



# Drought Impacts Alligator Farms

Most of Florida's 30 active alligator farmers depend upon the collection of eggs from the wild each summer to supplement on-farm production of eggs and hatchlings destined for grow out. Very few farms can afford to set aside the space and support the cost of maintaining brood animals to produce enough eggs to sustain a farm. The Florida Fish and Wildlife Conservation Commission (FWC) manages an egg collection program from specific public lands to maintain stable wild alligator numbers and contribute funds to their wildlife programs.

Each year is a gamble for the farmers because mid-summer rains can flood nests or drought, like this year, dries out suitable nesting areas. This summer Florida alligator farmers lost the bet. Professional biologists surveyed 23 areas from Rodman Reservoir near Palatka to the water conservation areas west of Miami to determine where alligator nests could be harvested. During a 13 day period, and under the close supervision of FWC biologists, farmers collected close to 20,000 eggs; a decrease of 38% from the all-time high of 32,000 eggs collected last year. Three new areas were added to this year's collection which helped cushion the blow from the loss.

Almost all of the lost production came from Lake Okeechobee and the water conservation areas.

Last year, Lake Okeechobee yielded over 13,000 eggs, but this year only 138 eggs were collected. The drought and water withdrawals for flood and saltwater intrusion control lowered the lake to 9 feet from its



normal height of 15 feet. The few alligators that built nests did so in the limited nesting areas available in rim canals.

Florida farmers estimated they will lose more than \$200,000 in 2003 because of the low number of eggs collected this year. A full recovery is not expected next year even if the water levels get back to normal. The total impact of the drought on farmers will not be known for a couple of years.

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# What is Red Tide?

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Red tides are a naturally occurring condition in cold temperate to tropical waters and have been documented worldwide for thousands of years. In Florida, red tide has been documented along the Gulf coast since the 1530s and has been observed at least once throughout almost all of Florida's coastal waters.

The most common cause of red tide in Florida is the toxic marine dinoflagellate *Karenia brevis*, formerly known as *Gymnodinium breve*. The genus *Karenia* was established in November, 2000 and recognized the pioneering research of Dr. Karen A. Steidinger of the Florida Marine Research Institute.



Dinoflagellates can produce some of the most powerful poisons in nature but of the more than 2000 species, fewer than 100 produce toxins and the *K. brevis* toxicity is relatively mild. *K. brevis* is about 1/1000 of an inch long and is commonly found in Florida marine waters at very low concentrations. Like other single celled organisms, reproduction occurs by simple division every two to three days. Periodically, the organism will accumulate in much higher concentrations called blooms. *K. brevis* blooms generally initiate 10 to 40 miles off the coast and occasionally these blooms are transported to shore by winds and currents. A recent study has connected red tide blooms to the arrival of wind borne, iron rich dust from South Africa. The greatest threat to humans posed by the *K. brevis* toxin is Neurotoxic Shellfish Poisoning through the consumption of bivalve shellfish (oysters and clams) that concentrate the toxin in their digestive tracts.

To protect public health, the United States Food and Drug Administration requires a marine biotoxin contingency plan for all marine and estuarine shellfish harvesting areas. Shellfish harvesting areas are temporarily closed when threatened by a red tide bloom and are reopened only after shellfish meats pass laboratory tests for the absence of toxin. In general, bivalves require two to four weeks following exposure to purge the toxin from their systems. Florida's marine biotoxin contingency plan has been in place for more than 20 years and no human illnesses have been reported from shellfish legally harvested, either commercially or recreationally. Several illnesses have been reported from recreational harvest in waters that were closed to shellfish harvesting. For additional information, please contact Scott Losch, 941-255-7405, or visit the Florida Marine Research Institute's web site <http://www.floridamarine.org>.

## Florida Sales Tax Exemptions

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Current sales tax policy provides an exemption to farmers purchasing cloth, plastic or similar materials used for shade, mulch, or protection from frost or insects on the farm. Unfortunately this exemption has not been extended to shellfish farmers purchasing nylon netting, chicken wire or other types of metal hardware cloth as cover nets to protect growing hard clams.

