

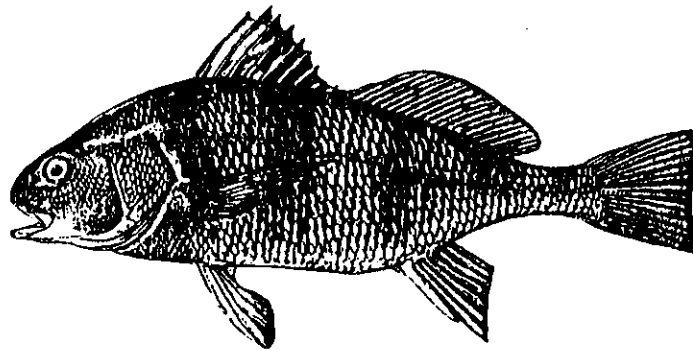


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## SEA GRANT PROGRAM



### LAGNIAPPE

#### MAGNUSON FISHERY ACT CHANGES

Last month, the Magnuson Fishery Act was reauthorized by the U. S. Congress. Under this act, fisheries are managed in federal waters offshore in the Gulf through the Gulf of Mexico Fishery Management Council. Several important changes were in the act.

- \* A council member will not be allowed to vote on issues where he has a significant financial interest. Whether a person has such an interest will be determined by a National Marine Fisheries Service designee.
- \* The Secretary of the Department of Commerce is required to identify each fishery that is overfished and the council is required to stop the overfishing. The recovery date cannot be more than 10 years away except under the most extraordinary circumstances. How this is handled in the red snapper fishery will be interesting, since the Gulf Council has just moved the recovery date from the year 2009 to 2019. This move prevented a cut in the daily limit of 5 fish for recreational snapper fishermen.
- \* No new individual transferable quota (ITQ) programs may be put in place for four years. This stops the almost completed commercial red snapper ITQ program in its tracks.

- \* State agencies, such as the Louisiana Department of Wildlife and Fisheries are given authority to regulate the fishing activities of vessels outside of their state's waters.
- \* Fisheries bycatch is defined as those fish caught, but not kept for sale or personal use. Not included are those fish caught and released alive in recreational catch and release programs.
- \* In relation to bycatch, the act specifically states: "Any measures taken are required to be consistent with measures that are applicable to fishing throughout the range within the United States by the bycatch species." Whether this authorizes the federal government to come in to state waters with bycatch reduction regulations or whether it requires federal regulations to be in line with state regulations is unclear.
- \* Three new national standards for federal fisheries management were added to the seven already in place. National Standard 8 requires that impacts of management measures on fishing communities be considered and that economic impacts kept as low as possible. Standard 9 requires that all management measures lower bycatch as much as possible and reduce fish deaths from bycatch when bycatch can't be avoided. Standard 10 requires that management measures, as much as practicable, promote the safety of human life at sea.
- \* Requires that the National Marine Fisheries Service publish a list of gear used in each fishery and outlaws the use of any gear not on the list unless the fishermen gives the Council a 90 day notice.

Source: Gulf Fishery News. Volume 18, No 5.

## **FEDERAL WATERS RECREATIONAL LIMITS CHANGED**

The Gulf of Mexico Fishery Management Council has announced several changes in the way fishes are managed in federal waters offshore. First, the recreational bag limit for greater amberjacks has been dropped from 3 per person to one. Also announced is a new recreational aggregate reef fish bag limit of 20. This bag limit covers fish that don't have individual daily limits such as vermilion snapper (b-liner), lane snapper, porgies, trigger fish and tilefish. Commercial regulations for these species remain unchanged.

## **BLACK DRUM BIOLOGY**

The black drum, Pogonias cromis, is the largest member of its family, which includes redfish, speckled trout, and croaker. It is found from southern Canada to Argentina in South America.

Black drum are not a popular recreational fish, with less than one percent of the recreational fishermen fishing for them. By comparison, about 90% of Louisiana's saltwater sport fishermen target speckled trout and redfish.

They are an important commercial fish, however. They have been sold commercially for at least 100 years. The first official records for Louisiana are from 1923 when 60,000 pounds were recorded being sold for a little over 3 cents per pound. Commercial landings stayed low until the 1960's. They began to grow in strongly in 1981 and peaked in 1988 at 8.7 million pounds, the year after redfish were taken off of the market. Commercial black drum landings in 1995 were 3.0 million pounds. Bull black drum were worth only 15% as much as small (puppy) drum and make up 30% of the total harvest.

Black drum are a long-lived fish, living as long as 58 years. Growth is very rapid until they reach about 20 inches, then they tapers off. The table below gives growth rate information.

