



COOPERATIVE EXTENSION SERVICE

Jefferson Parish

6640 Riverside Drive, Suite 200

Metairie, Louisiana 70003

(504)838-1170

Fax: (504)838-1175

E-mail: jefferson@agcenter.lsu.edu

Web site: www.lsuagcenter.com

# Lagniappe



Research and Extension Programs

Agriculture

Economic/Community Development

Environment/Natural Resources

Families/Nutrition/Health

4-H Youth Programs

December 1, 2005 Volume 29, No. 12

## LAGNIAPPE SUBSCRIPTIONS

The *Lagniappe* fisheries newsletter is published monthly by the LSU AgCenter's Sea Grant Program. The goal of its editors is to keep recreational and commercial fishermen informed of the latest in fisheries-related research results and all fisheries regulation or law changes. Free e-mail subscriptions can be made by e-mailing a request to [jhorst@agctr.lsu.edu](mailto:jhorst@agctr.lsu.edu). Be sure to include the parish of residence or if out-of-state the state. Readers may also subscribe to the paper version delivered by mail with the form on the right.

**SUBSCRIPTION FORM**

**LAGNIAPPE FISHERIES NEWSLETTER**

\$10.00 PER YEAR  
12 ISSUES PER YEAR

NAME \_\_\_\_\_

STREET ADDRESS OR PO BOX \_\_\_\_\_

TOWN \_\_\_\_\_

STATE \_\_\_\_\_ ZIP CODE \_\_\_\_\_

PARISH (If in Louisiana) \_\_\_\_\_

Telephone Number (To be used only for delivery error) \_\_\_\_\_

Check  Money Order

Make check or money order payable to **LSU AgCenter**

Send subscription form and payment to:

ATTN: Ruth Mutrie  
P O Box 25100  
Baton Rouge, LA 70894-5100

## MERCURY MANIA

In September, a coalition of environmental groups, lead by Oceana and the Mercury Policy Project released a report, *Fair Warning: Why Grocery Stores Should Tell Parents About Mercury in Fish*. They demanded that grocery stores put signs in their stores warning customers about mercury in seafood. The information in the report came from the testing of grocery store tuna and swordfish in 22 states. Testing results showed some swordfish samples with mercury concentrations as high as 1.1 parts per million (ppm), which is over the U.S. Food and Drug Administration (FDA) action level of 1.0 pm.



A State Partner in the Cooperative Extension System

The LSU Agricultural Center is a statewide campus of the LSU System and provides equal opportunities in programs and employment. Louisiana State University and A. & M. College, Louisiana parish governing bodies, Southern University, and United States Department of Agriculture cooperating.

Of course, the Center for Consumer Freedom issued an immediate response to the report, saying that it is misleading the public and questioning whether the environmental groups behind the report were "...at all familiar with the science". David Martusko, director of research for the center said, "these campaigns have more to do with creating fear and raising money than protecting the public's health."



Martusko said that, "the FDA action level of ppm limits consumers' methyl-mercury exposure to levels 10 times below the lowest levels associated with adverse effects. Even if the mercury in a fish was double the FDA's action level, it would mean that Americans' health is still protected by a 500 percent buffer."

Martusko went further, saying that, "Putting warning labels on fish with such low mercury levels is like writing a speeding ticket for someone who drives 6 miles per hour in a 55-mph zone. No fish in this study came anywhere near being dangerous, and claiming otherwise is reckless."

Mercury in fish has been an issue closer to home, as well as nationally. Beginning in July 2001, Ben Raines, a staff reporter with the *Mobile Register*, an Alabama newspaper, wrote a long string of alarming articles on the dangers of eating Gulf of Mexico fish because of the presence of mercury in their tissues. His articles were reprinted in newspapers Gulfwide.

