The Florida Senate

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Committee on Agriculture James E. "Jim" King, Jr., President

CONSUMPTIVE USE PERMITS FOR AQUACULTURE

SUMMARY

Chapter 597, F.S., designates the Department of Agriculture and Consumer Services (department) as the lead agency to promote and develop the aquaculture industry. Aquaculture, Florida's most diverse agribusiness, is the farming of animals and plants in water. In 2001, aquafarmers produced $99.5 million worth of aquaculture products. This was accomplished by the implementation of practices to increase productivity by reducing water use and increasing production water reuse through biological and mechanical filtering.

In order to simplify the permitting process for aquaculture, the Legislature found in 1999 that, except for consumptive use permits (CUPs) and well drilling permits, which must be obtained from a water management district, permitting should be consolidated within the department. All aquaculture facility operators must acquire a Certificate of Registration from the department and abide by the Best Management Practices that the department is responsible for enforcing. The laws clearly designate the department as the regulatory authority for surface water management. Therefore, the department regulates water use once it is out of the ground and the water management districts regulate the withdrawal of a specified amount of water from either a groundwater well or from an allowable surface water source.

The department, along with industry representatives, the Department of Environmental Protection, water management districts and Florida Fish and Wildlife Conservation Commission all provided input to create a program of Best Management Practices (BMPs) to assure that aquafarms do not negatively impact the environment while eliminating cumbersome, duplicative and confusing environmental permitting and licensing requirements. These BMPs are emulated by other states, and even the Environmental Protection Agency models its management of aquaculture based upon Florida's BMPs. Aquaculture operators who follow these practices meet the minimum standards necessary for protecting and maintaining offsite water quality.

Despite the Legislature's intent to simply the permitting process, aquaculture certificate holders indicate that there continues to be permitting problems, especially with the water management districts. When the BMPs were being developed, the water management districts included the information and conditions they needed to ensure that the ongoing daily management practices at a facility would not harm the water supply of existing residents, or the rivers, lakes, and aquifers. With the BMP program in place, duplicative and confusing environmental permitting and licensing requirements should have been eliminated. However, recently, aquaculture certificate holders, specifically those applying for consumptive water use permits to open shrimp facilities, have been required to meet requirements that were not included by the districts in the BMPs.

Staff recommends that the Senate Agriculture Committee send a copy of this report and a letter to the Executive Directors of the five water management districts stating that there are reported problems with duplication of regulations when water handling and water quality requirements are included in CUPs required at aquaculture facilities. Staff further recommends that the department meet with staffs at the water management districts to discuss the problems that aquaculturists are experiencing because of the districts' requirements.

BACKGROUND

The Florida Legislature created the Florida Aquaculture Policy Act in chapter 597, Florida Statutes, to demonstrate the state's commitment in supporting Florida's aquaculture industry while protecting Florida's environment. This chapter designates the Department of Agriculture and

Consumer Services (department) as the lead agency to promote and develop the aquaculture industry. The Department of Environmental Protection's Bureau of Marine Resource Regulation and Development and the Aquaculture Certificate of Registration were merged to create a one-stop office for those involved in aquaculture, whether in saltwater or freshwater.

Aquaculture requires access to arable land, or submerged land and water resources, which are under the combined jurisdiction of agencies other than the department including the Department of Environmental Protection, the Water Management Districts and the Florida Fish and Wildlife Conservation Commission. The Legislature greatly simplified the aquaculture permitting process, but it is not totally a one-stop process because the department only regulates water use once it is out of the ground. Therefore, aquaculture facility operators must also apply for a consumptive use permit which allows water to be withdrawn from surface and groundwater supplies and a water well permit, if the operator either plans to have a new well constructed or needs to repair or plug an existing well. These permits must be acquired from one of the five water management districts. Collection of broodstock, from natural populations, for aquacultural purposes must be approved by the Fish and Wildlife Conservation Commission. Furthermore, there are other federal and local regulations which relate to solid and hazardous waste disposal, worker safety and building and zoning considerations that an operator must comply with.

What is aquaculture?

Aquaculture is the farming of animals and plants in water. The culture of aquatic species in Florida has had a long and interesting history. According to the Florida Aquaculture Plan, the first oyster lease was granted in Apalachicola Bay in 1881. Ornamental fish production started in Miami in the late 1920's. Floridians were the first to culture aquatic plants in the 1930's and shipped their plants to northern markets by railroad. Intensive ornamental fish culture was triggered by returning World War II veterans who brought home an appreciation of colorful Asian tropical fish and aquatic plants and began experimenting with outdoor culture in the warm climate of South Florida. In 1960 these pioneers demonstrated the feasibility of air transport for worldwide shipment of Florida raised tropical fish and plants.