The Commissioner of Agriculture has contacted the Florida Department of Revenue and requested this exemption. If Revenue agrees with the Department, they will be asked to produce a Tax Information Publication (TIP) for distribution to the industry and equipment suppliers.

Farmers can access Sales and Use Tax regulations at <http://taxlaw.state.fl.us>. Agricultural sales tax exemptions (product sales, equipment, fuel and packaging) is described in Florida Administrative Code Chapter 12A-1, Sections .048, .049, .059 and .087.

## SPL not a Requirement

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Aquaculturists certified by the Division of Aquaculture are not required to possess a Saltwater Products License (SPL) and can sell their marine products when they follow the requirements of the Aquaculture Best Management Practices Manual. However, aquaculturists may retain and renew their Saltwater Products License by applying the sales of their marine aquaculture products towards license and restricted species endorsement renewal. Chapter 370.26 (1) (c), Florida Statutes, states, in part, "To renew an existing restricted species endorsement, marine aquaculture producers possessing a valid saltwater products license with a restricted species endorsement may apply income from the sales of marine aquaculture products to licensed wholesale dealers. Income from the sales of marine aquaculture products shall not be eligible for the purpose of acquiring a new restricted species endorsement."

Aquaculturists can prove income from the sale of marine aquaculture products by using any of the following documents: trip tickets, notarized CPA financial statements, IRS income tax documents or a summary of annual sales provided by licensed wholesale dealers. Licensed wholesale dealer sales reports must include the dealer's wholesale number and business identification and location information (name, address and phone). For further information contact Ms. Catina Baker, Florida Fish and Wildlife Conservation Commission, 850/487-3122.

# Atlantic Sturgeon Tested

In February, the Atlantic States Marine Fisheries Commission approved changes to the Atlantic Sturgeon Fishery Management Plan to provide the State of Florida and Canadian Caviar Company with exemptions to harvest and possess Atlantic sturgeon for the development of sturgeon aquaculture. The Division, in cooperation with the University of Florida (UF), has imported non-U.S. origin Atlantic sturgeon to evaluate fry and fingerling production techniques at the UF– Department of Fisheries and Aquatic Sciences.

On July 22, 2001, wild-caught Canadian Atlantic sturgeon were spawned in the Canadian Caviar Company's facility in New Brunswick. About 18,000 Atlantic sturgeon sac fry were imported under a U.S. Fish and Wildlife permit and passed through U.S. Customs in Calais, Maine on July 28th. Sac fry were trucked to Boston and then flown to Orlando where they were received by UF staff and transported to the UF fish culture facility in Gainesville.

Sac fry have been divided into experimental groups to conduct early larval rearing and feeding trials. Fry were randomly screened for disease by UF staff. Initially 15-20 percent of the fry died either during transport or because they did not accept food during the early phase of the feeding trials. Mortality declined after fry began accepting live food and prepared diets. However, substantial mortality occurred at 30 days when the fish were handled with nets to reduce densities in the rearing tanks. Mortalities were not reported among fry that were not handled by nets or that were previously transferred to other farms using less abrasive handling methods. About 4,000 fry have been transferred to two fish farms to compare differences in larval rearing strategies. Evaluation of fingerling production techniques, including stocking density effects, will be continued at the UF facility for 60-90 days. For additional information, contact Mark Berrigan, 850-488-4033.

## Invasive Species Plan in the Works

At the Governor's request, the Florida Department of Environmental Protection has taken the lead in organizing an *ad hoc* group of state and federal agencies to develop a state invasive species management plan.

The *ad hoc* group has reviewed current state and federal invasive species programs: objectives, accomplishments, staff levels, funding and gaps in authority and law. The Division has asked the Florida Aquaculture Association and Florida Tropical Fish Farmers Association for comment and to anticipate participating in the process to develop a state-wide plan. For additional information, contact Paul Zajicek, 850-488-4033.