By December, he claimed to have traced the source of mercury in the Gulf of Mexico back to offshore oil and gas drilling platforms, calling them "islands of intense contamination". Raines added that, "the contamination at the rigs could prove to be much more dangerous to humans than contamination at many Superfund sites." After the initial uproar, science debunked Raines' claims and the issue died down.

Mercury is an element, not a manufactured pollutant. In its pure state, it is a liquid, the only metal that is liquid at average air temperatures on Earth. It belongs to a group of metals, known as "heavy metals" that includes lead, zinc and cadmium. All of these can be poisonous to humans if consumed in high enough doses in the right form. To get into fish, mercury must be in the form of methylmercury, which only occurs at low pH (acid) conditions. Under high pH (alkaline) conditions, such as, for example, those in the Mississippi River, mercury cannot enter the food chain easily.

Since it is a natural element, some mercury naturally exists in almost all waters, as it is eroded from the earth by water. More mercury is added by pollution, the vast majority of which occurs from emissions from coal-fired power plants and to a smaller degree, the burning of garbage and medical wastes. This mercury vapor may circulate in the earth's atmosphere for up to one year and be carried thousands of miles from where it was emitted. Eventually, it is returned to the Earth by rainfall or dry deposit.

Under the right conditions, mercury accumulates in the tissues of animals low in the food chain. Mercury levels in animals increases as the mercury moves up the food chain when predators eat prey. This process is especially likely to occur with aquatic creatures such as marine fish. Mercury from other sources is less likely now than

before to enter the ecosystem. Industrial demand for mercury declined by 75% between 1988 and 1996, mostly because it was no longer used in paints and pesticides and its use in batteries has been reduced. It has been estimated that the amount of mercury in the Earth's atmosphere is 2 to 5 times larger than before industrialization.

That some mercury can be found in seafood is not an issue. What is the issue is at what concentrations does mercury affect seafood consumers and what are the health trade-offs that come with decreasing seafood consumption. Major studies have produced conflicting results on the effects of mercury from seafood on the most at-risk groups — pregnant women and children.

As a result of the attention to mercury, FDA and the Environmental Protection Agency (EPA) have issued a joint advisory concerning fish consumption. Pregnant and nursing women, women who may become pregnant, and young children may safely consume up to 12 ounces a week of fish that are low in mercury, such as shrimp, salmon, pollock, catfish and canned light tuna. This is about two meals per week. They may also safely eat up to 6 ounces of canned albacore (white tuna) a week.

The joint advisory has identified fish species that are high in methylmercury and should be avoided by pregnant and nursing women, women who may become pregnant, and young children. These fish are shark, swordfish, tilefish and king mackerel.

There is no seafood advisory for men, older children and other women. Yet, while FDA, EPA and public health authorities are trying to advise the public about seafood consumption, the public is being bombarded by negative messages about mercury in fish. Most of these messages come from environmental groups pushing for lower mercury emission standards for industries.

While these intentions may be noble, the result is confusion among consumers (see the article following this one). The damage caused by the confusion is not just to the seafood-producing industry, but also to the health of U.S. citizens.

A large and growing body of research shows that the omega-3 fatty acids in seafood provide major health benefits for humans, including reduced risk of heart disease and stroke, improved brain function, improved neurological development in babies, improved eye and skin health, and some protection against certain cancers. Research is also being conducted to study the beneficial affects of omega-3 fatty acids on depression and autoimmune diseases such as lupus, psoriasis and arthritis.

Because of these significant health benefits, the 2005 Dietary Guidelines for Americans issued by the Department of Health and Human Services (HHS) and the U.S. Department of Agriculture (USDA) and guidelines from the American Heart Association and the American Dietetic Association recommend consuming two eight-ounce servings of fish a week for optimal health.

The most recent research on the benefits and risks in seafood consumption were printed in a series of eight articles or papers in the November 2005 issue of the *American Journal of Preventative Medicine*. The analyses were conducted by

researchers with the Harvard Center for Risk Analysis, within the Harvard University School of Public Health.

