

Lagniappe

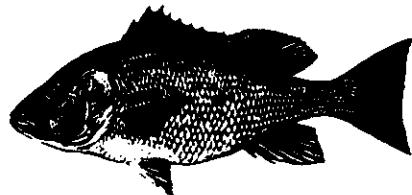
Sea Grant
LOUISIANA

October 2, 2000 Volume 24, No. 10

EXTENSION PROGRAMS
 Agriculture and Forestry
 Community Leadership
 Economic Development
 Environmental Sciences
 Family and Consumer Sciences
 4-H Youth Development
 Natural Resources

RED SNAPPER MANAGEMENT HISTORY

Red snappers have become the symbol of fisheries management controversy in the Gulf of Mexico. The management debate involves commercial, recreational and charter fishermen, the environmental community, shrimp trawlers (through bycatch), state management agencies, the National Marine Fisheries Service (NMFS), and U.S. Congress. Regulations have been kicked around so much that it's hard to remember when things started. A year by year look at management is interesting.



RED SNAPPER HARVESTS (MILLIONS OF POUNDS)

Year	Commercial Quota	Commercial Harvest	Days Open	Recreational Quota	Recreational Harvest	Days Open
1990	3.10	2.66	All Year	None Set	1.24	All Year
1991	2.04	2.23	236	1.96	1.94	All Year
1992	2.04	3.14	94	1.96	3.03	All Year
1993	3.06	3.02	104	2.94	5.29	All Year
1994	3.06	3.25	78	2.94	4.26	All Year
1995	3.06	2.95	52	2.94	3.25	All Year
1996	4.65	4.35	86	4.47	3.57	All Year
1997	4.65	4.79	71	4.47	5.41	330
1998	4.65	4.72	67	4.47	6.01	272
1999	4.65	4.47*	64	4.47	6.23*	240

*preliminary



1984

The Reef Fish Management Plan by the Gulf of Mexico Fishery Management Council was put in place. A minimum size limit of 13 inches was adopted. Each fisherman was allowed to keep five undersize fish. Charter/head boats were exempted from the minimum size limit until 1987.

1988

The first red snapper stock assessment indicated that red snappers were overfished and that catches would have to be reduced as much as 60-70% in order to rebuild stocks to the recommended 20% SPR. The assessment also identified shrimp trawl bycatch as taking large numbers of young red snappers.

1990

A seven fish recreational bag limit and a 3.1 million-pound commercial quota were set, with the target being to reduce harvest by 20%. A target date for complete recovery of the stock was set at January 1, 2000. The use of longlines and buoy lines within 50 fathoms was prohibited. NMFS set a "control date" announcing that anyone who entered the commercial fishery after November 1, 1989 could not be assured of getting a permit if limited entry was put into place. The Stock Assessment Panel recommended to the Council a complete closure of the fishery due to shrimp trawl bycatch and the recovery date of 2000. A new stock recovery date of 2007 was set.

1991

The total allowable catch (TAC) for the commercial and recreational fisheries was reduced from 5 million to 4 million pounds. For the first time ever, a closure of the commercial fishery was made, on August 24. A proposal was made to cut red snapper bycatch in trawls by 50% by requiring the use of finfish excluder devices in all shrimp trawls used in federal waters.

1992

The commercial season opened January 1 and the industry caught its quota by February 22, just 53 days. NMFS passed an emergency rule at the request of the Council allowing commercial fishermen to fish between April 3 and May 15 with a 1000 pound trip limit. This action was taken to ease economic and social stresses due to the early season closure. The result was harvest of 600,000 pounds over the commercial quota. A 3-year moratorium on issuing any new commercial reef fish permits was put in place. In December, a "red snapper endorsement" to the reef fish permit was created. Vessels with annual landing of 5000 pounds of red snapper for 2 of the 3 years from 1990 to 1992 could

get an endorsement which would allow them to land 2000 pounds of red snapper per trip in 1993. Reef fish permit holders without an endorsement were limited to 200 pounds of red snapper per trip.

1993

The commercial red snapper season opening was delayed until February 16 to allow NMFS time to process and issue the endorsements. The recreational/commercial TAC was increased from 4.0 to 6.0 million pounds and the target stock recovery date was changed from 2007 to 2009.

