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Comparative Study Of State Aquaculture Regulation And Recommendations For Louisiana

Introduction and Comments

by:

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I. INTRODUCTION

Aquaculture is a relatively new industry which has become increasingly popular over the last several years. Many states are beginning to focus more of their attention on aquaculture as the economic potential of the industry is realized. However, most of these states do not have a comprehensive regulatory plan which satisfactorily balances economic development and environmental protection. Because aquaculture is so new, it generally has been subjected to legal restraints which were developed for other purposes. As a result the regulations governing aquaculture are scattered throughout state statutes and do not necessarily fit aquaculture activities. This pigeon-hole approach to aquaculture regulation has led to inefficiency and has the potential of placing aquaculturists in a permitting gridlock. Such regulatory problems could stunt the growth of a promising new industry. The following discussion considers four states (Louisiana, Texas, Florida, and South Carolina) and their respective efforts to promote aquaculture and its development.

The traditional permitting and regulatory authority over aquaculture is essentially the same in most of the states with aquaculture activity. The variations occur in the allocation of regulatory functions to state agencies. The areas of activities regulated, however, are virtually identical. For this reason, only the Texas and Louisiana regulatory systems will be discussed in detail. The discussion of both the Florida and South Carolina systems will be limited to recent attempts at eliminating permitting and regulatory inefficiency which hamper aquaculture development. The discussion of the role of federal agencies and permit requirements applies equally to all four states.

In Louisiana, 95% of aquaculture activity consists of catfish and crawfish farming. These aquaculture crops are exempted from a significant portion of state regulations affecting aquaculture. However, there are several fledgling aquaculture enterprises using species that are not exempt from regulation for which this analysis is important. The following is an outline and brief overview of existing state and federal laws and regulations affecting, or with the potential of affecting, aquaculture.

II. FEDERAL REGULATORY REQUIREMENTS

U.S. ARMY CORPS OF ENGINEERS(COE)

1. Section 10 Permit - required for any structure and work in or affecting navigable waters (Rivers and Harbors Act of 1899, 33 U.S.C. 403).

2. Section 404 Permit - required for the discharge of dredge or fill material into U.S. waters including wetlands (Clean Water Act, 33 U.S.C. 1344, Section 301). Any activity requiring this permit requires a certification from the responsible state agency that the proposed construction activity would not cause a violation of the state's water quality standards.

U.S. ENVIRONMENTAL PROTECTION AGENCY(EPA)

1. National Pollutant Discharge Elimination System (NPDES) - prohibits the discharge of any pollutant from any "point source" into the waters of the U.S. without a permit from the state agency administering the Clean Water Act within the state (La. DEQ, Texas Water Commission, etc.). Included in the definition of "point source" are "concentrated aquatic animal production facilities" (Clean Water Act, 33 U.S.C. 1311 and 1342), which are further defined below.

2. The EPA also regulates the use and application of pesticides through the registration and establishment of tolerance levels. Pesticide-contaminated growing water may cause damage to receiving waters. Therefore discharges into public water may require approval, and possibly permits, from the EPA and the responsible state agency.

U.S. FISH AND WILDLIFE SERVICE

Fish and Wildlife Import/Export License - required for anyone who imports or exports animals or fish for purposes of propagation or sale with a value exceeding \$25,000 per year.

U.S. FOOD AND DRUG ADMINISTRATION

Drug regulations affect the use of chemicals as additives to feed as well as chemicals used for the treatment of diseases and parasite infestations. Food and Drug Administration approval may be required.

ENDANGERED SPECIES ACT

Some species of birds feed quite voraciously on fish and some catfish farmers claim a substantial loss in profits due to such predation. Other animals, such as alligators, may also be a problem. The Endangered Species Act creates almost absolute prohibitions on anyone harming or harassing in any way a threatened or endangered species. It also imposes penalties which carry very stiff fines and jail sentences for violations of its provisions. Louisiana also has an endangered species act, although of more limited scope. Before harassing or harming predators, it would be wise to check the appropriate laws.(16 U.S.C. §1531-1543)

MIGRATORY BIRD TREATY ACT

The Migratory Bird Treaty Act could also affect the ability to control predatory birds. This Act states that it shall be unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, kill or offer for sale or purchase any migratory bird (including nest or egg) included in the terms of conventions between the U.S. and Great Britain, the United Mexican States and the Government of Japan. The Secretary of the Interior is authorized to adopt suitable regulations permitting hunting, killing, etc. of such birds from time to time subject to the provisions of the Act. (16 U.S.C. §703 & §704)

III. STATE REGULATORY REQUIREMENTS

LOUISIANA

As previously mentioned, crawfish and catfish operations constitute a large portion of the aquaculture industry in Louisiana. The following summary of agency and permit requirements will indicate that crawfish and catfish farmers are exempt from some of these permits. The argument could be made, then, that there is little need to revise and streamline Louisiana's aquaculture regulatory system since a majority of aquaculture operations already enjoy certain exemptions. There are at least two good reasons, however, why regulatory reform could be beneficial.

