Charles H. Bronson
Commissioner of Agriculture

Florida Department of Agriculture and Consumer Services

Florida Aquaculture

July 2004, Issue No. 32 Division of Aquaculture

Highlights:

- Beluga sturgeon listing offers opportunity to allow commercial culture.
- Innovative volunteer program grows marine game fish on Sanibel Island.
- HBOI intensifies tank culture while reducing energy needs.

Inside this issue:

Florida Legislature Good for Florida Aquaculture

The 2004 Legislative session ended at midnight on Friday, April 30th,with passage of a budget and very few other pieces of significant legislation. Even in this difficult budget year, Commissioner of Agriculture, Charles H. Bronson, obtained aquaculture funding.

The Commissioner and Legislature recognized the value of aquaculture as an economic engine beneficial to rural communities generating farm-gate sales of almost $100 million during 2001.

The Division experienced minor budget reductions; however, funding was made available for the UF-Tropical Aquaculture Laboratory, University of Miami's cobia fingerling production study and Mote Marine's second phase marine fish hatchery development. The Miami and Mote projects were recommended by the Aquaculture Review Council (ARC) during their May 2003 meeting. These projects were favorably considered by the Governor and Legislature because they had gone through the ARC review process.

Industry needs to support the ARC members and their own industry by encouraging individuals with research ideas to submit them to the ARC when the grant process is opened in January and make sure the writer of the grant follows through with a fully written proposal when requested by the ARC.

More projects may have been funded had they been on the ARC's project priority list in the Division's budget.

The Governor signed the budget on May 28, 2004 without vetoing any part of the Division's budget.

For additional information about the ARC, aquaculture funding or the budget process, contact Sherman Wilhelm at 850-488-4033.

Beluga Sturgeon Listed as Threatened by USFWS

The US Fish and Wildlife Service has listed the beluga sturgeon as a threatened species under the Endangered Species Act. The listing becomes effective on October 21, 2004.

Prior to the effective date, the Service has released for public comment a special rule to exempt international, foreign and interstate commerce in certain beluga products. To achieve these potential exemptions, countries where beluga sturgeon are native must provide to the Service beluga management plans, national regulations, annual reports, product labeling, biennial review by the Service, compliance with the Convention on International Trade in Endangered Species of Flora and Fauna (CITES), a means to suspend trade if the beluga conservation status declines, and a schedule to implement these requirements.

The special rule proposes permitting and registration requirements for U.S. aquaculture facilities culturing beluga sturgeon as described in Code of Federal Regulations Title 50, Section 17.21.

Visit http://international.fws.gov for the final rule and proposed special rule.

Public comments or questions on the proposed special rule will be received until July 29, 2004 and should be addressed to Chief, Division of Scientific Authority, U.S. Fish and Wildlife Service, 4401 North Fairfax Drive, Room 750, Arlington, VA 22203 or fax 703-358-2276 or e-mail scientifcauthority@fws.gov.

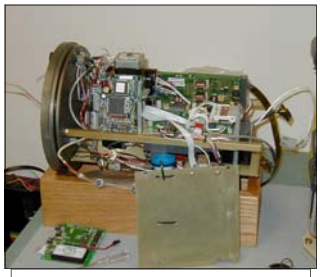
Volunteer Program Restocks Redfish by Bob Wasno

A cooperative effort by 22 citizen volunteers, Florida Sea Grant, Lee County Cooperative Extension Service, Fisheries Stock Enhancement Program (a partnership between Mote Marine Lab and Florida Fish and Wildlife Conservation Commission) and J.N. 'Ding' Darling National Wildlife Refuge has built a grow-out facility with a value of $350,000 at the Sanibel-Captiva Conservation Foundation Marine Laboratory at Tarpon Bay on Sanibel Island. Initial set-up funding has been procured from participants in the Caloosa Catch and Release Tournament, REDstart Fishing Tournament, The Big Snook Fishing Tournament, Sanibel Fishing Club, Florida Sea Grant, South Florida Water Management District, and the City of Sanibel.

REDstart is a fishery-stocking program made up of biologists, sport fishermen, and local volunteers, concerned about the sustainability of local fisheries in the Charlotte Harbor watershed. Florida's economically important game fish, particularly redfish (*Sciaenops ocellatus*), have declined in abundance relative to historic levels. REDstart has a goal of enhancing the number of game fish in the local waters by raising economically important fish species to a size where they will have a much higher rate of survival. Genetically compatible fry will be raised in captivity to 8"-10", tagged and released into the local waters. Recapture of these fish will provide scientific data to include range, wild population, regional growth rates and survivability.

The redfish raised and released by the REDstart Program are an integral component in the redfish development estuary ecology studies at the Sanibel-Captiva Conservation Foundation Marine Laboratory. Using data gathered from these fish, as well as data gathered from wild fish populations, Foundation staff will determine the preferred habitat for juvenile red drum and the optimum release strategy for hatchery-reared fish. The work will consist of two parts: (1) to characterize the genetic diversity and preferred habitat of the wild stock; and (2) to determine the survivability and preferred habitat of hatchery-reared fish that have been released into the Caloosahatchee Estuary.

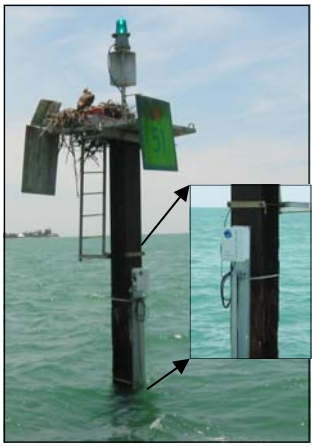
For additional information visit http://www.red-start.org or call Bob Wasno at 239-461-7518.