1994

The commercial season was set to open on February 10 and vessels were limited to one trip per day. This was done to help enforcement of trip limit rules, reduce fishing during hazardous winter weather, and to ensure that the season was open during Lent, a time of high demand for seafood. Commercial and recreational minimum sizes were increased from 13 to 14 inches.

1995

The commercial season opened on February 24 and closed after the shortest season ever, 50 days. A short 2-day commercial season was created on November 1 to fill the commercial quota underharvest. Since the recreational fishery had serious allocation overharvests the 3 previous years, the recreational bag limit was reduced from 7 to 5 fish, and the recreational minimum size limit was increased from 14 to 15 inches, a year ahead of a scheduled automatic increase. Rules for a proposed individual transferable quota (ITQ) system for the commercial fishery were published late in the year. Several delays occurred, including the federal government shutdown of December 1995 - January 1996.

1996

The U.S. Congress repealed the red snapper ITQ system and prohibited any other federal ITQ systems before October 1, 2000. The 1996 red snapper TAC was increased from 6.0 to 9.12 million pounds and the stock recovery date delayed from 2009 to 2019. Commercial harvest was divided into 2 seasons, with openings on February 1 and September 15. The minimum commercial size was increased from 14 to 15 inches. Recreational limits stayed at 5 fish and 15 inches. The commercial reef fish permit moratorium was extended until December 31, 2000 and the red snapper endorsement system was extended through 1997.

1997

Commercial harvest remained divided into 2 seasons, but the opening of the second season was moved from September 15 to September 2, and the season was opened from the first to the fifteenth of each month until the quota was filled. Following federal law, the recreational/charter fishery was closed down for the very first time, on November 27. A nearly one million pound quota overrun still occurred.

1998

The planned 1998 minimum size increase to 16 inches was canceled. The two commercial openings were set at February 1 and September 1, and the fishery was open from the first day through the 15th day of each month to prolong each season. The commercial harvest was taken in 67 fishing days compared to 71 the previous year. In spite of a drop in the recreational limit from 5 to 4 fish and a closure on September 30, the recreational/charter sector had a nearly 1.3 million pound overharvest for the year. On May 14, all shrimp trawlers in federal waters west of Cape San Blas, Florida, were required to use bycatch reduction devices (BRDs) in their trawls. NMFS held up one-third of the recreational/commercial TAC depending on a favorable report on the effectiveness of BRDs in shrimp trawls. This was released in August.

1999

The minimum size of 15 inches for a red snapper was retained until June when NMFS moved the minimum recreational size to 18 inches in an attempt to delay a recreational closure. The minimum size for commercial harvest remained at 15 inches. The recreational bag limit stayed at 4 fish. The recreational season opened on January 1 and closed on August 29, a month earlier than the previous year. The commercial season was divided into two openings again, with the fall season being open the first 10 days of each month until the quota was met. This was done after a total of 64 fishing days, 3 days less than 1998.

2000

Recreational length limits are set at 16 inches this year, and the recreational bag limit is 4. The commercial minimum size is 15 inches. Opening of the recreational season was delayed, however, until April 21 in an attempt to keep the season open until October 31. With a January 1 opening, the recreational/charter season was projected to have to close by July 29. The zero bag limit for captain and crew of charter/head boat vessels, which was passed in the late 1999, was rolled back before the recreational/charter season opened. The commercial sector again has two season openings with fishing in both of them to be the first 10 days of each month. The first season, beginning on February 1, only

lasted 38 days before the quota was filled, compared to 45 for 1999. Under consideration is delay of the stock recovery date for red snapper to the year 2031.

The result of this controversy and sacrifice for 16 years is that SPR, the yardstick used to measure the health of the stock, is estimated to be between a low of 1.3% to a high of 5.8%. The level at which the stock is considered to be recovered is 20%.

MANAGING FISHERIES LIKE PLANES NOT CARS

The most frequent complaint made by fishermen and environmentalists alike, is most fisheries haven't gotten good management until after they are overfished. Bringing a fish stock back from overfished condition is painful, because the first step is to reduce the harvest, often dramatically. Fishermen fight fishermen over who caused the overfishing and over who gets what share of the reduced catches. Fishermen under the stress of reduced harvests, often question both the data and intentions of the scientists in charge of restoring the stock.