First, although catfish and crawfish farmers are exempt from many aquaculture regulations they are still subject to other regulations that may affect their operations. Without a comprehensive system that coordinates regulation, catfish and crawfish farmers could still be adversely affected. Currently at least one statute (La. R.S. 3:2355 and 2356), enacted to control disease in imported catfish, is not being enforced. Policy changes requiring enforcement of that statute could burden catfish farmers.

Second, although catfish and crawfish operations make up the majority of aquaculture operations, there is a growing number of other types of aquaculture that would benefit from regulatory improvement. These farmers raise such species as alligator, hybrid striped bass and redfish. In the future it is likely that the number of species being raised will increase. Take for example, the recent authorization for tilapia operations and a failed attempt in the 1992 Regular Session of the Louisiana legislature (H.B. No. 411) to allow the sale, exchange, or purchase of farm raised gamefish. Farmers not exempt from most permit requirements would benefit from regulatory reform and they represent diversity in a market where the demand for seafood is expected to increase.

Louisiana Department of Wildlife and Fisheries

Aquaculture Definition - The term "aquaculture" means the production of fish in a controlled environment in private waters on

private lands. Includes but is not limited to the commercial production, storage, processing, distribution, export or importation of any seafood. (La. R.S. 56:356) Fish means all finfish, shellfish, crustacean, frogs, turtles, and other living aquatic resources which have a sport or other economic value. (La. R.S. 56:8(38))

Fish Farmer's Permit - Permit needed to engage in propagation, production, transportation, or possession of fish or minnows raised or produced in artificial earthen reservoirs.(La. R.S. 56:412(1))

Catfish/Crawfish Exemption - The production in private ponds, harvesting, transporting, and sale to first purchaser of catfish and the harvesting, transporting, and sale to first purchaser of crawfish are exempted from the domestic fish farming laws (including the fish farmer's permit requirement) and from jurisdiction of the Department of Wildlife and Fisheries.(La. R.S. 56:415(A) &(B))

Exotic Fish Restriction - Must get prior approval from Wildlife and Fisheries Commission to use bass, crappie, striped bass, bream, tetra or other exotic (non-native) fish for aquaculture purposes.(La.R.S. 56:411(6))

Prohibited Species - La. R.S. 56:20 contains a general prohibition against the liberation within the state of any pen-raised or wild fish of any species from without the state except upon written permission of the secretary. La. R.S. 56:319(A) and 319.1 list specific species prohibited for importation into the state without written permission from the Secretary of Wildlife & Fisheries: carnero catfish, all of the family clariidae, freshwater electric eel, carp (except those taken in state waters provided such species shall be dead when in a person's possession, common carp, and goldfish), rudd, and all species of tilapia. The Department of Wildlife and Fisheries may also regulate importation of any other non-native species.

Absolute Prohibition of Certain Exotic Species - Species absolutely prohibited for importation into the state: piranha and Rio Grande Tetra. There is an exception for the Aquarium of the Americas.(La. R.S. 56:319(E))

Game Fish Restrictions - No person may sell, offer for sale or exchange, or possess or import with intent to sell or exchange any freshwater game fish, including but not limited to: largemouth bass, spotted bass, rock bass, black or white crappie, white bass, yellow bass, striped bass, bream, hybrid striped bass except those produced by a domestic fish (aquaculture) operations.(La.R.S. 56:327 (A)(1)(a) & (b)) House Bill No. 411 introduced in the 1992 Legislative session, would have removed this prohibition and allowed the sale or exchange of farm raised gamefish. The bill failed to pass, dying in senate committee. No person may, unless under limited exceptions including farm raised fish, sell any saltwater game fish, including but not limited to any sailfish, blue marlin, black marlin, striped marlin, hatchet marlin, or white marlin. (La. R.S. 56:327(A)(1)(b))

Wholesale/Retail Dealer's License - Required for any person buying, acquiring, or handling by any means whatsoever, any species of fish in Louisiana for resale, including bait species.(La. R.S. 56:306 - 306.5) Exempted from this license are (1) Domestic fish farmers (La. R.S. 56:412(4)), (2) persons buying for a specific wholesale/retail dealer who obtains a transport license, and (3) crawfish and catfish farmers (those who harvest catfish in private ponds) are specifically exempted from obtaining any license,

permit or certificate in order to sell their crawfish or catfish.