AGE	LENGTH (inches)	WEIGHT (pounds)
1	10.8	0.6
2	18.2	2.8
3	22.5	5.2
4	25.1	7.2
5	26.6	8.6
10	30.1	12.4
15	32.4	15.3
20	34.5	18.6
25	36.7	22.3
30	38.9	26.5
35	41.1	31.2

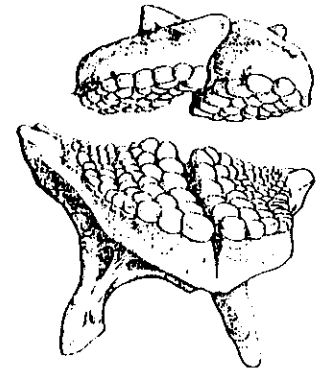
Black drum become mature enough to spawn between 4 to 6 years old. Spawning may take place anywhere between November and May, but the greatest peak is in February and March. Each female may spawn every 3 to 7 days or about 20 to 30 times each season. A female may lay as many as 40 to 60 million eggs during the season.

Black drum spawn in shallow gulf waters and the nearby passes and channels between barrier islands. Spawning generally occurs one to two hours after sunset. Peak

spawning occurs around the full and new moons when strong tides carry the eggs into the gulf.

After hatching, the larvae move towards inshore waters and the young fish grow in inland marsh nursery areas. While adult fish are found in the marshes year-round, they do have some general movement patterns. In general, they are found more commonly inshore during the warmer months from April to September and in offshore waters during the cooler months.

Black drum are well known by oyster farmers for their food habits. They have large heavy pharyngeal teeth in back of their mouth which they use to crush oyster and clam shells. The larger the size of the black drum, the more heavily they feed on oysters and clams. Research has shown that drum average eating one oyster per pound of their body weight per day. Black drum also eat shrimp and crabs, especially when they are under 16 inches long. Worms and fish also are in their diet, with larger black drum eating more fish than smaller ones. Small black drum, under 4 inches long also eat insects.



Black drum, especially larger ones, often have infestations of the larval tapeworm Poecilancistrum caryophyllum in the flesh. Often called a "spaghetti worm", it is really a parasitic tapeworm of sharks and is using the drum as an intermediate host. If the drum is eaten by a shark, the larval worm becomes a reproducing adult in the shark. While they may look unappetizing, they are harmless to humans, even if not cooked.

Black drum are managed recreationally with a 5 fish daily limit and a 16 inch minimum length. Only one fish over 27 inches long may be taken as part of the limit. Commercial fishermen also have a 16 inch minimum size length. Additionally, there is an annual quota of 3,250,000 pounds of 16 to 27 inch fish and a 300,000 fish quota for black drum over 27 inches. A bull drum permit is required to sell any black drum over 27 inches.

Source: A Biological and Fisheries Profile of Black Drum Pogonias cromis in Louisiana, by Clarence Luquet, et al. Louisiana Department of Wildlife and Fisheries. 1996.

## FOREIGN SHRIMP FARMS UNDER FIRE

Shrimp farming in Asia and Latin America has become a huge business. About 30% of the total world supply of shrimp is farm-raised. The United States imports almost 20% of the world's shrimp production.

Environmental groups are now focusing on shrimp farming as it is being conducted in other countries. They maintain that unlike oyster farming and other forms of aquaculture that replace themselves, that shrimp farming is not sustainable and causes serious environmental problems, such as the destruction of mangrove wetlands to build shrimp ponds.

According to Alfredo Quarto of the Seattle, Washington based Mangrove Action Project, "It's basically slash and burn aquaculture. Mangroves are cleared for ponds; the average life of a shrimp pond is three to five years, then they are abandoned and the land is ruined." Other critics claim that shrimp ponds pollute the environment with a sludge of shrimp feed and waste, fertilizer, antibiotics, and pesticides coming from the ponds.

Joining the Mangrove Action Project in looking at shrimp farms are the environmental groups, Greenpeace, the Sierra Club, Natural Resources Defense Council, Environmental Defense Fund, Worldwide Fund for Nature, Earth Island Institute, World Wildlife Fund, PREPARE, Accion Ecologia and Yadfon.

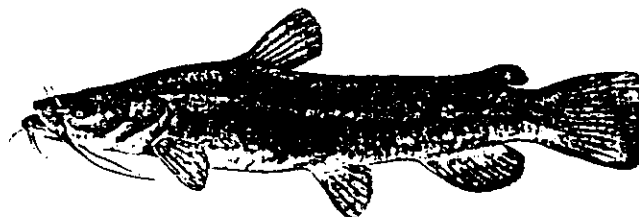
According to the United Nation's Food and Agriculture Organization, 50% of the World's mangroves have been destroyed in the last 30 years. Half of those were lost to shrimp farms. Published reports say that 87% of Thailand's mangroves have been wiped out on its way to becoming the world leader in farmed shrimp production. Thailand produced 500 million pounds of shrimp in 1995 worth \$2 billion.

