

Florida Aquaculture

Florida Department of Agriculture and Consumer Services
Division of Aquaculture

Eleven Species Added to List of Injurious Wildlife

On September 30, 2016, the U.S. Fish and Wildlife Service announced a final rule in the Federal Register to add 10 nonnative freshwater fish and one nonnative crayfish to the list of Species Listed as Injurious Wildlife under the Lacey Act (50 CFR 16). The addition includes crucian carp (*Carassius carassius*), Eurasian minnow (*Phoxinus phoxinus*), Prussian carp (*Carassius gibelio*), roach (*Rutilus rutilus*), stone moroko (*Pseudorasbora parva*), Nile perch (*Lates niloticus*), Amur sleeper (*Percottus glenii*), European perch (*Perca fluviatilis*), zander (*Sander lucioperca*), wels catfish (*Silurus glanis*), and common yabby (*Cherax destructor*). The rule went into effect on October 30, 2016 and prohibits the importation and interstate transport of live animals, gametes, hybrids and viable eggs without a permit issued by USFWS. The required permit may be granted only for scientific, medical, zoological or educational purposes (not commercial aquaculture). The listing does not prohibit intrastate (within a state) transport or exportation from the United States from designated ports.

While the Final Economic Analysis prepared by the USFWS Division of Economics states that there has been minimal importation of these species since 2011 and that they did not receive any quantifiable economic data on trade or culture in any of the 11 species, all fish listed are currently allowed for aquaculture in Florida. Future commercial production and sales for these species will be limited due to access and restrictions of the Lacey Act.

Although the common yabby is currently prohibited for culture in Florida, and minimal culture is occurring in Florida for the remaining species, all species in the listing are categorized as High Risk in Ecological Risk Screening Summaries (ERSS). These ERSS's were used as support for the listing of these species. High Risk ERSS's exist for many economically important aquaculture species and future listings could be proposed that include these species on the basis of these screenings. Aquaculturists and stakeholders should be aware of proposed listings and request comprehensive assessments and economic impact analyses be performed prior to any future listings and should take an active role in providing comments to the USFWS on the impacts of listings to the industry.

Additional information regarding the listing and species ERRS reports can be found at <https://www.fws.gov/injuriouswildlife/11-freshwater-species.html>

Annual Lease Rental Fees Due January 1, 2017

The 2017 lease rental fee invoices for State Submerged Land Leases were mailed to all leaseholders of record on November 1, 2016. A copy of the invoice must be returned to: FDACS, P.O. Box 6710 Tallahassee, FL 32314-6710 with a check or money order made payable to FDACS. Leaseholders may also submit a payment online at <http://www.FreshFromFlorida.com/Pay-Online/> and must upload a copy of the invoice to attach to the payment. Payment is due by January 1, 2017. Failure to pay the annual lease rental fee by the due date may result in cancellation of the lease.

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Florida Sea Grant Funded Study Seeks to Modernize Testing for NSP

Article by Leanne Flewelling, FWC

The Division of Aquaculture is working with Florida Fish and Wildlife Conservation Commission (FWC) researchers on a Florida Sea Grant-funded project to help the state transition to a more modern method of shellfish testing for Neurotoxic Shellfish Poisoning (NSP) toxicity.

Annual blooms of the dinoflagellate *Karenia brevis* (also called 'red tides') lead to recurring closures of Shellfish Harvest Areas (SHAs) along Florida's Gulf coast. *K. brevis* produces brevetoxins that are toxic to humans and can cause NSP if contaminated shellfish are consumed. To prevent NSP, SHAs are closed when *K. brevis* concentrations exceed 5,000 cells per liter and are re-opened once *K. brevis* cell concentrations decrease and testing demonstrates that shellfish are no longer toxic. The current regulatory bioassay, which is the only NSP toxicity method approved by the Interstate Shellfish Sanitation Conference (ISSC), is time-consuming and labor-intensive. Analyses require two full days after receipt of samples, and the FWC laboratory can only process a small number of samples each week.