Domestic Fish Farmer Exemption - A domestic fish farmer may sell his harvest of striped bass, catfish, carp, drum, or buffalo fish in any size without any other of the normally required sales licenses or permits provided he has obtained a certificate from Department of Wildlife and Fisheries in accordance with La. R.S. 56:412(1), and that he notify the Department of Wildlife and Fisheries 24 hours before transporting each shipment over state highways. A duplicate of the notification form and bill of lading must accompany each shipment. (La. R.S. 56:412(4), 56:327(A)(b)(ii))

Transport License - Operators and drivers of any type of commercial transport, except common carriers, who are in the act of loading, unloading or transporting fish shall possess at least one of the following:

1. commercial fisherman's license
2. wholesale/retail dealer's license
3. transport license

Exemptions:

1. Crawfish and catfish farmers are exempted to the extent of transporting their harvest to the first point of sale.
2. Exemption for processed fish or fish products (See 56:8 (77) for definitions). (La. R.S. 56:307).

Harvesting - No permit is required for a domestic fish farmer to harvest as many domesticated fish from his pond as he wants at any time and using any type of equipment. Also, no permit is required for a domestic fish farmer to transport any harvesting equipment, except electric shocking devices, on public roads and highways. (La. R.S. 56:27(A) and 413)

Mariculture - Department of Wildlife and Fisheries is authorized by this statute to grant ten(10) mariculture permits for the production of saltwater fish in the coastal marshes of LA. These permittees are exempted from wildlife and fisheries laws that would otherwise prevent them from placing screens, nets or other devices that restrict the movement of aquatic organisms in state waters (La. R.S. 56:329). Department of Wildlife and Fisheries may also exempt mariculture permit holders from statutory limitations as to kind, number, or size of fish which may be harvested or taken, or as to the method of harvesting or taking fish, or seasons or other limitations, restrictions, prohibitions, or regulations governing the management and harvesting or taking of fish, including hatchery breeding, spawning, grow-out and harvesting of domesticated fish and other aquatic species. (La. R.S. 56:579.1)

Restrictions:

1. Permitted areas must be within marsh management areas permitted by the Coastal Management Division.
2. Area cannot exceed 8,000 acres.
3. Stock fish must be purchased from a legal source.
4. Detailed records must be kept concerning all aspects of the operation.
5. Department of Wildlife and Fisheries has authority to inspect and monitor all aspects of the operation.

Louisiana Department of Environmental Quality)
(Administers the Clean Water Act and NPDES)

Discharge Permit - Discharge permit required to discharge any pollutant into the waters of the state from any facility or activity. (LAC 33:IX.301.B.1)

Concentrated Aquatic Animal Production Facility - "Concentrated aquatic animal production facility" is defined as "a hatchery, fish farm, or other facility" with fish or other "aquatic animals" in ponds, raceways or other similar structures which discharge at least 30 days per year but does not include:

- (1) Closed ponds which discharge only during periods of excess runoff or,
- (2) Facilities which produce less than 45,454 harvest weight kilograms (approximately 100,000 pounds) of aquatic animals per year. If facility discharges less than 30 days per year and meets (1) or (2) above, a permit is not required. Note, however, that DEQ may still designate a facility as a "concentrated aquatic animal production facility" if it is determined that the facility significantly contributes to pollution of state waters. (LAC 33:IX.301.K.2 & Appendix C.I.B.)
- (3) Permit Necessary (LAC IX.301.C.4 & K.1) "Concentrated aquatic animal production facilities" required to obtain a permit from DEQ before discharging into the waters of the state.

Section 401 Certification - any activity requiring a Section 404 permit, will also require state certification that the proposed construction activity would not result in a violation of the state's water quality standards.

Department of Natural Resources

Coastal Use Permit - Required if a party desires to dredge or fill, construct and operate water control structures, or construct and operate levees within the geographically defined Coastal Zone and below 5' Mean Sea Level and not in a fastland. However, no Coastal Use Permit is required for aquaculture activities on lands consistently used in the past for such activities (R.S. 49: 214.30 & .34).

- (1) This means it was used for aquaculture prior to the effective date of LCRMA (1979) and has been continuously used for such since then.
- (2) The project must not require a Corps permit.
- (3) Cannot change from aquaculture to some other use without permit.

