



Arkansas AQUAFARMING

Cooperative Extension Program



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Trade Assistance Granted to Catfish Farmers

Anita M. Kelly, UAPB Extension
Fish Health Specialist

The U.S. Department of Agriculture's (USDA) Foreign Agricultural Service (FAS) has announced that catfish producers are eligible for training and benefits under the Trade Adjustment Assistance (TAA) for Farmers Program. After reviewing a petition submitted by the Catfish Farmers of America, FAS determined that increased imports of catfish during January-December 2009 were a significant factor contributing to a more than 15 percent decline in the value of production in 2009 when compared to the average of the three preceding marketing years.

Catfish producers, nationwide, interested in applying for technical training and cash benefits must complete and submit a written application to their local Farm Service Agency Service Center by September 23, 2010. Applications (form FSA 229-1) are available on the FAS Web site at: <http://www.fas.usda.gov/itp/taa/taafoms.asp>. All TAA for Farmers Federal Register notices can be found on the FAS Web site at: <http://www.fas.usda.gov/info/fr/notices.asp>.

Program benefits include cash payments and free technical training designed to help producers develop and implement business adjustment plans. Producers who attend an initial training and then 12 hours of intensive training and develop an approved initial business plan will receive up to \$4,000 as payment toward implementing the plan or developing a long-term business adjustment plan. Producers who subsequently develop approved long-term business adjustment plans are entitled to receive an additional cash payment of up to \$8,000 to be applied toward implementing the plan. A producer may not receive more than \$12,000 or benefit from any other TAA program during the 36-month period following certification of a group petition. Travel and subsistence expenses related to attending training sessions may also be reimbursable.

What is TAA?
Trade Adjustment Assistance (TAA) for Farmers provides free technical assistance and cash benefits to producers of agricultural commodities and to fishermen who have been adversely affected by import competition.

To participate in TAA, an agricultural or fisheries commodity must first qualify. USDA becomes eligible for TAA, a commodity is eligible if it has experienced more than a 20% decline in the national average price, or the quantity of production, or the value of production in the most recent marketing year compared to the previous three marketing years, and if imports contributed importantly to this decline.

If USDA certifies a commodity eligible for TAA, then individual producers or fishermen of that commodity can apply for TAA benefits.

Financial Stress? Increased Import Competition? TAA Can Help.

TAA Trade Adjustment Assistance for Farmers

For More Information
Contact your Regional TAA Center or USDA Foreign Agricultural Service:

Southern Center
University of Arkansas
(501) 671-2140

Northeast Center
University of Delaware
(302) 833-2535

Western Center
Washington State University
(509) 477-2176

North Central Center
University of Nebraska
(800) 520-3436

USDA Foreign Agricultural Service
University of Nebraska
(202) 720-0638

Or visit:
www.TAAforFarmers.org

USDA
The University of Missouri is an equal opportunity educator and employer.

To assist catfish producers, UAPB is offering the required training workshops. The first stage of training, a one-hour workshop, will be held immediately following the Aquaculture Field Day, October 7, at UAPB. Producers must bring the FSA number assigned to them to receive credit for any training session. Attendance at the initial training qualifies producers to attend the required 12 hours of intensive training. UAPB will offer the first intensive training workshop immediately following the initial training.

Catfish producers who attend the afternoon sessions, and have signed up with FSA by the September 23 deadline can be reimbursed for their mileage (by FSA). The additional three intensive training workshops will be offered at the annual convention of the Catfish Farmers of Arkansas January 28-29, in Pine Bluff. Producers who attend both the Oct. 7 and Jan. 28-29 workshops will qualify for the first \$4,000 payment. Any catfish farmer from any state can attend these meetings. General information about the TAA for Farmers Program can be found on the FAS Web site at www.fas.usda.gov/itp/taa or by contacting the TAA for Farmers Program staff in the Office of Trade Programs at telephone (202) 720-0638 or (202) 690-0633, or by e-mail at tradeadjustment@fas.usda.gov.

Upcoming Events

Aquatic Science Day

September 24, 2009

University of Arkansas at Pine Bluff, Pine Bluff, AR

Annual educational event for high school students. For information contact Cassandra Hawkins-Byrd at (870) 575-8123.