## Amendments to Chapter 18-21 Proposed

The Division has proposed changes to Chapter 18-21, Submerged Land Management, Florida Administrative Code, that creates two new forms of authorization beneficial to shellfish farmers. "Aquaculture support facility lease" and "aquaculture consent of use" authorizations will apply primarily to shellfish hatcheries and nurseries that require the use of state-owned submerged lands as a part of their operation. The proposed changes will also consolidate certain standards, criteria and policies that are related to aquaculture into an aquaculture rule as a distinct component of Chapter 18-21. The Division will recommend that existing operations be grandfathered in under the new authorizations, avoiding a new application process.

Public workshops on the rule were held in Wabasso and Cedar Key. The workshop draft has been changed to incorporate relevant industry comments and recommendations. The draft rule will be distributed for additional review in September. The amended rule must then be approved by the Governor and Cabinet, acting as the Board of Trustees for Internal Improvement, before adoption. Contact Mark Berrigan, 850-488-4033, for additional information.



### BMP Notes

#### Why is a health certificate required for my postlarval shrimp?

The aquaculture Best Management Practice (BMP) requirement for shrimp health certificates involves much more than just shrimp PLs. A health certificate protects shrimp sellers and purchasers. It provides assurances that shrimp come from a facility that has not had a recent outbreak of the diseases identified in the BMPs and that the shrimp sent to Florida farms do not exhibit any symptoms of these diseases. A health certificate signed by a licensed veterinarian is the only accepted health documentation for international and interstate trade. No other document or aquatic health practitioner can be used as a substitute. This health documentation must be maintained and available at the receiving facility for a minimum of two years.

This is an important component of the BMP program that you have agreed to follow as a certified aquaculturist. Health certificates are a crucial component in the on-going process of establishing and maintaining the Florida aquatic industry's health reputation.

**If you have a question about BMPs, call or send them to Kal Knickerbocker, 850-410-0875 or [knickek@doacs.state.fl.us](mailto:knickek@doacs.state.fl.us).**

## ***Vibrio* Workshop Targets Medical Community**

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The Division of Aquaculture organized and hosted a *Vibrio* education workshop in September at the annual meeting of the Florida Medical Association.

Using a grant from EPA's Gulf of Mexico Program, the Division partnered with the Interstate Shellfish Sanitation Conference and the Florida Medical Association to inform the medical community about the risks associated with the consumption of shellfish that may contain naturally occurring marine pathogens. The goal of the project is to produce an educational model for use nationwide that will result in appropriate information being transmitted to high risk patients and/or timely patient counseling for high risk conditions. For additional information, contact David Heil, 850-488-5471.

## **ISSC *Vibrio* Plan**

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During the summer meeting of the Interstate Shellfish Sanitation Conference (ISSC), the Model Shellfish Ordinance was amended adding a section that requires states with two or more confirmed shellfish-borne *Vibrio vulnificus* illnesses to develop and implement a *V. vulnificus* risk management plan. This requirement becomes effective October 1, 2001.

The Division of Aquaculture will contact shellfish industry leaders to organize a working group to develop this plan. As was intended, efforts by the industry and agency to develop the "Interim Florida Voluntary *Vibrio vulnificus* Risk Reduction Plan for Shellfish," will provide a good foundation to meet the ISSC requirements. For additional information, contact David Heil, 850-488-5471.

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## ***Division of Aquaculture***

The Division of Aquaculture is the newest division within the Florida Department of Agriculture and Consumer Services and was created by the Florida Legislature in 1999. Primary responsibilities include certifying all legitimate aquaculturists through an annual registration, implementing a program of Aquaculture Best Management Practices to meet the State of Florida's environmental goals, managing 1.4 million acres of coastal waters for the harvest or culture of wholesome shellfish, implementing the National Shellfish Sanitation Program through periodic inspection of shellfish processing plants and product, and issuing submerged sovereign land leases for the culture of shellfish or live rock.

The aquaculture and shellfish industry can acquire information through a variety of means. The Division can be contacted by telephone, 850-488-4033 and 488-5471, or fax 850-410-0893. Tallahassee and the seven state offices are open five days a week from 8:00 AM to 5:00 PM. State offices are located in Apalachicola, Bartow, Cedar Key, Murdock, Palm Bay, Panama City and Titusville. Internet users can visit the Division's web site at <http://www.FloridaAquaculture.com> for industry and program information.

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