State Land Use Permit - Permit required for any activity anywhere in the state which encroaches on state lands or state-owned water bottoms (41: 1701-1714). Obtain permit from Office of State Lands of Department of Natural Resources. There is a specific prohibition against the propagation, raising, feeding, or growing any species of finfish in public bodies of water. (56:412(5))

Miscellaneous Provisions

Use of Surface Waters - All surface waters in rivers and streams are state-owned. Absent restrictions under the Louisiana Coastal Resource Management Act (LCRMA) (if in the coastal zone) these waters may be diverted for private uses but must be returned to their channel after use (La. Civil Code Art. 657 and 658). A coastal use

permit may be required from the Department of Natural Resources for surface water control or consumption in the coastal zone. A \$10 permit may be required from the Corps to alter the course of a navigable river.

Well Water - Wells that produce more than 50,000 gal./day are required to be registered with and comply with all regulations of the Dept. of Public Works. Wells drilled after July 26, 1972 must meet construction standards and if free-flowing and producing more than 25,000 gal./day must have control devices. (La. R.S. 38:3094)

Disease Control - It is prohibited to import into the state any catfish for stocking purposes without a certificate of inspection and all necessary wholesale licenses from the state of origin that the fish are apparently disease free (48 hour time limit). Even with such a certificate the Commissioner of Agriculture may re-inspect imported catfish for disease. This provision is currently not being enforced. (La. R.S. 3:2355 & 2356)

Oysters - The cultivation of oysters is categorized as mariculture and is extensively regulated by the provisions contained at La. R.S. 56:421-481. Since the oyster industry is a traditional, well established form of mariculture, these provisions will not be discussed in detail.

Theft - In response to complaints from catfish farmers the legislature attempted to make it easier to prevent theft of catfish from ponds by making it illegal to enter the site of catfish ponds when the offender knows or has reason to know the entry is unauthorized. (La. R.S. 14:63.8)

TEXAS*

*The following information was obtained from the "Interim Guide to Governmental Permitting and Regulatory Requirements Affecting Texas Coastal Aquaculture Operations" (July 1990).

Agencies and Permits

Texas General Land Office

A lease or easement is required from the General Land Office for any activity which involves the use of state-owned lands.

Texas Department of Agriculture

Fish-Farmers License - required for any person producing, transporting, possessing and selling cultured fish or shellfish raised in private ponds for resale, consumption or stocking purposes (exception for bait purposes).

Fish-Farm Vehicle License - required for a vehicle used to transport fish or shellfish from a fish farm or for sale from the vehicle (exception for vehicle owned by a holder of a Fish-Farmers License).

Cultured-Fish Processing Plant License - required for persons operating a fish or shellfish processing plant (see also Texas Department of Health).

Bill of Lading - required for vehicle which transports (not sells) fish from a fish farm; must include number and species of fish, name of owner, license number and location of the fish farm, and the

destination.

Texas Parks and Wildlife Department

Shellfish Culture License - required for a licensed fish farmer engaged in producing, etc., shellfish raised on private land.

General Exotic-Shellfish Culture Permit - required along with a Fish-Farmers License and a Shellfish Culture License prior to the importation, possession, propagation or transport of exotic (non-native) shellfish into or from the state (will not be issued for shellfish defined as "harmful" or "potentially harmful").

Shellfish-Sourcing Permit - required along with a Fish-Farmers License and a Shellfish-Culture License to obtain from public waters shellfish broodstock during closed season.

Exotic-Species Permit - required in order to possess, propagate, transport or sell certain "allowable" exotic species which are considered harmful to native species. The private pond must meet certain criteria (i.e. fish-farm license, designed to prevent escape of fish or eggs, etc.).

Wholesale Fish-Dealer's License - required for person who buys aquatic products for the purpose of selling, processing, etc., to retail fish dealers, hotels, restaurants, or consumers.

Retail Fish-Dealer's License - required for person who buys edible aquatic products to sell to consumers.

Texas Water Commission

§401 Certification - authority identical to Louisiana's discussed above.

Discharge Permit - required prior to the discharge of wastes into or adjacent to the waters of the state (also see NPDES Permit, supra).

Water Use Permit - required prior to the use of state waters. An exemption exists for the use of brackish or marine waters for land-based operations (however, must notify Texas Water Commission). Aquaculture is considered an industrial use.

Texas Department of Health

Pollution-Texas Department of Health can restrict the taking of aquatic life from a public water-body after determining that the waters are polluted and classifying the waters as either "restricted," "conditionally restricted," or "prohibited" (Note: shellfish must come from "approved" growing waters).