One paper, which examined stroke risk, concluded that any fish consumption produces a substantial reduction in risk of strokes when compared to no fish consumption. The more fish that are in the diet, the greater the reduction in stroke risk is.

Another paper discusses heart disease. It concludes that eating small quantities of fish is associated with a 17% reduction in death risk from heart disease. With each additional serving of fish per week, the risk of death is reduced by another 3.9%.

Concerning brain function and IQ, the researchers stated that both the risk from mercury consumption and the benefits from fish consumption were small and not noticeable on any one person. Both, however, were measurable when large populations of humans are analyzed as a whole.

Joshua Cohen, senior research associate at the Center for Risk Analysis and lead author (14 scientists were involved) of the studies was outspoken. "If you are not pregnant and not going to become pregnant you shouldn't even be thinking about mercury in fish."

Source: American Journal of Preventative Medicine. Volume 29, Issue 4, pages 320-366 (November 2005).

## **SURVEY FINDS CONFUSION OVER MERCURY**

Seafood is one of the more complex dietary stories. One research project after another shows major health benefits from the consumption of seafood. Public health experts have worked hard to get this message out.

Yet the media is full of reports about the dangers of eating seafood because of the mercury in it. Much of this "political advertising" directly accuses the government of not only failing to regulate mercury emissions, but of putting human health at risk by not adequately warning the public of the mercury risks in seafood.

The affects of these conflicting messages on the public has been unclear. To answer questions about public perception, the Center for Food, Nutrition and Agriculture Policy at the University of Maryland commissioned an opinion poll of 1040 American adults. The survey was weighted to reflect the national population by age, gender, geographic region, and race. The survey was conducted in June 2005. The results are interesting.

### **Confusion Over FDA/EPA Advisory**

The joint FDA/EPA advisory is intended only for pregnant and nursing women, women who might become pregnant, and young children. Yet, 45% thought the

advisory was for the elderly, 35% thought it was for pre-teens and teenagers, and 29% said it was for men. Thirty percent believed the advisory was for all Americans. Fully 68% did not know which seafoods contained higher levels of mercury. Shrimp, tuna and salmon were identified by 32% as being high in mercury, and only 4% identified swordfish. Less than 1% named king mackerel and shark as fish containing higher mercury levels.

### **Health Effects of Eating Fish**

Two-thirds of those in the survey said that they heard something in the last year about the good health effects of eating fish. Most aware (77%) were people aged 55-64. Least aware (59%) were the youngest, aged 18-24. Forty-three percent of the people said that they had also heard negative news about mercury, and 35% had heard of other contaminants. Fully 5% recalled hearing that eating fish is bad for health or that they could get sick or poisoned from eating fish.

### **Concern About Mercury Levels**

Concern about mercury in seafood was expressed by 31% of the people. According to the researchers, this is a growing trend and it is affecting seafood consumption. Specifically, 55% said that they have changed the types of seafood that they eat. Forty-three percent said that they are eating seafood less often and another 35% say that they have reduced their portion size. Of the people responsible for feeding children, 11% said that they are feeding children less seafood than a year ago and 23% of children under four years old do not eat seafood.

### **Americans Eating Less Seafood Than Recommended**

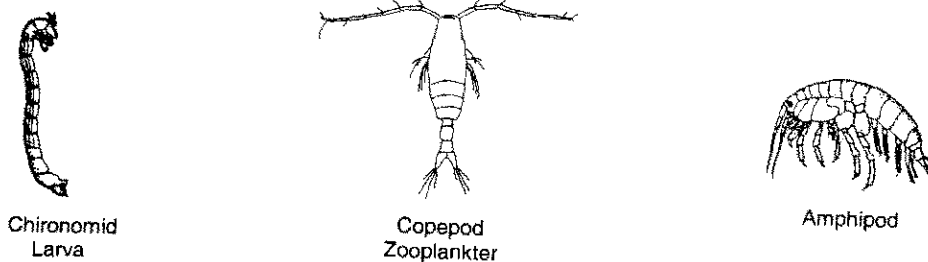
Dietary guidelines recommend consuming two servings of fish a week. While 89% of the people surveyed reported eating seafood at least occasionally, only 36% said that they ate seafood once a week or more. Twenty-four percent said that they ate seafood only a couple of times a month, 12% reported eating seafood about once a month, and 17% ate seafood less than once a month. The most frequent seafood consumers were those aged 65 and older, with 52% reporting that they ate seafood once a week or more.

