer” because the agency is in a better position to understand the culture of farming.⁹⁵ Furthermore, the FDACS has served as a breeding ground for innovative development of not only shellfish culture, but of aquaculture in general.⁹⁶ During the agency transfer, four overarching practical issues were: 1) efficiency of process, 2) maximum delegation to the lowest level possible in the agency, 3) encourage movement of scientific and technical experts from LDWF to move to LDAF, and 4) enforcement.⁹⁷

For a state that is considering transferring shellfish regulation from one agency to another, one consideration is which aspects of regulation should be moved, i.e., whether it is only the leasing program or all aspects shellfish regulation, including classification of waters. In Florida, shellfish regulation as a whole was placed within FDACS except for wild harvesting of shellfish. This was done so the regulatory process would be efficient, and service to the public would be optimal.⁹⁸ For instance, in Louisiana, one factor that could be under consideration is whether the science and resource assessment and shellfish sanitation would remain in the LDWF and LDHH respectively or move entirely to the LDAF. The issue for Louisiana is whether it would be preferable to move resource assessment and waters classification to the new agency for efficiency’s sake, and whether there would be funding to maintain staff and for proper assessments.

Maximum delegation to the lowest department level may provide additional benefit, meaning delegate as much authority as possible to the section within the agency

⁹⁴ Ms. Sturmer is the Marine Extension Agent for Dixie and Levy counties and works closely with the clam farming community in the town of Cedar Key.

⁹⁵ Interview with David Heil, Bureau Chief of Aquaculture Environmental Services and Mark Berrigan, Bureau Chief of Aquaculture Development, Florida Department of Agriculture and Consumer Services Division of Aquaculture, Tallahassee, Florida (Aug. 30, 2006).

⁹⁶ *Id.*

⁹⁷ *Id.*

⁹⁸ *Id.*

that will deal with day-to-day regulatory matters because they work closest with the public and are the content experts on the issues.⁹⁹

Encouraging staff from FDEP to move to FDACS was especially beneficial in Florida. It was important not only to fill positions with people with both education and experience with shellfish biology, resource assessment, and the like, it also was beneficial to fill those position with those already familiar with the state’s shellfish regulation program.¹⁰⁰ However, not everyone from among the staff chose to move to the FDACS from FDEP during the reorganization. The FDACS then had to hire inexperienced personnel to replace them, and this did slow down reorganization. One piece of advice Florida offered to any state as an alternative in the event staff members with biology and resource assessment experience is to craft a Memorandum of Understanding (MOU) between the two agencies for certain analyses.

The final issue, enforcement, is not only an issue for state regulators in Florida, but for leaseholders as well. In Florida, the FDACS handles the enforcement of leases, e.g., the closing of waters, but law enforcement is a thornier issue. Natural resource enforcement in Florida is regulated mainly by the FWCC.¹⁰¹ However, the FWCC’s purview is not enforcement of shellfish and aquaculture leases, unless it is for the public health; the agency prefers that the FDACS handle issues such a theft on leases, while they prefer to handle issues associated with the wild harvesting of shellfish. To that end, the FDACS has law enforcement officers dedicated to marine patrol, but leaseholders believe there is not adequate enforcement for their leases.¹⁰²

Although shellfish farmers in Florida stated that theft is not the problem it was in the past, they believe there are other issues that require law enforcement’s attention, such as access to their leases and ensuring that only the leaseholders or their employees are on the leases. The general consensus among the shellfish farmers¹⁰³ interviewed was the need for the FDACS to assign enough qualified law enforcement personnel and ensure there is enough money in the agency’s budget to purchase equipment such as boats. One way to meet this goal is for the legislature enact a “catch-all” statute to ensure that law enforcement duties regarding shellfish leases are also transferred with statutory language or MOU between the new agency and the previous agency where the previous agency

⁹⁹ *Id.*

¹⁰⁰ Also, since the U.S. Food and Drug Administration (FDA) has federal jurisdiction over shellfish regulation, these employees already will have experience working with this agency, since LDAF may have more limited experience with the FDA.

¹⁰¹ FLA. STAT. ANN. § 20.331.

¹⁰² Interviews with Ricky Cooke, Rick Viele, Sue Colson, and Mike Hodges, Shellfish Farmers, Cedar Key, Florida (August 31, 2006).

¹⁰³ “Underfunding” of law enforcement and for equipment is a significant problem shellfish farmers have experienced with the regulation of their industry by FDACS and strongly recommended that any state considering reorganizing shellfish regulation also consider this issue as part of any reorganization effort. *Id.*

would maintain its function regarding shellfish lease enforcement even if permitting and assessment were to move to another agency.¹⁰⁴

To place this issue in a Louisiana context, the LDWF already has a strong law enforcement division, including an “oyster strike force” to patrol leased areas to enforce closures, tagging, size restriction, prevention of theft, and so forth.¹⁰⁵ For example, the legislature, the LDAF, LDWF, and other pertinent parties could work towards a transfer of the LDWF “oyster strike force” agents to LDAF and ensure funding remains in place specifically for these wildlife agents to do their duty. In the alternative, a MOU between LDAF and LDWF that would allow “oyster strike force” agents to maintain their offices at LDWF if necessary yet still enforce shellfish leasing areas.