Transplanting - After obtaining a "transplant permit" from the Texas Parks and Wildlife Department, information regarding the quantity, origin, date and where the shellfish are placed must be provided to the Texas Department of Health.

Processing - Texas Department of Health has regulatory authority over the handling, processing facility design, facility operations, processing procedures, packaging, labeling and shipping of all cultured aquatic products for human consumption.

Certificate of Compliance - required for any person who processes

or packages shellfish for sale as food after they have been harvested.

Food Manufacturer Registration - required by anyone wishing to process aquatic species (except shellfish) for sale for human consumption. Each establishment a manufacturer operates must be registered and a fee paid on each.

Given this non-exhaustive list of agencies and their respective permit requirements, the question arises whether the complexity of obtaining all the requisite permits may discourage a potential aquaculture farmer or investor from entering the business. This complexity is graphically illustrated in the "Aquaculture Restraints Analysis" prepared by the Texas A&M Sea Grant College Program in September of 1990. Using a proposed redfish operation as a scenario, the study determined that it would be necessary to obtain 17 permits/authorizations involving 6 state agencies and 4 federal agencies, assuming a "best case" scenario. This data does not include city/county building requirements, power obtainment, road construction, drainage or other infrastructure.

Fish Farming Act of 1989

The Texas legislature recognized the economic potential of aquaculture in the Fish Farming Act of 1989 (S.B. 1507). The Act transfers the authority over regulations of fish farming from the Texas Parks and Wildlife Department to the Texas Department of Agriculture, and designates the Texas Department of Agriculture as the lead agency for developing and establishing a Texas fish farming program. This illustrates the growing trend of equating "aquaculture" with "agriculture". The Act also establishes the Aquaculture Executive Committee consisting of the Commissioner of the Texas General Land Office, the Commissioner of the Texas Department of Agriculture, and the Chairman of the Texas Parks and Wildlife Commission. The purpose of the Aquaculture Executive Committee is to promote the aquaculture industry by: (1) monitoring the status of the industry, (2) evaluating promotional recommendations, (3) identifying means for improving cooperation between regulatory agencies, and (4) promoting timely, environmentally sound development of aquaculture in the state. Finally, the Act directs the Aquaculture Executive Committee to employ an Aquaculture Liaison Officer to assist the Aquaculture Executive Committee. The Aquaculture Liaison Officer's duties are to keep the legislature informed, act as a liaison between government and industry, and to administer the policy decisions of the executive committee. The Texas legislature has yet to appropriate funds for the Aquaculture Liaison Officer.

Alternatives

A report entitled "Analysis of Regulatory Alternatives for Texas Aquaculture" was prepared in December of 1990 by the Director of Senate Bill Analysis at the request of Senator Chet Brooks and Representative Robert Sanders. This report was intended to give a comprehensive, unbiased view of the aquaculture regulatory system in Texas and to offer alternatives for making regulations more effective. Only certain issues raised in the report are of interest to the present discussion.

Permit Facilitation

The example given above regarding a proposed redfish operation evidences the shortfalls of the current permitting process.

The report lists four alternatives:

(1) Designate a contact person within each agency involved in aquaculture regulation, whose duty is to answer questions from prospective aquaculturists.

(2) Require the Aquaculture Liaison Officer to assist permit applicants through the permitting maze (note: no funding has been appropriated for the Aquaculture Liaison Officer).

(3) Establish an Aquaculture Permitting Office to serve as a permit coordinator. This office would fall under the authority of the Aquaculture Liaison Officer.

(4) In addition, all aquaculture permits should be placed in a single packet with an explanation of each, or these various permits should be incorporated into one comprehensive permit, with check-offs for each individual permit and an explanation of each.

Aquaculture as Agriculture

Although the Fish Farming Act (S.B. 1507) transferred authority for regulating aquaculture activities from the Texas Parks and Wildlife Department to the Texas Department of Agriculture, some permits still do not reflect the agricultural nature of aquaculture. For this reason the report recommends that aquaculture be "formally" recognized as a form of agriculture. This would allow certain rule changes, such as creating a new category of water use for small aquaculture operations. The water-use practices of small operations more closely resemble the practices of domestic livestock farmers than the "industrial use" classification currently imposed. The report states that large aquaculture operations should remain classified as industrial use.

Consolidating Permits

A general theme throughout the "Analysis" is consolidation of permits in areas where several permits regulate substantially the same activity. For example, the Fish Farmer's License and Fish Farm Vehicle License issued by the Texas Department of Agriculture could easily be expanded to include the elements of the Texas Parks and Wildlife Department's Wholesale Fish Dealer's License, Wholesale Fish Truck Dealer's License, Retail Fish Dealer's License, and Retail Fish Truck Dealer's License that pertain to "cultured" fish.