Source: *A National Opinion Survey Conducted for the Center for Food, Nutrition and Agriculture Policy.* RealMercuryFacts.com. Center for Food, Nutrition and Agriculture Policy. University of Maryland. 2005.

### **BREAM PUZZLE**

Bream fishermen fishing with crickets, worms or grass shrimp often catch a variety of different species of bream in one area using the same bait. The variety in the catch is enough to make a person wonder how the competition between the species doesn't end up with the most efficient or aggressive species getting all the food supply and squeezing the others out of existence.

The answer is that each species, although closely related to the others, has a slightly different preference for lifestyle, feeding method or food type. This was clearly shown in a food habits study done by LSU biologists on fish living in *Hydrilla* plant beds in the Atchafalaya Basin.



Three of the larger species of bream were included in the study, bluegill, redear sunfish (chinquapin or lake runner), and warmouth (goggle eye). While all three lived in the very same spot, they were able to co-exist by having specialized diets with very little overlap.

The number one thing found in redear sunfish stomachs (87% of the stomachs) was mollusks, like snails, followed by 22% of the stomachs containing plants. Some amphipods and chironomid larvae were also found. Chironomid larvae are the young of a type of fly called a midge. They are reddish to clear in color and can get to a half-inch long. The diet heavy in mollusks is why redears are called "shell crackers" in other parts of the country.

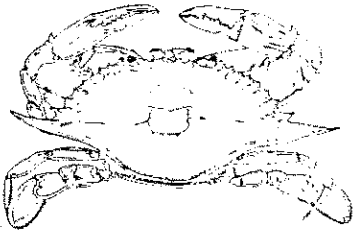
The warmouth's diet shows why it has the largest mouth of the 3 species. Of the stomachs with food, crawfish were found in 80% of them. Another 20% had fish. A few dragonfly larva were also found.

Bluegills had the widest diet, but few mollusks, fish or crawfish were found. Twenty-five percent had plant matter in them, 38% had zooplankters, 31% had chironomids and larvae of other flies, and 27% had bugs and other insects,

Source: *Diets of Fishes Inhabiting Atchafalaya Basin Hydrilla Beds*. Jonathan C. Fisher, William E. Kelso, and D. Allen Rutherford. Louisiana Chapter of the American Fisheries Society, 26<sup>th</sup> Annual Meeting. February 304, 2005.

## CHESAPEAKE BLUE CRAB STOCK ASSESSMENT

What happens to blue crab fisheries in other places strongly affects the Louisiana commercial blue crab fishery. For example, when blue crab harvests are strong in the Lake Maracaibo region of Venezuela, strong imports of South American picked crabmeat drives down demand and prices for Louisiana crabmeat. The demand for large, premium-priced number 1 male crabs from Louisiana is highest in the Chesapeake Bay states of Maryland and Virginia. When Chesapeake Bay harvests are down, demand and price for Louisiana crabs are up, and vice versa.



Demand for steamed crabs has always been high in the mid-Atlantic states, but the blue crab fishery became more important to watermen, as commercial fishermen are called in the Chesapeake, as other fisheries stocks, such as oysters and striped bass, declined. Since 1945, fishing pressure on crabs has become five times as heavy. As the number of crab traps increased, the catch per trap dropped, which prompted fishermen to add even more traps, perpetuating the cycle.