Freshwater and marine food fish spawning and handling techniques developed by state and federal fishery biologists were shared with enterprising farmers creating another segment of the industry. Former alligator hunters turned to farming when the American alligator became listed as an endangered species in the late 1960s, proving that alligator culture was commercially feasible and environmentally compatible. All of this pioneering work has led to the production of many of Florida's farm-raised aquatic species.

Aquaculture's value to Florida

Aquaculture is Florida's most diverse agribusiness. Over 800 aquaculturists produce the greatest variety of aquatic species of any state in the nation. In 1987, Florida aquaculturists used 8,425 land and water acres to yield products with a farm gate value of $35 million. Fourteen years later, during 2001, aquafarmers used 7,014 land and water acres to produce $99.5 million worth of aquaculture products, almost tripling farm gate value while reducing land and water acreage by 17 percent. This was accomplished by the implementation of practices to increase productivity by reducing water use and increasing production water reuse through biological and mechanical filtering.

Much of Florida aquaculture consists of ornamental species: tropical fish and plants. The largest air freight item out of Tampa International Airport is live tropical fish and plants destined for domestic and international markets. Over 800 varieties of ornamental fish are produced in Florida. Aquatic plants are grown to satisfy three different markets: aquarium, water gardening and wetland restoration. Over 500 aquatic plant species are grown and sold to enhance the function and aesthetics of aquariums or garden pools and fountains.

The fastest growing segment of Florida aquaculture is the culture of hard clams on submerged coastal lands leased from the State of Florida. Coastal fishermen have quickly propelled Florida to the number one producer of farm-raised clams. Another valuable shellfish is the American oyster, now cultured on over 500 acres of state-owned submerged lands leases in Apalachicola Bay.

The wild captive shrimp industry has reached maximum sustainability in the Gulf of Mexico, Atlantic Ocean and the other bodies of water where shrimp are harvested. As the world population continues to expand, shrimp consequently are quickly becoming a high demand specialty protein rich food for consumption and for live bait. Currently, about 80 percent of shrimp consumed in the United States is imported from countries like Honduras, Mexico and

China. Shrimp aquaculture had its birthplace in Florida in the early 1970s. Ralston Purina had a research facility at the Crystal River Power Plant and developed the current technology used in modern shrimp culture. The company eventually moved their operations to Panama because Florida has a cold climate during the winter causing a short growing season, coastal property was expensive, and there was a restrictive regulatory environment with several different agencies responsible for regulating the industry. There has been renewed interest in growing shrimp in Florida because it has been determined that they can tolerate low salinity, high intensity environments with low water exchange. This allows the shrimp to be raised away from coastal lands on cheaper agricultural lands. Salinity and water temperature can be controlled so shrimp can be raised year round. In 2001, there were 13 Florida producers of shrimp, 8 of which reported sales totaling $7.4 million.

The department estimates that Florida is first in the nation for its incredible diversity of cultured species. This diversity of marine and freshwater fish, crustaceans, reptiles and plants and the production systems used to culture them is a mixed blessing. Species system complexities discourage private investment in research and development. Unlike the major agricultural commodities (e.g. cattle, corn, soybeans and wheat), which can draw upon research completed in federal and state facilities across the nation, Florida aquafarms are not as fortunate. Florida's subtropical climate, water and soil are not typical of the United States. If production information is borrowed from other states, a high probability exists that Florida based systems will not function properly nor will growth rates coincide. The burden of technically supporting Florida aquaculture growth and development lies in the public sector. This fundamental public support is neither new nor unusual. If it were not for public sector funding of production, economic and market research, Florida aquaculture would not be the globally competitive, environmentally compatible marketplace success it is today.

Aquaculture Best Management Practices

The Florida aquaculture industry has a vested interest in protecting and managing environmental resources. This responsibility lies with each aquatic farmer. The department, along with industry representatives, the Department of Environmental Protection, water management districts and Florida Fish and Wildlife Conservation Commission all provided input to create a program of Best Management Practices (BMPs) to assure that aquafarms do not negatively impact the environment while eliminating cumbersome, duplicative and confusing environmental permitting and licensing requirements. Through legislative mandate the BMPs were required on July 1, 1998. Aquaculturists following these practices meet the minimum standards necessary for protecting and maintaining offsite water quality. These practices represent a mutually beneficial relationship between commercial aquaculture production and natural resources protection. The BMPs were developed specifically for Florida aquaculture and are applied to all certified aquaculture operations. The BMP manual was adopted by rule in October 2000. Aquafarms that adhere to aquaculture BMPs are presumed to be in compliance with state groundwater and surface water standards. Proof of adherence and implementation of aquaculture BMPs is based on acquiring and maintaining the Aquaculture Certificate of Registration. The department is responsible for enforcing the BMPs under chapter 597, F.S., or Rule 5L-3, Florida Administrative Code, and will take action consistent with its authority to assure compliance. Section 373.406(8), F.S., states that certified aquaculture activities which apply appropriate best management practices adopted pursuant to s. 597.004, F.S., are exempt from regulations concerning the management and storage of surface waters.