FLORIDA

Florida's most recent attempt to streamline regulatory and permitting restraints on aquaculture came in the form of a series of laws which became effective July 1, 1990. This legislation has been assigned its own chapter in the Florida statutes, "Chapter 597 - Aquaculture," indicating a changing attitude of Florida lawmakers towards the aquaculture industry. F.S. 597.002 expressly declares the legislature's support for the growth of aquaculture in the state, which is a logical first step to effectuate changes in the existing system.

Department of Agriculture and Consumer Services

F.S. 597.003 designates the Department of Agriculture and Consumer Services as the lead agency in encouraging the development of aquaculture activities. The statute directs this agency to: (1) coordinate the development, revision, and implementation of a state aquaculture plan, (2) develop memoranda of agreement between the Department of Natural Resources, Florida Game and Fresh Water Fish Commission, and the Florida Sea Grant Program, (3) coordinate public and private institutional

research to identify problems in aquaculture development, (4) provide staff for the Aquaculture Review Council (see below), (5) provide developmental assistance, and (6) cooperate with other agencies in proposing legislation necessary to implement the state aquaculture plan.

The Aquaculture Review Council

The Aquaculture Review Council was created within the Department of Agriculture and Consumer Services by F.S. 597.005. This body is composed of 8 members including the President of the Florida Aquaculture Association, the Chairman of the State Agricultural Advisory Council, the Chairman of the Aquaculture Interagency Coordinating Board, and 5 farmers (to be appointed by the Commissioner of Agriculture) each involved in different types of aquaculture. The purpose of the Aquaculture Review Council is to recommend to the Commissioner of Agriculture rules and policies governing the business of aquaculture, and to provide assistance for the state aquaculture plan.

Aquaculture Interagency Coordinating Board

The Florida legislature created the Aquaculture Interagency Coordinating Board in F.S. 597.006. This board consists of the heads (or designees) of the Department of Agriculture and Consumer Services, the Department of Commerce, the Department of Education, the Department of Environmental Regulation, the Department of Health & Rehabilitative Services, the Department of Labor and Employment Security, the Department of Natural Resources, the Game and Fresh Water Fish Commission, a representative of the Florida Institute of Oceanography, one representative for all the regional planning councils, and one representative for all the water management districts. The Aquaculture Interagency Coordinating Board serves as a forum for the discussion and study of inter-governmental problems relating to aquaculture and makes recommendations for improvement to the Aquaculture Review Council.

Florida Aquaculture Plan

(Discussion limited to permitting and regulation)

Department of Agriculture and Consumer Services completed the Florida Aquaculture Plan in January of 1985. The Florida Aquaculture Plan made several important recommendations in an effort to alleviate the permitting and regulatory constraints plaguing aquaculture. Chief among these recommendations were:

(1) A complete review of all pertinent laws should be undertaken to resolve problems due to cross referencing, jurisdictional overlap, and the use of ambiguous terminology. Furthermore, the removal of aquaculture from traditional wildlife and fisheries regulations should be considered. In 1989, the Aquaculture Review Council made a further recommendation to remove the regulation of aquaculture from existing agencies and place all aquaculture regulations within Department of Agriculture and Consumer Services.

(2) Aquaculture should be defined as "agriculture" for both ad valorem taxation and appropriate regulatory purposes.

(3) Department of Agriculture and Consumer Services should insure the development of a source-book which: (a) outlines all regulations for various types of aquaculture ventures, (b) delineates procedures for obtaining necessary permits, and (c) contains a list of agency contacts.

(4) The permitting process should be improved, streamlined and consolidated whenever possible. Joint pre-application meetings or a joint permitting process should be

conducted wherever a public hearing is required or whenever two or more agencies are involved. In 1989, it was recommended that the Aquaculture Interagency Coordinating Board form a subcommittee to recommend a coordinated approach for uniform permitting of aquaculture throughout the state.

(5) Request regulatory agencies to adopt a coordinated approach to the permitting process in defining aquaculture uniformly in all regulations.

(6) Designate aquaculture as an element in Coastal Zone Planning, Water Resources Planning and Growth Management Planning.

Note: According to the 1990 version of the Florida Aquaculture Plan, some progress has been made in most of these areas, but more is needed.

SOUTH CAROLINA

South Carolina has made significant progress in streamlining the regulatory and permitting constraints affecting aquaculture.