The Shellfish Farmer Perspective

The shellfish farmers interviewed stated they are more pleased with the FDACS’ regulation of their industry than regulation through the FDEP. Their hope is that states considering a similar transfer of regulatory authority can learn from Florida’s experience and pay special attention to what they believe are the Florida program’s shortcomings. The shellfish farmers interviewed stressed the importance of communication between the industry, the legislature, and how critical having all state agencies involved at the beginning was for a smooth transition from FDEP to FDACS. The industry was proactive in making its immediate and most important issues concerning both their industry and potential regulatory reorganization known at the outset, so the legislature and relevant agencies could work with the industry to best address them.

They believe that since shellfish farming is akin to agriculture, i.e., traditional farming on land, then their industry is better understood by an agriculture agency. Moreover, regulation of shellfish farming by an agriculture agency paints a different picture of the industry in the eyes of the public. In Florida, shellfish farmers are referred to as “farmers” rather than “fishers,” which the farming community believes had led to wider public support of their activity.¹⁰⁶

The shellfish farmers interviewed appreciate the market-oriented and service-oriented philosophy of the FDACS, which they stated was lacking at the FDEP, since the agency has had experience and great success with promoting agriculture products in

¹⁰⁴ See Louisiana Department of Wildlife and Fisheries, Oyster Strike Force, *at* <http://www.wlf.louisiana.gov/publicservices/enforcement/oysterstrikeforce/> (accessed September 12, 2006).

¹⁰⁶ Interview with Ricky Cooke, Shellfish Farmer, Cedar Key, Florida (August 31, 2006). Furthermore, Mr. Cooke stated that since the move of his industry to FDACS, the public image of his industry has improved. Specifically, since they are now referred to as “farmers,” the public perceives the industry as “clean” and “renewable.”

Florida.¹⁰⁷ Furthermore, in the FDACS, shellfish farmers are entitled to participate in programs unavailable through the FDEP, such as insurance programs available to land farmers after a natural disaster.

However, there are some issues with which shellfish farmers struggle under the FDACS. The main issue is that the farmers do not believe the FDACS “knows what to do” with shellfish farming. One particular issue shellfish farmer Sue Colson brought up is that, in her opinion, FDACS personnel outside of the DOA do not understand aquaculture or shellfish and, therefore, still focuses on land farming.¹⁰⁸ Ms. Colson believes it is important that personnel in general in an agriculture agency receive education on shellfish and aquaculture to better serve the needs of the industry and to make the wisest decisions.

Another issue in Florida is that shellfish farming and other forms of aquaculture tend to not fit well within other FDACS programs because they were designed with land farming in mind, not water farming. Furthermore, she stated that very few agriculture laws were adjusted to meet aquaculture needs, which has exacerbated the problem.¹⁰⁹ Therefore, Ms. Colson believes that shellfish farming and other forms of aquaculture needs its own regulatory niche because of the differences between land farming and water farming, i.e., caveats for aquaculture in regulations to reflect its particular needs.¹¹⁰

Another issue important to the shellfish farmers interviewed was tax exemption. They claimed that while land farmers tend to receive tax exemption status, aquaculturists have had a difficult time receiving it.¹¹¹ Mr. Viele and Ms. Colson recommended that tax exemption programs applicable to land farmers also become applicable to aquaculturists, to the extent possible.¹¹² The reason tax exemption is an issue for shellfish farmers in Florida is because waterfront property is becoming more expensive in the state. Shellfish farmers fear that at some point waterfront property will become too expensive to continue their business.¹¹³

Crop insurance was the final major issue for Florida’s shellfish farmers. Ms. Colson stated that while many shellfish farmers are glad to have a crop insurance program in place, they stress that insurance companies need to be more educated about

¹⁰⁷ In fact, the farmers interviewed were highly complimentary of Louisiana’s Seafood Promotion Board and recommended that LDAF establish a relationship with them, if it becomes the new regulatory agency for shellfish. Interviews with Ricky Cooke, Rick Viele, Sue Colson, and Mike Hodges, Shellfish Farmers, Cedar Key, Florida (August 31, 2006).

¹⁰⁸ Interview with Sue Colson, Shellfish Farmer, Cedar Key, Florida (August 31, 2006).

¹⁰⁹ *Id.*

¹¹⁰ *Id.*

¹¹¹ Interview with Rick Viele and Sue Colson, Shellfish Farmers, Cedar Key, Florida (August 31, 2006).

¹¹² *Id.*

¹¹³ Interview with Rick Viele, Shellfish Farmer, Cedar Key, Florida (August 31, 2006).

aquaculture.¹¹⁴ They often do not fully understand how aquaculture operations operate and are not fully educated about shellfish.¹¹⁵ While this seem as if it is more of an issue for insurance companies to address that a state agency, it is an issue for a state agency to consider, and perhaps the state agency could engage the insurance companies and partner with them in providing added education.