Blue crab catches from the bay reached a peak of over 100 million pounds in 1966. By 2001, catches dropped to under 48 million pounds. The decline caused alarm among scientists who began to fear the unthinkable — that blue crabs could actually be overfished. The biologists began making stock assessments in 1995.

By their determinations, no more than 53% of the adult blue crab population could be harvested in any year or the population would fall. Their stock assessments showed that higher harvests were occurring, with as much as 71% of the crabs being taken in some years. As a result, strict harvest regulations were put in place and by 2002 overfishing had ended.

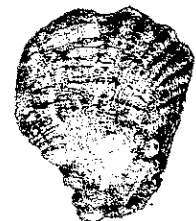
The latest stock assessment for Chesapeake Bay showed that fishermen, with a 60 million pound harvest in 2004, were taking about half the crabs in the bay, a safe harvest percentage. Recreational harvests were 8% of the total. The scientists estimate in their report that about 334 million adult crabs lived in the bay last year. While this sounds like an impressive number, the biologists estimate that 800 million crabs lived in the bay 10-15 years ago.

In the Gulf States, including Louisiana, no evidence yet has been found that blue crabs have experienced biological overfishing.

Source: *Stock Assessment of The Blue Crab in Chesapeake Bay 2005*. Thomas J. Miller and others. University of Maryland Center for Environmental Science. Chesapeake Biological Laboratory.

## OYSTER PETITION WITHDRAWN

A January 2005 petition to have eastern oysters listed on the Endangered Species List has been withdrawn, stopping the process of listing. The petition was filed by Wolf-Dieter Busch of Ecosystem Initiatives Advisory Systems. Busch, a retired fisheries scientist, filed the petition because of the sad state of eastern oyster populations in the Chesapeake Bay and the possibility that introduction of the non-native Asian oyster could further damage eastern oyster populations in the bay. Unfortunately, an endangered or threatened listing would not only have applied to Chesapeake oysters but to healthy eastern oyster populations in Louisiana and elsewhere.



## BYE BYE BYRDIE?

The Continued Dumping and Subsidy Offset Act, commonly known as the "Byrd Amendment" receives strong support from U.S. seafood producers, but is fiercely denounced by seafood importers. Under provisions of the act, tariffs collected from importers who have been judged to be unfairly dumping their products into the U.S. market are distributed to the U.S. industries ruled to be injured by the dumping.



The crawfish tail meat processing industry was the first Louisiana seafood industry to be ruled as injured by dumping and the shrimp industry the latest. During the effort to get the U.S. shrimp industry a favorable ruling, more attention came to be focused on who gets the Byrd money than on getting a favorable ruling in the first place. As a result, the Louisiana shrimp industry became deeply divided.

Now the Byrd Amendment may be in trouble. Legislation to repeal it has passed the Ways and Means Committee in the U.S. House of Representatives. The bill has also passed the House Budget Committee and was waiting to go to the floor of the House for a vote as of mid-November.

As far back as 2002, the World Trade Organization (WTO) ruled that the Byrd Amendment violated United States' trade obligations. Congress refused to repeal the popular law and the WTO allowed Canada, the European Union, Japan, and Mexico to place tariffs on a variety of U.S. exports to their countries.

In September 2005, the United States Government Accountability office (GAO) released its review of the Byrd Amendment. It said that the law has benefited mainly

a tiny handful of companies. GAO reported that two-thirds of Byrd payments went to only three industries — bearings, candles and steel.

GAO further stated that accounting for the accuracy of claims of injury by U.S. industries is "virtually non-existent". The number of claims in 2004 was 1960. This is spiraling upward and is expected to reach nearly 30,000 for 2005. GAO concluded that the Byrd Amendment damages the effectiveness of programs to balance international trade.