One scientist, James A. Bohnsack, with the National Marine Fisheries Service has taken the position that these frequent fisheries management failures are due to the fact that we practice single species management instead of ecosystem management. He says that traditional single species management is practiced under a "fix it when it breaks" philosophy. Bohnsack compares this as similar to how automobiles are often maintained. No car owner replaces water pumps, batteries, radiators, or alternators until they break.

Bohnssack says that this approach works fairly well for autos, because a breakdown, while inconvenient, isn't life threatening. The car can be pulled off the road for repair or help. The few really important safety systems are engineered to make failure rare or they have backup systems.

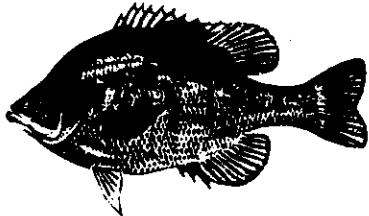
Airplanes, on the other hand, can't afford to have a breakdown. When something breaks, they crash, Bohnsack says, like fisheries do when something breaks. Ecosystem management is more like airplane maintenance. The goal is to keep the whole system working by preventing the failure of all the important parts. Important airplane systems have two backups. Planes have a large number of instrument displays to monitor the planes' systems. Monitoring is automatic or computer-aided. Airplane operation and maintenance procedures have been carefully developed at great cost and effort.

Bohnssack says that similar models are needed for ecosystem management. Unfortunately, ecosystems don't come with instruction manuals like airplanes. For this reason, he maintains, it is absolutely essential to develop marine reserves or as they are now often called, marine protected areas (MPAs), where no fishing is allowed.

According to Bohnsack, MPAs would serve as a reference guide to show how natural systems operate and perform. He states that changes in ecosystems occur so gradually over time that people can't realize what the original ecosystem was really like. He gives the example of the passenger pigeon. Few people miss them or even know how they fit into the environment, in spite of the fact they once accounted for a fifth of all of the birds in North America. People came to accept the world without passenger pigeons as natural. The same thing, he states, occurs in marine ecosystems. "No-take marine ecological reserves are an essential component of ecosystem management and are not a luxury," Bohnsack says.

Source: *Ecosystem Management, Marine Reserves, and the Art of Airplane Maintenance.* James A. Bohnsack. Proceedings of the 50th Gulf and Caribbean Fisheries Institute. 1998.

BLUEGILLS



Bluegills, or as they are often called in Louisiana brim or perch, are a popular freshwater sportfish. In man-made bass/bluegill ponds they are also the primary food source for bass. Most desirable for fishermen are the large colorful males which can grow to over 8 inches in length.

Unfortunately, some waterbodies, especially ponds and smaller lakes, can develop a dense population of "stunted" small fish. It is usually assumed that this occurs because there are too many bluegills present for the food supply. In response, fisheries biologists usually recommend fishing bluegills harder to "thin them out" and make room for larger fish. Sometimes this works, but often it doesn't. Researchers in Illinois have recently done some work to figure out why these stunted populations develop and their research indicates that too much fishing pressure rather than too little may be the problem.

Large male bluegill are easiest to catch in the warm summer months when they are concentrated on their spawning beds. A bed may have up to 500 individual nests in a small concentrated area. Each nest is about the size of a large dinner plate or platter and is swept clear of silt and guarded by the male fish against other fish that will eat their eggs.

During the four month spawning season, males will be almost continuously on their nests for repeated spawnings. While on the nest, a male will eat very little and as a result grow very little. The best nest sites are those in the center of the bed, because egg-stealers enter a colony from the edges and usually don't make it to the center.

Male bluegill compete intensely for these best sites and larger males usually win. In a population with a lot of large males, smaller males can't compete and instead of becoming sexually mature, they delay maturation and grow for another year.

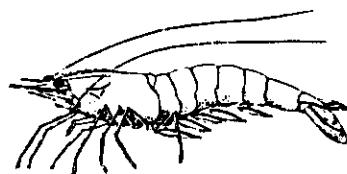
If, however, large numbers of big males are removed from the nests by fishing, these younger, smaller males stop growing and start spawning. This results is a stunted population, not because of slow growth, but because of early maturation.