NAA and USB Workshop

September 16, 2010

Lonoke Agriculture Center
Lonoke, AR

The Four P's of a Safe and Sustainable Aquaculture Industry: Practices, Presentation, Promotion and the Press.

For information contact Anita Kelly at (501) 676-3124.

Aquaculture Field Day and TAA Training

October 7, 2010

University of Arkansas at Pine Bluff, Pine Bluff, AR

Biannual exposition of research conducted at UAPB.

For information contact Cassandra Hawkins-Byrd at (870) 575-8123.

Arkansas Aquaculture 2010

January 21-23, 2010

Pine Bluff, AR

Annual educational meeting sponsored by Catfish Farmers of Arkansas. For information contact Bo Collins at (870) 672-1716.

2011 Arkansas Bait and Ornamental Fish Growers Meeting

February 10, 2011

Lonoke Agriculture Center
Lonoke, AR

Annual educational meeting sponsored by Arkansas Bait and Ornamental Fish Growers Association. For information contact Sathya Kumaran at (501) 676-3124.

Aquaculture America 2011

February 28-March 3, 2011

New Orleans, LA

The Annual United States Aquaculture Society meeting. For information contact the Conference Manager at (760) 751-5505.

Prevent Spread of New Catfish Aeromonas

Andy Goodwin, UAPB Professor and Fish Pathologist

In a previous Aquafarming article, you were told about a new disease that killed over 3 million pounds of catfish in Western Alabama during the 2009 summer season. It has re-emerged in 2010 and appears to be killing more fish than it did last year. This new disease is strongly associated with infections by a unique strain of *Aeromonas* bacteria that is different than any we have seen before. The best current evidence is that this is a new disease, that it spreads easily from pond to pond and farm to farm, and that once it is present on a farm it will reappear in subsequent growing seasons. The only treatment is antibiotic feed that is expensive and difficult to obtain. Once the disease is introduced onto a farm, antibiotic treatments may be useful in saving a crop, however, repeated rounds of costly treatments and disease losses could have a very serious impact on a farm's bottom line. It is critical to make sure that the disease does not make it onto your farm.

The best assumption right now is that the disease can be spread in several ways. The list below includes the most important routes for spread in order from most risky to less risky.

- ▶ Introduction of infected fish
- ▶ Bringing contaminated seines onto the farm
- ▶ Bringing other contaminated equipment (trucks, dipnets, waders) onto the farm

▶ Birds (probably only a factor under very short distances)

To prevent the introduction of this new disease, farmers should only bring on their farm fish that are inspected for *Aeromonas* and that come from farms where the disease is not known to be prevalent. Seines, trucks or other equipment should be disinfected before entering the farm if they have been off farm to any location where the disease might be present. Fish that might have the disease must not go to processors as the fillet quality is poor and any movement of infected fish increases the chance of moving the disease.

The symptoms of this disease vary from pond to pond, but the most obvious things to look for are dry skin, pink muscles, or bright red internal organs. An important thing to look at is the eyes of the fish. This disease often causes cloudy eyes, and very often causes red spots (hemorrhages) on the surface of the eye. If you see any fish that have any of these signs, or that are dying for unknown reasons, it is imperative that you contact the UAPB Fish Disease Laboratories for diagnosis and assistance. Or, if you have any questions regarding fish imports or disinfection, please call one of UAPB's Fish Labs.



Aquaculture and the Lacey Act

Elizabeth R. Springsteen, Staff Attorney, University of Arkansas National Agricultural Law Center

Aquaculture is regulated at various levels of government, with state and local authorities generally regulating activities and issuing permits dealing with zoning, building, land and water use, waste discharge, and aquaculture production practices and species. Not surprisingly, each state's division of regulatory responsibility and authority among their agencies or offices, as well as the resulting regulations themselves, are all very different. They have each been influenced by unique state socioeconomic histories and the ecological differences between states. As a result, state aquaculture regulation is a bewildering mosaic of species regulations, with little to no consistency between geographic locations. At the federal level, agencies responsible for different areas of regulation include the FDA, USDA, EPA, USFWS, Army Corps of Engineers and National Oceanic & Atmospheric Administration.