Consumptive Use Permits

The State of Florida uses more fresh water than any other state east of the Mississippi River. Agriculture is the largest single user of water, followed by public supply, self-supplied commercial or industrial uses, thermoelectric power plants, and self-supplied domestic users. In order to protect the water supply of existing residents, the rivers, lakes, and aquifers from harm, the state has implemented a consumptive use permitting program (CUP).

Chapter 373, part II, F.S., the Florida Water Resources Act of 1972, provides the exclusive authority for requiring permits for the consumptive use of water. To the extent that these provisions are in conflict with any other provision, limitation, or restriction under any law or ordinance of this state or any political subdivision or municipality, chapter 373, part II, F.S., is controlling and the law or ordinance is deemed superseded for the purpose of regulating the consumptive use of water. The five water management districts administer the program for issuance of permits authorizing the consumptive use of water in areas deemed appropriate by the districts.

The districts have some discretion on the types of activities requiring permits and areas exempted from permitting requirements. Also, the districts have varying thresholds of use, well size, and withdrawal capacity that may not require a permit. A CUP allows water to be withdrawn from surface and groundwater supplies for reasonable and beneficial uses such as public supply (drinking water), agricultural and landscape irrigation, contamination clean-up, industry and power generation, and dewatering or mining activities. A permit is not required for domestic consumption.

A CUP authorizes the permittee to use water for a particular purpose and is contingent upon the permittee meeting certain permit conditions. The governing board of a district may consider an application for a permit that involves less than 100,000 gallons per day, and objections to the issuance of the permit, without holding a public hearing. If the application proposes a use of 100,000 gallons per day or more and no objection is received, the governing board or the Department of Environmental Protection may, after proper investigation by staff, approve the application without a public hearing.

Most aquaculture facility operators will require a water source to either augment existing water supplies or to provide makeup water lost to evaporation or percolation. This water source can exist as either groundwater, surface water, or seawater. The districts review applications under the guidelines in chapter 40E-2 and 40E-20 of the Florida Administrative Code. Typically before a user can receive a CUP, the applicant must establish that the proposed water use satisfies a three-prong test that is found in chapter 373.223, F.S. First, the applicant must show that the nature of the proposed use is "reasonable and beneficial." This requires a demonstration that water conservation requirements will prevent excessive or wasteful use. This may include the ability to manage urban demand, provide efficient irrigation systems, and that the lowest quality of water will be used for the intended purpose. Second, an applicant must show that the use is consistent with the public interest. This prong requires evaluating the impact of the proposed use on the state's resources including environmental, navigation, and minimum flows and levels of the water source, as well as public recreation. Finally, the applicant must assure the district that the proposed use will not adversely impact existing legal users of the water source.

Environmental Resource Permit

In the event that the Best Management Practices are not applicable to a particular aquaculture facility, due to production or excessive water discharge, an environmental resource permit (ERP) must be obtained before beginning any activity that could affect wetlands, alter surface water flows, or contribute to water pollution. Those aquaculture activities that meet or exceed the National Pollutant Discharge Elimination System (NPDES) annual production and water discharge parameters are required to obtain a general permit pursuant to s. 403.814(8), F.S. When those aquaculture activities fail to meet the NPDES annual production and water discharge parameters, they are regulated pursuant to s. 403.0885(5), F.S.

There are three types of ERPs: noticed general, standard general, and individual. Noticed general permits and standard general permits are authorized by water management district staff. Individual permits are issued by the district's governing board.

Aquaculture activities that fall below the NPDES thresholds of production and water discharge are exempt from obtaining an ERP.

METHODOLOGY

Committee staff focused on identifying specific impediments that appear to hinder the aquaculture industry's growth. Statutory requirements and administrative rules for permitting were reviewed, the water management districts were surveyed concerning consumptive use permits, site tours were made and discussions were held with industry and department representatives.

FINDINGS

The Florida Aquaculture Policy Act designates the Department of Agriculture and Consumer Services (department) as the lead agency for regulating aquaculture in the state. It requires all aquaculture facility operators to acquire a Certificate of Registration from the department and to abide by the Best Management Practices (BMPs) that the department is responsible for enforcing. The BMPs, which went into effect July 1, 1999, were developed specifically for Florida aquaculture by the department, water management districts, the Florida Fish and Wildlife Conservation Commission and the industry and are applied to all certified aquaculture operations. These BMPs are emulated by other states, and even the Environmental Protection Agency models its management of aquaculture based upon Florida's BMPs. By legislative mandate, the BMPs are intended

to preserve environmental integrity while eliminating cumbersome, duplicative and confusing environmental permitting and licensing requirements. Operators following these practices meet the minimum standards necessary for protecting and maintaining offsite water quality. With these important changes in the regulatory environment, a number of new aquaculture enterprises have been developed in the state.