South Carolina Joint Legislative Committee on Aquaculture

In 1976, the South Carolina legislature created the South Carolina Joint Legislative Committee on Aquaculture (Title 2, Chapter 22 amendments, S.C. Code of 1976). This committee was formally established on June 20, 1985 (Section 2-23-20). Its duties are, among other things, to: (1) develop state policies and initiate legislative programs for aquaculture development, and (2) have staff prepare a state aquaculture development plan which should specifically foster inter-agency and institutional cooperation in the development of aquaculture.

Interagency Advisory Staff

Also created was the Interagency Advisory Staff whose duty is to assist the Joint Committee in the production of an aquaculture development plan. This body consists of representatives of the South Carolina Department of Agriculture, the University of South Carolina, South Carolina Coastal Council, South Carolina Department of Health and Environmental Control, Clemson University, South Carolina Wildlife and Marine Resources Department, and the South Carolina Sea Grant Consortium.

Interim Guide to Aquaculture Permitting in South Carolina

In 1984 South Carolina Sea Grant Consortium and the Sea Grant Marine Extension Program published "An Interim Guide To Aquaculture Permitting in South Carolina" (Revised in 1987 and 1988). The purpose of the guide was to assist aquaculturists through the permitting process by outlining the procedural steps involved and describing individual permit requirements. The South Carolina legislature passed legislation, effective June 3, 1988, which took this idea one step further by creating the Aquacultural Permit Assistance Office and streamlining the application process.

Aquaculture Permit Assistance Office

The 1988 legislation created the Aquaculture Permit Assistance Office within the Department of Agriculture (S.C. 46-51-10). The permit facilitator is designated by the Commissioner of Agriculture. His duties are to provide a potential aquaculturist with information, services, and assistance in: (1) obtaining permits, (2) obtaining technical assistance from institutions involved in

aquaculture research, (3) informing the aquaculturist of changes in state or federal laws or regulations which may affect the outcome of a permit application, and (4) in obtaining application forms. In short, the permit facilitator must help the aquaculturist get through the entire permitting process.

Single Application Form

Along with S.C. 46-51-10, the legislature passed S.C. 46-51-20, another important step in streamlining the permitting process. By this statute the South Carolina legislature in effect forced the executive directors of the state agencies affecting aquaculture operations to sit down with each other and establish a single application form which must be used by all the permitting agencies. This application form should contain all of the information that each agency needs to process the application and render a decision. The statute orders the permit facilitator to recognize the value and integrity of each agency and to attempt to maintain the division of authority between them. Finally, 46-51-30 requires that any person seeking to obtain permits to begin an aquaculture operation be directed to the Aquaculture Permit Assistance Office.

Operation

A hypothetical scenario will help illustrate the overall effectiveness of this new permitting system:

An aquaculture operation that intends to purchase a 1500-acre tract to be used for pond construction would take the following steps:

1. Submit a request for site evaluation to the U.S. Soil Conservation Service (SCS). The SCS provides:

- (a) make-up of soil in that area;
- (b) "Soil Description Report" (slope, drainage capability, types of soils, flooding/ponding propensity)
- (c) Soil Rating: Slight, Moderate, Severe, or Poor

2. Application Form for Aquaculture Permit Assistance

(a) General Information - name, directions to location, local government body, description of aquaculture operation, ownership, etc.

(b) Discharge Condition - type and source of discharge, withdrawal points, number of days per year, receiving water body, volume (average, maximum)

(c) Species Information - common/scientific names, origin of species, maximum annual production, types and amount of food, month of maximum feeding

(d) Construction

(e) Water Use and Discharge Information - source, amount of daily use

(f) Harvest and Post-Harvest Activity - methods, equipment, processing

(g) Management Plan

(h) Attachments: scaled map, drawing and construction plan

3. Notice of Proposed Operation

The permit facilitator sends the application for aquaculture permit assistance to: (1) director of Division of Industrial and Agriculture Wastewater through the Department of Agriculture (special note of water discharge information); (2) S.C. Water Resources Commission (noting especially number of gallons of water used); (3) Regulatory Branch Chief of the Corps of Engineers (focus on jurisdiction), etc. This process continues until all necessary agencies are notified.

In short, the Department of Agriculture, through the permit facilitator, reviews the project and then notifies those agencies with a regulatory interest by sending them a copy of the "comprehensive" application form. These agencies then submit a response to the permit facilitator based on their specific regulatory concerns. Since the permit facilitator is much more familiar with the permitting process than the applicant, efficiency is greatly improved. Note that this system recognizes that there is no permit for aquaculture per se, but only permits for activities such as water use, land use, etc. It is therefore necessary to review each project to determine how the specific site and design fit into the regulatory scheme.