Although *K. brevis* blooms cannot be prevented, improving allowable testing options may help minimize the economic hardship these blooms inflict. Several methods exist for brevetoxin detection. Among these, Enzyme Linked Immunosorbent Assays (ELISAs) are routinely used to monitor brevetoxins in marine systems. The sensitivity, speed, and cost-effectiveness of ELISAs make them an attractive alternative to the current regulatory bioassay. With funding provided by Florida Sea Grant, FWC researchers have been evaluating one commercially available brevetoxin ELISA kit for use in NSP management, including method validation and comparisons of all samples submitted for NSP testing using both bioassay and ELISA. Several industry members have contributed to this effort by submitting clam samples during NSP closures for additional comparative data.

FWC researchers will submit a full proposal to the ISSC in the coming months for consideration of the NSP ELISA as a limited use method. In the proposed framework, regulatory samples of hard clams, sunray venus clams, and oysters could be tested by ELISA. If samples test negative (below an established level) they would "pass", and if they test positive (above this level) subsequent bioassay would be required. In partnership with this effort, FDA scientists are also validating an analytical method for NSP using high performance liquid chromatography with mass spectrometry (HPLC-MS), which will be submitted to the ISSC for approval as a full alternative to the NSP bioassay. If successful, these methods may improve the efficiency and effectiveness of NSP management throughout the Gulf of Mexico, allowing more samples to be tested each week, reducing delays in reopening SHAs, and mitigating economic impacts.

To learn more about *Karenia brevis*, please visit MyFWC.com/RedTide and Facebook.com/FLHABs.



Light Micrograph of *Karenia brevis*, photo by FWC

ARC Call for Statements of Interest

The Florida Aquaculture Review Council announces a Call for Statements of Interest to perform aquaculture-oriented applied research projects during fiscal year 2018-2019 focusing on needs outlined in the October 2016 Florida Aquaculture Plan. Statements of Interest will be critically reviewed by the Council and selected investigators invited to submit full proposals. The source of funding for projects will be a 2018-2019 State of Florida Legislative appropriation. No dollar amount is currently set aside for aquaculture projects and funding for projects selected by the Council is not guaranteed. Instructions to prepare and submit a Statement of Interest are available from Serina Rocco at the Division of Aquaculture, 600 S. Calhoun St., Ste. 217, Tallahassee, FL 32399-1300. Email: Serina.Rocco@FreshFromFlorida.com or call (850) 617-7600. An electronic version is available online at <http://www.FreshFromFlorida.com/Divisions-Offices/Aquaculture>. The deadline for submitting a complete Statement of Interest is Friday, December 16, 2016, at 5:00 p.m. (local time).

Biosecurity Program and Resources for Florida Producers

What is biosecurity and why is it important? Biosecurity is how you keep your farm healthy, guard against disease, and reduce losses. The University of Florida/IFAS has an outreach program including farm visits to help you assess your biosecurity needs. Educational materials are also available. Interested? Contact Dr. Roy Yanong and his team for more information.

Dr. Roy Yanong, UF-Tropical Aquaculture Laboratory, email: ryy@ufl.edu, phone: (813) 671-5230 extension 104

Natural Resource Damage Assessment Projects 2015-2016

The Oyster Cultch Placement Projects in Apalachicola Bay, St. Andrews Bay and Pensacola Bay were submitted as projects of the Natural Resource Damage Assessment process and were funded in Phase III, Deepwater Horizon Early Restoration Projects.

The objective of the Florida Oyster Cultch projects was to promote reef development for oysters by restoring existing oyster reef habitat that had been degraded, depleted or reached its productive lifespan. The restoration work included the placement of suitable cultch material on existing oyster bars, by barge, to provide substrate for oyster larvae settlement and colonization. It included:

- Placing 26,400 cubic yards of fossilized oyster shell on 130 acres of debilitated oyster reefs in the Apalachicola Bay system in Franklin County;
- Placing 21,250 cubic yards of lime rock aggregate on 88 acres of debilitated oyster reefs in the Pensacola Bay system in Escambia and Santa Rosa Counties; and
- Placing 17,000 cubic yards of lime rock aggregate on 85 acres of debilitated oyster reefs in the St. Andrew Bay system in Bay County.