Cheerleading the effort to repeal the act is the Consuming Industries Trade Action Coalition (CITAC), a trade group formed by importers, in part to fight off anti-dumping rulings. CITAC argues that the Byrd Amendment is illegal under WTO rules and makes business competition within the U.S. unfair. Lewis Leibowitz, CITAC attorney says, "The Byrd Amendment does not compensate victims of unfair trade, but puts large sums of money into the hands of a very small number of companies".

Representative Jim Ramstead of Minnesota, the author of HR 1121, certainly agrees, saying in a press release. "The Byrd Amendment is the ultimate



combination of protectionism, corporate welfare and government waste. The press release goes on to say, "It costs taxpayers millions of dollars in subsidy payments and consumers millions in higher costs."

## DOPING FISH

Do you ever think about where the water goes when you flush the toilet? The answer is, after making a detour for treatment, in our rivers — rivers where fish and other creatures live. Treatment does an adequate job of removing sewage. But human wastewater contains more than sewage.

Modern medical science is based around the treatment of ailments with pharmaceuticals (drugs). Some of those drugs go through human bodies and are passed in urine. Often, unused drugs are just flushed down the drain; out of sight — out of mind. Besides, "everyone knows that wastewater is treated".

Treated it is, but it is treated for the sewage it carries, not for the many chemicals dissolved in it. Removing all the chemicals would almost require the water to be distilled, an enormously expensive proposition for wastewater.

As a result, researchers have found fish carrying everything from human female hormones to anti-depressants. The table on the right shows what the U.S. Geological Survey (USGS) found in U.S. waterways in 2002. USGS sampled 139 streams in 39 states and found these kinds of chemicals in 80% of them.

Researchers are increasingly finding evidence that the human drugs found in waters are affecting fish. In Wisconsin, minnows exposed to levels of an anti-cholesterol drug, only slightly higher than found in some streams, parked themselves on the bottom of the tank, struggling to survive. Male largemouth bass, carp and razorback suckers found downstream from Las Vegas, Nevada showed a large decrease in the amount and quality of sperm they produced.

The best solution would be to prevent drugs from getting into the water. Collection of unused pharmaceuticals, especially from places like nursing homes and hospitals, has been suggested. So have programs to encourage consumers to mail their unused drugs back to the pharmaceutical companies to be burned. Unfortunately, someone has to pay for all of these programs.

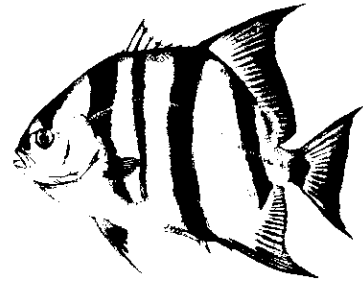
Pharmaceuticals Found in U.S. Waterways	
Chemical	% of Streams Where Found
Steroids	89
Nonprescription Drugs	81
Insect Repellent	74
Detergent Metabolites	69
Disinfectants	66
Plasticizers	64
Fire Retardants	60
Antibiotics	48
Insecticides	45
PAHs	44
Hormones	37
Other Prescription Drugs	32
Antioxidants	29
Fragrances	27
Solvents	24

Sources: USGS and Washington Post

Source: *Washington Post*, June 23, 2005. *Greenwire*, June 23, 2005.

## SPADEFISH

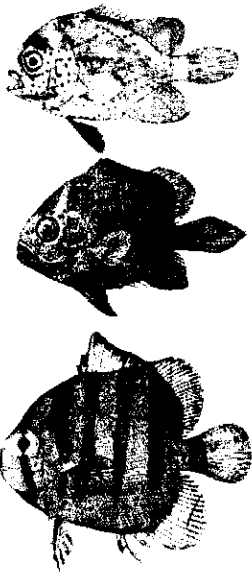
Anyone who fishes at offshore oil and gas platforms in the Gulf of Mexico is familiar with the spadefish, *Chaetodipterus faber*. Similar (but no relation) to the angelfish in freshwater aquariums, they are strongly flattened from side-to-side and marked with vertical black and white stripes.