The Breve Buster is a technical marvel combining optics, computing, communication and micro-sampling into a very small package

First Breve Buster in the Water

The first automatic sensor for red tide, nicknamed "Breve Buster," deployed in an estuary has been installed by Mote Marine near Cabbage Key in Pine Island Sound.



Utilizing a sophisticated optical device that measures chlorophyll color intensity and hue, the self-contained units can tell the difference between *Karenia brevis* diatoms and the huge variety of chlorophyll containing phytoplankton found in Florida's estuaries. The next step is to refine complex calculations to yield cell count data.

Biological complications abound for the Breve Buster. Chlorophyll concentration in each diatom is influenced by at least three factors: the organism's metabolic needs, intensity of sunlight, and availability of nutrients. However, Dr. Gary Kirkpatrick, co-investigator, is optimistic that these challenges can be overcome during the two-year experimental period.

The Division of Aquaculture will be posting Breve Buster readings at its web site. Two more units will be deployed in the near future near Bokeelia and Devilfish Key.

For additional information, contact Dr. Kirkpatrick at 941-388-4441 or Sherman Wilhelm at 850-488-4033.

Shellfish Harvesting Area Rules Being Amended

The Division manages approximately 1.4 million acres of Florida waters, subdivided into 37 management areas, for the harvest of shellfish for human consumption. As required by the U.S. Food and Drug Administration every 12 years, or in response to industry request, management rules that govern each area may be amended (Chapter 5L-1.003, Florida Administrative Code). Currently, public workshops for 14 areas have been held with rulemaking now in progress. The Shellfish Harvesting Areas under consideration are: Pensacola Bay, North Bay, Indian Lagoon, Ochlocknee Bay, Wakulla, Apalachicola Bay, Horseshoe Beach, Cedar Key, Waccasassa Bay, Withlacoochee Bay, Boca Ciega Bay, Lower Tampa Bay, Sarasota Bay, and Ten Thousand Islands.

Contact David Heil, 850-488-5471 or heild@doacs.state.fl.us, for additional information.

HBOI: Developing Sustainable Methods for Farming Marine Animals and Plants by

The Aquaculture Division at Harbor Branch Oceanographic Institution (HBOI) is developing economically feasible and environmentally sustainable methods to farm a variety of plants and animals. The main incubator for our research and education is the 60-acre Aquaculture Development Park. All facilities utilize recirculating technology to culture fresh and salt water species.

Our aquaculture research includes a collaborative program with the U.S. Department of Agriculture - Agricultural Research Service and Florida State University. This program "Engineering and Production Strategies for Sustainable Marine Aquaculture" began in 2001 and is developing low-cost, energy efficient recirculating systems to culture marine fish species (southern flounder, pompano and black sea bass) in low salinity waters. Results will advance marine aquaculture technologies while meeting the challenges that face the aquaculture industry today such as negative environmental impacts, high production costs, lack of fish seedstock, and limited availability of suitable coastal lands for fish farming.

Our queen conch research, funded by Disney Wildlife Conservation Commission and conducted in collaboration with Mote Marine Laboratory and Florida Fish and Wildlife Conservation Commission, is advancing methods to raise queen conch for grow out and stock enhancement. Research, in collaboration with Oceans, Reefs, and Aquariums, on the Florida fighting conch progressed to the point that this new species is now available in the aquarium market as an excellent detritus and algae consumer.

Researchers have been successful in producing triploid hard clams, which will be used to determine if these clams will have higher survival than diploid clams when exposed to high summer temperatures and low salinity conditions. This research is funded by USDA-ARS and Florida Sea Grant and is being conducted with University of Florida and commercial growers.

Harbor Branch Aquaculture Division's education programs are aimed at training professionals, students seeking careers, and agricultural secondary school students and teachers in aquaculture practices. The Aquaculture Center for Training, Education and Demonstration (ACTED) has over 25 workshops per year in topics such as Shrimp and Fish Farming, Recirculating Systems, and Business Planning. In collaboration with Indian River Community College, a two-year associate's degree with an Aquaculture Specialization and a one-year Aquaculture Technology Certificate are available.

As a leader in research, development, and technology transfer of new methods, Harbor Branch will continue to provide technical and scientific support for expansion of the aquaculture industry in Florida, the Caribbean, and around the world.

Contact Megan Davis, HBOI-Aquaculture Division Director, mdavis@hboi.edu for more information.

CHARLES H. BRONSON
Commissioner of Agriculture

Florida Department of Agriculture and Consumer Services

We're on the Web!
www.FloridaAquaculture.com

REDstart marine game fish nursery on the shores of Tarpon

The Division of Aquaculture's responsibilities include certifying all legitimate aquaculturists through an annual registration, implementing on-farm 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 managing submerged sovereign land leases for aquacultural purposes.

Additional information about Florida aquaculture or Division programs can be obtained from the following offices.

Apalachicola Shellfish Center:	**850-653-8317**
Bartow Field Office:	**863-519-8459**
Cedar Key Field Lab:	**352-543-5181**
Murdock Field Lab:	**941-255-7405**
Palm Bay Field Lab:	**321-984-4890**
Panama City Field Lab:	**850-236-2200**
Tallahassee Office:	**850-488-4033**
	or 488-5471

Benefiting Commercial Aquaculture,
Protecting Natural Resources

Division of Aquaculture
1203 Governor's Square Blvd., 5th Floor
Tallahassee, FL 32301

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