History and Provisions of the Lacey Act

One major statute with the potential to severely affect aquaculture is the Lacey Act, 18 U.S.C. §§ 41-48, a federal statute passed in 1900 to protect wildlife. It was originally intended to combat hunting to supply commercial markets, the interstate shipment of unlawfully killed game, the killing of birds for the feather trade and the introduction of harmful invasive species. The Lacey Act applies to all "wild" animals, specifically including fish and amphibians, even when those animals have been "bred, hatched, or born in captivity." It is unlawful to "import, export, transport, sell, receive, acquire or purchase" any fish or wildlife "taken, possessed, transported, or sold" in violation of laws or regulations (state, federal or foreign) that are fish or wildlife related. In 2008, plants were added to the scope of the Act.

One way the Lacey Act can be triggered is by violating a federal regulation. The offender can be prosecuted under the Lacey Act even if no

interstate shipment takes place. For example, the Endangered Species Act is a federal statute that protects certain species. If an individual "transport[s], sell[s], receive[s], acquire[s], or purchase[s]" a creature that has been "taken, possessed, transported, or sold" in violation of that law, that person may be prosecuted under either the Endangered Species Act or the Lacey Act- even if they do not cross a state line.

The Lacey Act is also triggered when a state or federal law regarding fish or wildlife is violated by a product that has been part of interstate commerce. Each state has its own protected, prohibited, restricted or approved exotic or game species lists, established by a state department of natural resources, fish and game, environmental protection or agriculture, and the creatures on the list can vary widely from one state to the next. For example, as of this writing, in Minnesota it is illegal to transport "prohibited invasive species" on a public road, and violation subjects the offender to a \$250 civil penalty or a misdemeanor (up to 90 days and/or \$1,000). As a result, a company based in Minnesota who transports one of these species to another part of the state may only be prosecuted under the state law. A company based in another state who transports one of these species on a Minnesota road, however, may be prosecuted under the Lacey Act. This is important, especially considering the disparity between the state and Lacey Act penalties.

Lacey Act Penalties

Penalties for violating the Lacey Act are severe. If an individual "knew" or "was generally aware of" the illegal nature of the wildlife and the value of the wildlife was over \$350, he may be prosecuted and convicted under the Act's felony provisions. If that happens, the penalty is up to 5 years in prison and/or a \$250,000 fine (\$500,000 in the case of an "organization," including a business).

Misdemeanor prosecution may occur in two situations. The first is if the defendant takes/possesses/ transports/sells the prohibited wildlife "without exercising due care." "Due care" means "that degree of care which a reasonably prudent person would exercise under the same or similar circumstances. As a result, it is applied differently to different categories of persons with varying degrees of knowledge and responsibility". Generally, due care requires the judge to determine if the defendant, when trying to follow the law, applied as much thought, planning and prevention as would a normal, reasonable person in their situation. It's important to remember that, as stated above, the amount of "due care" a person must show changes depending on their knowledge and responsibility level. Therefore, an aquaculture producer transporting their products across state lines will probably be held to a higher standard of care than a child who is transporting his pet goldfish during a cross-country move.

The second way in which a misdemeanor may be prosecuted under the Lacey Act is if the defendant knew about the illegal nature but the value of the wildlife was less than \$350. Prosecutors may aggregate, or combine, violations for charging purposes. Combining the violations can increase the value of the wildlife, and potentially elevate the offense from misdemeanor to felony status. Misdemeanor penalties are up to a year in prison and/or \$100,000 fine (\$200,000 for organizations).

Further, false labeling of wildlife transported in interstate commerce is also criminalized, regardless of intent. If products have a market value of less than \$350, false labeling is a 1 year/\$100,000 misdemeanor, but if the value is greater than \$350, the offender may be charged with another 5 year/\$250,000 felony.

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Federal Enforcement of the Lacey Act

Federal enforcement of the Lacey Act is possible in two situations. First, it is triggered when federal law is violated, even if no interstate commerce takes place. For example, if an individual possesses a creature that is illegal to possess under federal law, the Lacey Act may be enforced. Secondly, it is triggered when a state law regarding fish or wildlife is violated by a product that has been part of interstate commerce. Each state has its own protected, prohibited, restricted or approved exotic or game species lists, established by a state department of natural resources, fish and game, environmental protection or agriculture, and the creatures on the list can vary widely from one state to the next.