IV. SUMMARY

In examining aquaculture regulation in Texas, Florida, and South Carolina certain recurring themes have emerged.

A. Lead Agency

The legislatures of all three states have either created or designated a group to take the lead in developing the aquaculture industry. Texas and Florida turned to their respective Departments of Agriculture, while South Carolina created a joint Legislative Committee to fulfill this purpose. The general duties assigned to the lead agency are to develop a state aquaculture plan, identify problems in the development of aquaculture, and coordinate research and regulation. There appears to be an advantage in the South Carolina approach in that the direct inclusion of members of the legislature should enhance the lines of communication and spirit of cooperation among the legislature, agencies, and the industry.

B. State Aquaculture Plan

A state aquaculture plan is developed, or an existing one revised, which gives the current status of the industry, its potential, its problems, and proposed solutions to the problems.

C. Permitting Guide

All three of these states have developed a guide to the permitting process to be used by potential aquaculture farmers. These guides also have the effect of clarifying to some extent gray areas (i.e., overlapping jurisdiction).

D. Aquaculture as Agriculture

There has been a general trend towards treating "aquaculture" as "agriculture". This can be seen in Texas with the transfer of regulation over aquaculture from the Texas Parks and Wildlife Department to the Texas Department of Agriculture. The Florida Aquaculture Plan specifically recommends defining aquaculture as agriculture for certain tax and regulatory purposes. South Carolina appears to be following this trend by placing the Aquaculture Permit Assistance Office within the Department of Agriculture.

Although Louisiana has ostensibly recognized the agricultural nature of aquaculture (La. R.S. 56:411), the bulk of regulations regarding aquaculture remain within the jurisdiction of the Department of Wildlife and Fisheries. The absence of participation of the Department of Agriculture seems inconsistent with the concept of equating "aquaculture" with "agriculture" and may be evidence that Louisiana has yet to alter its perception of aquaculture. This is not to say that regulation of aquaculture should be transferred merely for the sake of change. In the final analysis, the effectiveness and efficiency of the system should be the

controlling factor as to which agency should regulate.

E. Consolidation of Permits

There are many instances where several permits regulate substantially the same activity. Both time and money will be saved by consolidating these permits. A necessary prerequisite to this action would be a complete review of all permits affecting aquaculture.

F. Communication

Both Texas and Florida have felt the need to take steps to close certain communication gaps which exist in their respective systems. The Texas Aquaculture Liaison Officer and the Florida Aquaculture Review Council were created to act as intermediaries between government agencies and the aquaculture industry. This serves the important function of giving the industry an organized voice in the development of aquaculture policies and programs. The Florida approach of using a council, composed of several members as opposed to a single individual, may be more desirable since it should reduce the likelihood of this important role becoming too political.

The communication gap between separate government agencies has been closed by the creation of the Texas Aquaculture Executive Committee and the Florida Aquaculture Interagency Coordinating Board. The Interagency Advisory Staff of South Carolina may indirectly perform this same task, but its primary focus is to assist the joint committee.

G. Permit Facilitation

As previously discussed, the South Carolina legislature has taken a step beyond the permitting guide by creating the office of the permit facilitator. The legislature also mandated that state

agencies with a regulatory interest in aquaculture operations establish a single, comprehensive permit application form. This combination has resulted in the permit facilitator being extremely effective in making the permitting process more efficient. Although neither Texas nor Florida have taken this step, there are indications that both are headed in that direction.

The concept of a single application form is not new to Louisiana. A "one window" system was mandated by La. R.S. 49:214.33 regarding the coastal use permitting process, although it has yet to be put into effect.

V. CONCLUSION

The increased interest and effort exhibited by Texas, Florida, and South Carolina in their respective attempts to further the development of aquaculture is a sign of the rising importance of aquaculture to some states' economies. Although common themes of development exist in all three states, each has tailored the development to meet its individual needs.

Whether Louisiana should take similar steps is still open to question. The weight of regulatory burdens on the Louisiana aquaculture industry is not yet fully apparent. Valuable time may be lost, however, in delaying our efforts until clear manifestations of the problem arise. Given the rising status of the aquaculture/mariculture industry in this state, the goal of Louisiana should not be to maintain the status quo, but rather to promote and encourage the industry's further development. To achieve this goal, changes in the current regulatory system should be considered. The efforts of Texas, Florida, and South Carolina provide models which could be adapted to Louisiana. Louisiana could use the opportunity to improve its position as a leader in aquaculture and mariculture and reap the resulting economic benefits.

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