Like Thailand, many other countries have found shrimp farming to be excellent source of income for their economies. Because of its economic importance to poor countries, shrimp farming is not likely to just go away. The results of this conflict will be of interest to importers, shrimp processors and marketers, U. S. shrimp fishermen, and consumers.

Source: Shrimp Under Fire by Daniel Shaw, in Seafood Leader, Nov/Dec 1996.

## **GOUJONS EAT FISH!**

Most freshwater catfish fishermen accept the fact that when they fish for flathead catfish (locally known as goujons, yellow, or Opelousas catfish), that they must use live fish for bait. Just how many other fish these giants (up to 100 pounds) can eat isn't well researched. They are native to Louisiana and their effect on fish populations is a natural part of the ecosystem here.



In the 1980's, however, flathead catfish were introduced in the Altamaha River in Georgia, where they had never existed before. By the late 1980's, researchers had noted that flatheads had almost wiped out the bullhead catfish (polywog or mudcat) population in the river. In the river above a dam over which the flatheads could not pass, the bullhead population stayed the same.

After they finished with the bullheads, the flatheads started on the red breast sunfish, which is much like our native bluegill or perch. By 1992, the sunfish catch was reduced to 10% of what it was before the flatheads were introduced.

Source: Monitoring the Effects of Introduced Flathead Catfish on Sport Fish Populations in the Altamaha River, GA., by Matthew E. Thomas. Georgia Department of Natural Resources. 1993.

### **TEXAS BUYS BACK SHRIMP LICENSES**

Last year, the state of Texas created a limited entry program for their commercial inshore shrimp fishery. Everyone who was in the fishery was allowed to stay in, but no new fishermen could get into the shrimp fishery unless they got a license from someone already in the fishery, under strict limits. This put a cap on the number of people in the fishery, but did not reduce them.

As part of the program, however, there is a license buy-back provision. Under this provision, all wholesale and retail dealers and all shrimp fishermen have a 15% surcharge placed on their licenses, with the money going into a buy-back account.

In November, the state took bids from fishermen who wanted to sell out of the business. The bids work in a reverse process, with the people willing to sell their license back to the state cheapest being bought out first. The bidding is entirely voluntary.

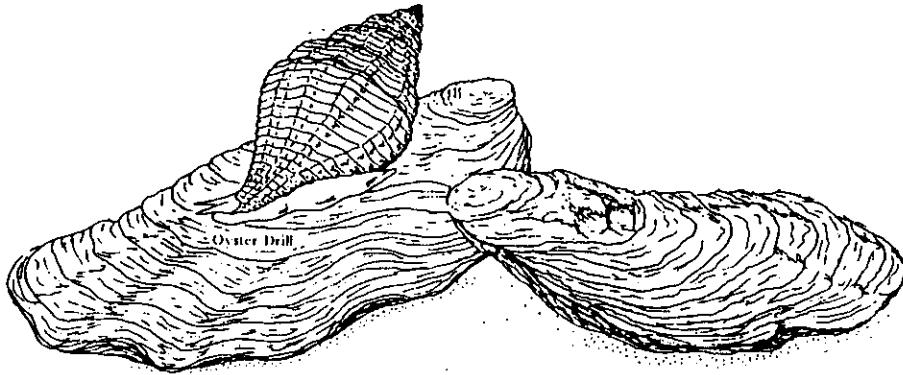
The purpose of the program is to reduce overall shrimping effort. These licenses will be permanently retired. This will provide more shrimp for the people that stay in the business.

According to Gene McCarthy, the Texas Parks and Wildlife Coastal Fisheries Division Director, "Shrimpers are catching larger numbers of smaller shrimp, which is the first sign of growth overfishing." He further explained, "Its alarming because the current catches are a precursor to more devastating overfishing that could result in a collapse of the fishery."

The Texas shrimp limited entry effort was designed in cooperation with inshore commercial shrimping industry.

## CONCHS

Oysters have a lot of enemies. The worst is probably the southern oyster drill, locally known in Louisiana as the conch (pronounced conk). Its scientific name is Thais haemastoma, and it is found in all the Gulf states. They attack oysters by rasping the edge of the shell or drilling a hole through it to get to the meat of the oyster. The drill then extends its tongue-like proboscis into the hole and eats the oyster.



Oyster drills are able to spawn at one year and may live up to 10 years. Each female can lay from 50 to 150 egg capsules, and each capsule can contain up to several thousand eggs. Drills can spawn from April to August and prefer to spawn in areas of high salinity. After hatching, the oyster drill larvae float in the currents for 30 to 60 days.

Where oyster drills are found is almost strictly dependent on water salinities, preferring waters over 15 parts per thousand (ppt). Full strength seawater in the Gulf is 30 to 35 ppt. If salinities drop to 10 ppt, drills become inactive. A level of 7 ppt for one or two weeks will kill them. During these freshwater periods, some drills may survive in deep waters such as channels where salinities may stay higher.