Conclusion

Those within the FDACS' DOA and shellfish farmers alike agree that the FDACS is a suitable regulatory agency for the state's shellfish farming industry. Although Louisiana does have laws permitting aquaculture on a limited basis,¹¹⁶ Florida has done what Louisiana has yet to do: define aquaculture as agriculture and provide a statutory framework that both supports and recognizes aquaculture as an economically beneficial industry to the State and declares aquaculture activities to be in the public interest. If the state is interested in reorganizing shellfish farming regulation to the LDAF, then the state also may be interested in developing a statutory and regulatory overhaul of shellfish farming. Louisiana could look to the FAPA as a model to guide the enactment of its own law supporting aquaculture.¹¹⁷ Strong legislative support of not only shellfish farming as agriculture was a key first step for Florida, and it may also be for Louisiana.

If aquaculture was placed on par with traditional land farming, then reorganizing the regulation of shellfish farming to the LDAF may be practical. However, based on interviews with officials within the FDACS and members of the industry, it is important that personnel understand the biological and resource issues. For instance, the state may wish to consider encouraging biological and resource assessment experts from the LDWF to join the move to the LDAF. It will not only ensure that educated people are in key positions, but also help the transition, from the industry's standpoint, go more smoothly. To ensure that key personnel within the agency are educated and experienced with shellfish farming will facilitate wise decision-making.

Another take-away message from Florida is the need for any state considering such a transfer of authority is to explore the costs and benefits of such a transfer, including the cost and benefits of including in the transfer the authority to classify shellfish waters to the new agency. This would add another nuance, as it would involve separating authority from a second agency. However, placing not only the aquaculture leasing and development program within the FDACS DOA, but also the environmental aspect, has served Florida well and made the process more efficient without compromising the quality of regulation. However, the situation in Florida is different from Louisiana is one important way: the environmental aspect began in the FDEP and

¹¹⁴ Interview with Sue Colson, Shellfish Farmer, Cedar Key, Florida (August 31, 2006).

¹¹⁵ *Id.*

¹¹⁶ *See* La. R.S. § 56:579.1 et seq.

¹¹⁷ The FAPA is included in the appendix to this report.

moved to the FDACS along with other aspects of shellfish regulation. In Louisiana, it would have to move from another agency entirely. In the alternative, if it is decided it would be in the best interests of all for shellfish waters classification to remain within the LDHH, a MOU and/or legislative directive between the LDHH and LDAF should be considered to ensure the transition of the LDHH from working with the LDWF to working with the LDAF is as smooth as possible.

As can be seen from the Florida experience, keeping the lines of communication open is important. It would be beneficial to encourage the industry's involvement every step of the way, including encouraging them to be proactive in attending meetings and legislative hearings, voicing issues and opinions on how a new regulatory program affecting their agency will be created. Furthermore, the industry involvement in discussion of any future changes the agency may make from the very beginning also would be beneficial. Engaging the Oyster Task Force and the Seafood Promotion and Marketing Board, for example, would facilitate a stable working relationship.

It may benefit both the state and the industry for the Louisiana Legislature to consider councils akin to Florida's Aquaculture Review Council and Coordinating Council, which would give agencies, the industry, and public and private institutions a chance to work together as a single body to make recommendations to the Commissioner of Agriculture and in furtherance of the industry. Although Louisiana already has its own Oyster Task Force and Seafood Promotion and Marketing Board, both strong groups with national recognition, it should be noted that Florida has its own task forces for oysters and clams. Separate "review" and "coordinating" councils may not be useful for Louisiana; having one council may be a more efficient use of resources, while still providing a forum where regulators, the industry, and public and private institutions can work as a single body to determine the future of shellfish in Louisiana. While such a council would add another layer of bureaucracy, nevertheless it may serve a useful function.

Furthermore, since law enforcement was an important issue for both the agency and shellfish industry, the LDAF may wish to consider how it would structure law enforcement in Louisiana. Lack of funding for an appropriate number of personnel was the sorest spot for the industry in Florida. Given Louisiana's strong tradition of wildlife enforcement, the state is in a position to ensure that LDAF law enforcement personnel are trained to work on the water, a sufficient number of officers are assigned to water patrol, and that enough funds are set aside for necessary equipment such as boats.

There are a multitude of issues of which any agency should be aware when considering assuming control of a program from another agency. For instance, the LDAF should carefully consider not only the issues with which Florida grapples that pertain to Louisiana, but also consider whether it truly wants to take on the task of shellfish regulation. Although Florida regulators and shellfish farmers believe it made sense for an agriculture agency to take the helm in their state, it would represent a new dimension to the LDAF's traditional regulatory scheme – farming on water. This will require additional education and expertise on the part of some LDAF personnel and commitment

to encouraging experienced personnel to join the ranks of the LDAF. It also will require education on water patrol for law enforcement personnel. Furthermore, Louisiana's shellfish industry, despite the decrease in profits for local shellfish industries nationwide, is strong and successful. It would be an asset to the LDAF, but it also will require significant attention and resources to help maintain the industry's strength and to work with the industry to devise innovative development strategies. With this information and these ideas in mind, hopefully Louisiana will consider itself to be in a better, more educated position, to decide whether it wants to move forward with regulatory reorganization of shellfish.