Fishermen in boats are near the water's surface and can't get a grand view on the number of spadefish around a platform. But, a view from the platform's upper deck reveals hundreds of the animals under and around the platform. They are a dominant species in the fish communities that develop around platforms.

Most are found in the upper 65 feet of water. Part of the attraction that they have for these platforms has to do with their diet, which includes many of the plants and animals that encrust a platform's stanchion's and legs. They are known to eat any type of jellyfish, as well as sponges, polychaete worms, soft corals, tunicates, algae, sea cucumbers, feather stars, sea anemones, amphipods, and crustaceans and their larvae.

Spadefish spawn in the summer, between May and September in schools of several hundred fish. Females will spawn several times each season and produce an average of one million eggs.



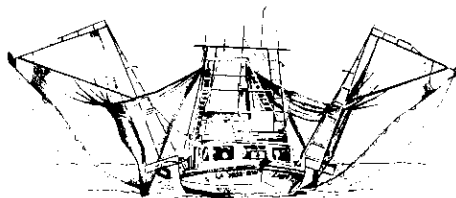
The eggs hatch quickly, within 24 hours at 80°F. By a half-inch long, the young fish have developed the flattened shape of the adult, but not its color. At seven-tenths of an inch, it is heavily pigmented, almost black in color. At 1½ inches long, it very closely resembles the adult fish.

Spadefish grow quickly the first 5 years after hatching, reaching an average of about 17 inches long. From 5 to 10 years, growth still occurs, but at a slower and slower rate. Ten year old spadefish average 21 inches long. Very little growth occurs after 10 years old. Spadefish can live to 19 years old, but even at that age, average length is only 22 inches long. Different individual spadefish grow at different rates, so age cannot be estimated from size. An 18-inch fish can be anywhere from 4 to 7 years old, while a 20-inch spadefish can be anywhere from 5 to 14 years old.

Source: *Species Update: Spadefish*. Age and Growth Laboratory. Old Dominion University.

## NO SHRIMP T.A.A. MONEY IN 2006

The U.S. Department of Agriculture's Foreign Agricultural Service has determined that the TAA (Trade Adjustment Assistance) program for shrimp will not be in place in 2006. In 2005, Louisiana shrimpers who could prove that they received less net income from shrimping in 2003 than 2002 were eligible for cash payment. The amount any shrimper received depended on how much his records indicated that he caught. Shrimpers who earned more in 2003 than in 2002 were not eligible for payments. The reason given for the program not being held this year is that total imports of shell-on, headless shrimp decreased from 2003 to 2004, the years in question for pay-out this year. It is possible that this decision could be appealed. Impact figures for the next year, 2005, will not be available until March 2006.



\*\*\*\*\*

## THE GUMBO POT

### Chef Reece Williams Dipping Sauce

I have become convinced that Louisiana cooking is as trendy as is cooking all over the United States. One such trend is the use of dipping sauces with seafood. The first time I saw the mayonnaise-ketchup-onion dip at a crawfish boil, I thought that was weird. Now lots of people use some variant of it. Todd Masson, Editor of the Louisiana Sportsman Magazine shared this recipe with us. (Reece Williams is the inventor of the Cajun Injector.) Todd says that his family now refuses to eat fried fish unless the fixes the sauce for them. I tried it on fried shrimp and I agree with him that it is outstanding. It is flavorful, but not so spicy as to overwhelm the delicate natural taste of seafood.

2	tblsp water	½	tsp paprika
2	cloves garlic	1	cup ketchup
1	medium onion	2	tblsp Worcestershire sauce
1	cup mayonnaise	1	tsp mustard
¼	cup vegetable oil	1	tsp black pepper
⅓	cup chili sauce	1	tsp hot sauce

Combine ingredients in blender. Blend until smooth. Serve generous portions alongside hot fried fish.

Sincerely,

Jerald Horst  
Professor, Fisheries