FDACS acted as the contract administrator for the NRDA projects in all three Florida Bay systems. Placement involved offloading cultch material from hopper barges using either a crane or excavator to flat deck barges and then offloading from the flat deck barges onto oyster reefs using high-pressure water cannons. Placing substrate or cultch in bays and estuaries where natural oyster reproduction occurs is the most effective technique used throughout the Gulf of Mexico to create three-dimensional reef structure, stimulate spat setting, sustain oyster fisheries, enhance community functions, increase natural productivity, and accelerate the recovery process.



St. Andrew Bay, Cultch deposition using high-pressure water cannons

CITES Listing of Four Native Freshwater Turtles

On November 21, 2016, the addition of four native freshwater turtle species on Appendix III of the Convention on International Trade in Endangered Species (CITES) will go into effect. The four native turtles listed include the common snapping turtle (*Chelydra serpentina*), the Florida softshell turtle (*Apalone ferox*), the smooth softshell turtle (*Apalone mutica*), and the spiny softshell turtle (*Apalone spinifera*). The listing includes the whole turtle and all readily recognizable parts, products and derivatives. This listing includes subspecies, except *Apalone spinifera atra*, which is already listed in Appendix I of CITES.

CITES is an international treaty that regulates the import, export, re-export, and introduction of certain listed animal and plant species (www.cites.org). The US Fish and Wildlife Service proposed the listing to facilitate monitoring of international trade in these species and to determine whether further measures under CITES or other laws are required to conserve these species and their subspecies. Exporting species listed on Appendix III requires an export permit issued by the USFWS Division of Management Authority (<https://www.fws.gov/international/pdf/permit-application-form-3-200-24-export-of-live-captive-born-animals.pdf>). The permit may be issued for specimens legally obtained and requires animals to be shipped in a manner to minimize any risk of injury, damage to health or cruel treatment. There is no change in Rule 68A-25.002(6)(c), Florida Administrative Code, which prohibits the wild harvest of turtles in Florida for commercial use.

To obtain information about permitting for international trade of these species, contact the USFWS, Division of Management Authority, Branch of Permits, at (703) 358-2095, email managementauthority@fws.gov; or visit their website at <http://www.fws.gov/international>. You may also contact Rhyan Tompkins, Wildlife Inspector, USFWS, Office of Law Enforcement, Tampa at rhyan_tompkins@fws.gov or (813) 348-1500. For further information specific to this listing, contact Craig Hoover, Chief, Division of Management Authority, USFWS, (730) 358-2095.

Staff Changes

Mary Flack has joined the staff as an Administrative Secretary in the Apalachicola office. She may be reached at (850) 653-8317 or Mary.Flack@FreshFromFlorida.com

**Florida Department of Agriculture and
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Division of Aquaculture

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We're on the Web!
FreshFromFlorida.com

The core responsibilities of the Division of Aquaculture are described in Chapter 597, Florida Aquaculture Policy Act, Florida Statutes, and include:

- Developing and enforcing environmental and food safety regulations governing commercial aquaculture production and shellfish (clams, oysters and mussels) harvesting and processing, respectively.
- Certifying and inspecting shellfish processing plants and classifying and monitoring shellfish harvest areas in accordance with National Shellfish Sanitation Program.
- Leasing coastal state submerged land for aquacultural purposes.
- Certifying and inspecting upland commercial aquaculture facilities for compliance with the Aquaculture Best Management Practices Rule.
- Providing practical and technical assistance concerning regulations, production, financial assistance, or educational programs.

For the open or closed status of Shellfish Harvesting Areas, call:

Apalachicola Shellfish Center	(850) 653-8317
Cedar Key Office	(352) 543-5181
Melbourne Office	(321) 984-4890
Panama City Office	(850) 236-2200
Port Charlotte Office	(941) 613-0954
Tallahassee Office	(850) 617-7600

For Aquaculture Certificate of Registration, Aquaculture Best Management Practices information, call:

Bartow Office	(863) 578-1870
Tallahassee Office	(850) 617-7600

For information on the leasing of submerged state lands, call:

Tallahassee Office	(850) 617-7600
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