How does this affect aquaculture? Imagine that a single fish (or even fish egg) - legal to possess in Wisconsin is inadvertently loaded with a 2,000 lb truckload of other fish that had been sold to an aquaculture producer in Minnesota. This single fish is on the Minnesota prohibited list. Once the truck crosses the state line, it is stopped by the Minnesota DNR, searched, and the prohibited fish is found. Both the Wisconsin seller and the Minnesota buyer may be prosecuted under the Lacey Act, and what would have been a maximum penalty of 90 days and/or \$1,000 from the state of Minnesota has now turned into a potential year in federal prison and up to a \$100,000 fine. Moreover, the seller may also be charged with false labeling (for failing to include the prohibited fish in the list of the shipment's contents), adding up to another 5 years and/or \$250,000 to the sentence.

Minimizing Risk

The risks associated with the Lacey Act can, of course, be minimized by only shipping products in-state. However, this is not a reasonable or feasible option for many producers. For those producers involved in interstate shipment of aquaculture species, the only advice that may be

helpful is to check, double check and document every step taken to ensure that regulated species are not transported, because your freedom and livelihood might depend on convincing a judge or jury that you exercised due care in trying to prevent it. Aquaculturists can access the Injurious Species List, as authorized by the Lacey Act, by visiting http://www.fws.gov/fisheries/ans/ANS_Injurious.cfm. The National Agricultural Library is developing a nationwide compilation of information describing species that are regulated by each state and it is located at <http://www.invasivespeciesinfo.gov/laws/statelaws.shtml>. This compilation is a work in progress, so aquaculture producers should still check with the Aquaculture Coordinator in the destination state or their state for regulated species information. Visit <http://www.nasac.net/> for Coordinator contact information. For more information on the legal aspects involved in aquaculture operations, please visit the National Agricultural Law Center's "Aquaculture" reading room, located at <http://www.nationalaglawcenter.org/readingrooms/aquaculture/>.

Lacey Act Examples

Consider three producers. Producer A's business is located in Arkansas, B's is in Alabama and C's is in Wisconsin, as shown on the map. They all engage in interstate shipping of their products while also receiving products from other companies that were shipped interstate. That interstate commerce is the trigger to the Lacey Act.

Example 1

Question: Producer A sells an unlabeled load of diploid black carp to Producer B. Diploid black carp may be possessed in Arkansas. However, it is on the federal invasive species list, so it may not be transported across state lines.

Charges

Against A: Trafficking
Against B: Trafficking

Example 2

Question: Producer A sells a load of catfish to Producer B, but it is labeled "whitefish"

Charges

Against A: False Labeling
Against B: None

Example 3

Question: Producer A sells a load labeled "catfish" to Producer B, and a black carp is included in the shipment.

Charges

Against A: False Labeling & Trafficking
Against B: Trafficking

Example 4

Question: Producer A sells a load labeled "catfish" to Trucker in AR. A black carp is included in the shipment. Trucker drives the shipment to AL, and sells it to Producer B.

Charges

Against A: False Labeling
Against B: Trafficking
Against Trucker: Trafficking

Example 5

Question: Producer A sells a load labeled "fishfish" to Producer C. Possession of "fishfish" is legal in AR and WI, but illegal in IL, where Trucker is pulled over.

Charges

No Lacey Act violation, as long as the load was correctly labeled. Trafficking provisions do not apply to interstate shipment if the shipment is en route to a state in which the fish or wildlife or plant may be legally possessed.

The preceding was taken from publication *Aquaculture and the Lacey Act* by Elizabeth Springsteen. The entire publication can be viewed at http://www.nationalaglawcenter.org/assets/articles/springsteen_lacey.pdf.



The map above depicts a sample of Example 1.

Advances in Low Input Freshwater Prawn

George Selden, Extension Aquaculture Specialist

The freshwater prawn, *Macrobrachium rosenbergii*, is a crustacean that can be cultured in inland ponds. It is similar in taste to marine shrimp, though many would argue that the taste of prawns is superior. In the past, the culture of freshwater prawn has involved stocking 15,000-20,000 post larvae/acre and feeding them an expensive, high protein sinking feed. These culture practices resulted in yields of 800-2,000 lbs/acre, but also resulted in high stocking costs and high feed costs. Another result of this heavy stocking has been poor survival and small sized prawns. This made the break-even costs difficult to reach and has discouraged some producers from culturing freshwater prawns.