The oyster drill's feeding activity also depends on water temperature. At about 47 degrees they become inactive. As the water cools more, they will dig into the bottom and "hibernate."

Oyster drills are edible and a small local market for them exists. They may be occasionally be purchased from oystermen or oyster shucking houses. They may be boiled with seafood seasoning or cooked in sauces.

## FISH FARMING

I frequently speak to people who have difficulty understanding why we don't farm all of our fish rather than harvest them from the wild. While many advances have been made in aquaculture (fish farming) in recent years, and aquaculture production has increased, there are serious obstacles to the dream of farming the sea. Most of them are

economic. It may be possible biologically to farm a fish but if the cost of production is higher than market will stand the aquaculture venture will fail. A recent study by an LSU biologist illustrates these difficulties.

Redfish were one of the first saltwater finfish to seriously interest fish farmers. When commercial harvest was banned in the mid-1980's, many people hoped that aquaculture would supply market demand. As of now, in 1996, it still hasn't.

The biologist, Dr. Greg Lutz monitored a 60 acre production system. This was determined to be the smallest size farm to be economically feasible. Redfish were stocked at 2-3 inches long in two situations, a July 1 stocking, and an April 1 stocking. Stocking after July 1 was not feasible because the fish would have to be held in the ponds over two winters. Winter is a dangerous time because a cold snap will kill every fish in the pond, causing the entire loss of the investment. With an April or July stocking, only one winter holdover is necessary to get the fish to market size.

The results of the study showed that redfish farming is expensive. The cost of production (not counting land cost) was \$491,421 for the July 1 field trial. A total of 189,760 pounds was produced and break-even price (no profit for the farmer) was \$2.59 per pound.

The April 1 field trail showed costs (again not including land) of \$556,612 for 60 acres. Production was 231,780 pounds and break-even price was \$2.40 per pound. The break-even price was lower for the April field trail because the fish had longer to grow before harvest and reached a larger size.

Redfish yield about 32% boneless fillets from whole fish. This would put the production price of redfish fillets at \$7.20 to \$7.80 before farmer profit, processor/wholesaler profit, transportation costs, and processing costs. Boneless fillets can easily reach \$10.00 per pound wholesale.

This doesn't mean that saltwater fish aquaculture will not be possible. It does mean that a lot of research and trial will be necessary. At present, Louisiana has two redfish farmers who produce a crop when fingerlings are available. Both of these farmers produce their fish in net pens in the marshes rather than in ponds.

Source: Commercial Prospects for Red Drum Aquaculture: Implications from Field Trials. Aquafacts Aquaculture Information Series. C. Greg Lutz. 1996. LSU Agricultural Center.

## **STATE FISH RECORDS AVAILABLE**

Official Louisiana fish records are available through Bill Ford of the Louisiana Outdoors Writers Association (LOWA) Records Committee. The list is divided by species and includes dates and names of anglers who landed the fish.



Printed copies cost \$5 each. Copies on computer diskette are \$3 each and you must send a 3½-inch diskette with your order.

Checks should be made out to **LOWA Fish Records** and mailed to Bill Ford, LOWA Fish Records, P O Box 8571, Clinton LA 70722-8571. Copies of record applications are mailed free of charge and included in any request.

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## THE GUMBO POT

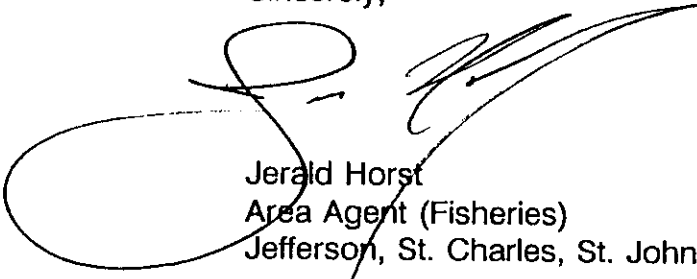
### Blue Crab Soup

This is a wonderful dish. The ingredients complement rather than mask the delightful taste of crab meat.

½	cup margarine	1	pound white crab meat
½	cup chopped shallots	1	teaspoon liquid crab boil
2	cans cream of mushroom soup	1	pint half and half
2	empty soup cans of milk		salt and pepper to taste

In a 6 quart pan saute shallots in margarine until wilted. Then add all other ingredients, cream of mushroom soup, soup cans of milk, white crab meat, liquid crab boil, and pint of half and half. Bring to a boil. Lower fire and simmer 20 minutes. Stir often. Serves 8.

Sincerely,



Jerald Horst  
Area Agent (Fisheries)  
Jefferson, St. Charles, St. John