Despite the fact that new enterprises have developed, aquaculture certificate holders indicate that there continues to be permitting problems, especially with the water management districts. The laws clearly designate the department as the regulatory authority for surface water management. Aquaculture certificate holders who are in compliance with the BMPs are specifically exempt from the provisions in chapter 373, F.S., which authorizes the water management districts to manage surface waters.

Aquaculture facilities require a water source to either augment existing water supplies or to provide makeup water lost to evaporation or percolation. This water source can be obtained from groundwater, surface water, or seawater. The department regulates water after it has been taken from one of these water sources and is being managed on site. The water management districts operate the regulatory programs that address through rules, the consumptive use of water, the construction of water wells, agricultural and forestry surface water management, including "farm ponds," and the artificial recharge of ground water. The BMPs are not designed to replace the need for consumptive water use permits or water well permits, so in order to obtain the necessary water, an aquaculture operator must submit applications to their local water management district for consumptive water use permits.

The consumptive water use permit allows a user to withdraw a specified amount of water from either a groundwater well or from an allowable surface water source. These permits are categorized as either Individual Permits (requiring Governing Board approval) or General Permits (staff level approval). They typically require an application fee and are issued for 10 to 20 years. Water management districts, or in some cases the delegated local county government, also issue Well Construction Permits which are generally required if the operator either plans to have a new well constructed, or needs to repair or plug an existing well.

In some circumstances, aquaculture operations need to tap into the Lower Floridan Aquifer to get saline water to culture certain organisms, such as shrimp. The production water that aquaculturists need is between three and five parts per thousand salt compared to sea water which is thirty to thirty-five parts per thousand. There are two environmental issues which may arise with the withdrawal of brackish water; potential permitting issues associated with withdrawal of saline water and potential impacts to freshwater systems from saline water discharge. The possibility of saline water being discharged into and contaminating freshwater is the concern of the water management districts. The BMPs require a recirculating water system, when appropriate, to retain production water on site.

Since the department is the lead agency for aquaculture development, it works closely with aquaculture certificate holders who wish to obtain and comply with consumptive water use permits from the water management districts. When the BMPs were being developed, the water management districts included the information and conditions they needed to ensure that the ongoing daily management practices at a facility would not harm the water supply of existing residents, or the rivers, lakes, and aquifers. With the BMP program in place, duplicative and confusing environmental permitting and licensing requirements should have been eliminated. However recently, aquaculture certificate holders, specifically those applying for consumptive water use permits to open shrimp facilities, have been required to meet requirements that were not included by the districts in the BMPs. For example, some districts have required aquafarms to have a licensed engineer perform hydrological analyses of farm designs, supply as-built engineering drawings of the farm, and perform inspections prior to startup and on an annual basis. Complying with these special requirements is very costly, both in terms of direct expenses (engineering fees and soil permeability tests) and indirect costs resulting from delayed stocking ability. The industry feels that the water management districts are not recognizing the authority of the department and are questioning the BMPs. They are requiring additional provisions and conditions that essentially amount to an environmental resource permit, from which the BMPs allow the certificate holder to be exempt.

The number two cause of the United States trade deficit is seafood and shrimp imports. Anything that can be done to help the aquaculture industry will help offset that deficit and benefit Florida. The changes in Florida law regarding aquaculture over the past few years have been significant, creating many new opportunities for aquaculture.

RECOMMENDATIONS

In order to simplify the permitting process for aquaculture, the Legislature found in 1999 that, except for consumptive use permits (CUPs) and well drilling permits, which must be obtained from a water management district, permitting should be consolidated within the Department of Agriculture and Consumer Services. Pursuant to chapter 597, F.S., best management practices were adopted to ensure that aquafarms are in compliance with state groundwater quality standards. Upon reviewing recently issued and renewed CUPs, staff found that several contained conditions similar to the conditions contained in environmental resource permits. The addition of these conditions in CUPs indicates that the water management districts, which are charged with regulating water quantity withdrawal, are also attempting to regulate water quality on aquaculture facilities. These CUP conditions constitute a duplication of regulatory authority that the Legislature intended to eliminate.

After reviewing the department's rules, staff finds that the best management practices adopted in chapter 5L-3, Florida Administrative Code, are written to protect water quality on aquafarms and appear to meet the legislative intent to reduce duplicative regulations.

Staff recommends that the Senate Agriculture Committee send a copy of this report and a letter to the Executive Directors of the five water management districts stating that there are reported problems with duplication of regulations when water handling and water quality requirements are included in CUPs required at aquaculture facilities. Staff further recommends that the department meet with staffs at the water management districts to discuss the problems that aquaculturists are experiencing because of the districts' requirements.