Recent research by Lou D'Abramo at Mississippi State University focused on lowering input costs and increasing individual prawn size. The first step looked at the feeding behavior of the prawn.

Prawns are classified as benthic omnivores. This means that they live on the bottom of the pond and feed on whatever food items they come across. They are unable to come to the ponds surface, so a floating feed cannot be used. A sinking feed must be used, but sinking feed pellets tend to break down and have their nutrients leach out from the pellets quickly after being added to the water. These nutrients stimulate growth of plankton and other micro- and macroscopic life within the pond, which the prawn eat, but do not directly provide nutrition to the prawn.

Since prawns naturally move around a pond and graze on the natural flora and fauna of the pond, a less expensive organic fertilizer can be used to stimulate natural pond productivity. Dr. D'Abramo obtained good prawn growth using low protein plant products like range cubes, corn gluten pellets and other similar products with

crude protein (CP) levels around 20%, instead of formulated feed with CP levels around 40%. Using these pond fertilizers can cut feed costs in half with no reduction in growth.

Freshwater prawns are also very territorial and become cannibalistic when densities are high. This occurs even if food is plentiful. Dr. D'Abramo's recommendations take advantage of these characteristics. The idea is to stock low densities of juveniles. At a rate of 10,000-12,000 juveniles/acre, yields of 800-1,000 lbs/acre are possible. This reduces the cost of purchasing juveniles because fewer are needed. This is important because stocking is usually >50% of the annual variable costs.

Another benefit of reduced stocking rates has been increased individual prawn size, with mean sizes in the range of 8-10 prawn/lb whole. This places large numbers of harvested prawns within the extra large to jumbo size class. Larger prawns are able to command higher pond-bank prices.

In summation, stocking rates can be reduced to 10,000-12,000 juveniles/acre and lower cost organic fertilizers are added to stimulate pond productivity, with a reduction of overall production costs by up to 17%/acre and production of 800-1,000 lbs/acre of extra large to jumbo sized prawn.

Further details can be obtained from two Mississippi State bulletins: Bulletin 1138, Culture of Freshwater Prawns in Temperate Climates, <http://msucares.com/pubs/bulletins/b1138.pdf>

Bulletin 1162, Freshwater Prawn Cost of Production, <http://msucares.com/pubs/bulletins/b1162.pdf>

Market Maker is Now Available in Arkansas

Carole R. Engle, UAPB

An Internet presence is an increasingly valuable marketing tool, and increasing amounts of fish and seafood are being sold on the Internet. More and more fish farmers have web sites and take orders on line. A few years ago, a web site called Market Maker was developed as a result of a national partnership between land-grant universities and State Departments of Agriculture. It is an electronic database designed to connect buyers with farmers to facilitate sales. It essentially is an online directory of suppliers and buyers, but it also provides some information for some simple market research.

Arkansas has recently joined Market Maker, and the contact person is Ron Rainey (rrainey@uaex.edu), of the Arkansas Cooperative Extension Service. Registration is online at the web address:

<http://national.marketmaker.uiuc.edu>

Check it out to see if Market Maker might be a marketing tool for your business. It's easy to be included and provides another way to get the word out on your business and the types of fish that you sell.



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Aquaculture/Fisheries Field Day Slated for Oct. 7 at UAPB

The University of Arkansas at Pine Bluff is gearing up for its Aquaculture/Fisheries Field Day on Oct. 7. Held at the UAPB Aquaculture Research Station, the event begins at 8:30 a.m. and wraps up at noon. Attendees can learn about the latest feed study in the search for less-expensive diets for catfish and get details on producing the new Delacata product, bass for the fillet market, large quantities of rosy red bait minnows and sterile crappie. Participants can also learn about possible Gulf shrimp production in Arkansas, attend plant school and check out a mobile fish nursery. The day also features a trap shoot with prizes.

Tractor tours will take participants to educational stops and walking tours are also available. After the field day, initial and intensive training will be available for catfish farmers who have been accepted into the Trade Adjustment Assistance for Catfish Farmers program.

For details about the Aquaculture/Fisheries Field Day, call Dr. Carole Engle at 870-575-8523 or email cengle@uaex.edu.




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