Production of a healthy population of large male bluegills may be helped along by fishing heavily on smaller, younger bluegills, reducing the harvest of large male bluegills, and keeping a strong bass population in the waterbody.

Source: *Quality Management of Bluegill Populations: Understanding Factors Affecting Population Size Structure.* D. Aday, J. Hoxmeier, J. Claussen, D. Wahl, and D. Philipp. Illinois Natural History Survey Reports, No 358. July/August, 1999.

NEW TEXAS SHRIMP RULES

Earlier this year, the Texas Parks and Wildlife Commission caused quite a stir when they announced a proposal for a sweeping new set of shrimp regulations. Shrimpers next door, in Louisiana, watched with interest to see how many of the proposals would be approved in the end. The Texas Commission took final action on August 31, to adopt new shrimping rules targeting five areas:



- 1) More protection for smaller shrimp by delaying harvest.
- 2) Increased shrimp harvest efficiency and opportunities.
- 3) Increased spawning success of adult shrimp in the Gulf.
- 4) Speed-up of the voluntary inshore shrimp license buyback program.
- 5) More protection of trawl bycatch, especially sea turtles.

Highlights of this big program are as follows;

- * Increase shrimp nursery areas (no-shrimping areas) from 12% to 17% of bay waters.
- * Increase bait shrimping opportunities by increasing bait bays from 34% to 39%.
- * Lengthen the bait shrimping season to May through October by adding the month of May.
- * Shorten the fall bay season by 15 days, ending on November 30.
- * Establish a Northern Shrimp Zone in the Gulf from the Texas/Louisiana border down to the Corpus Christi Fish Pass, from the beach out to 3 miles. In this zone, vessels can use no more than two trawls with a total of 130 feet of headrope (effective July 16 or on the 2001 summer Gulf season opening date).

- * For the area from Corpus Christi Fish Pass to the Texas/Mexico border, from the beach out to 5 nautical miles, no shrimping will be allowed from December 1 to the summer Gulf season opening on July 16, 2001. During the open season, vessels are limited to two trawls with a total of 130 feet of headrope from the beach out to 3 miles.
- * No nighttime shrimping will be allowed from the beach out to 5 miles in either area.
- * Set state TED rules to match federal rules (effective September 1, 2001).
- * Increase the net size allowed for taking seabobs from 25 feet to 42 feet.
- * Lengthen the winter Gulf closure by 30 days to December 1 - February 15.
- * Require bycatch reduction devices (BRDs) in all trawls except bait shrimp and recreational trawls (effective September 1, 2001). The Texas Parks and Wildlife Department will buy the first set of BRDs for \$150,000.
- * Commercial shrimp vessel and business licenses will increase by 50% , but not over \$100 each (effective September 1, 2001). The \$600,000 raised will be combined with the money raised from the temporary \$3 surcharge on Saltwater Sportfishing Stamps to provide more money for the voluntary inshore shrimp license buyback program.

COMMERCIAL SHRIMPERS WANTED

The Louisiana Department of Wildlife and Fisheries (LDWF) is looking for 30 more commercial shrimpers to participate in a paid environmental study. Its purpose is to estimate the economic impact of environmental effects of the hypoxic or dead zone, hurricanes, oil spills and other such disturbances.

Participating shrimpers will be paid \$110 per month to log in trip information on sea and weather conditions, expense and harvest information, and fishing locations. LDWF will provide the log sheets and an aluminum case to hold the sheets while underway. Postage to mail in the monthly sheets will be prepaid by LDWF. All information on individual participants will be completely confidential and the data gathered is for research purposes only.

To be eligible, shrimpers must sell their catch to qualify as commercial. They must also have LORAN or GPS equipment on the vessel. There are no vessel size requirements, and no observers or special scientific equipment will be placed on board the vessels. Much of the data will be collected by the captain and crew during their normal operations.

Anyone interested in participating or looking for more information about the program may call Steve Welch at 225/765-2708 or David Lavergne at 225/765-2864.

LILLY CONTROL

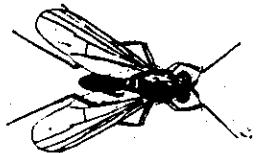
Water hyacinths, almost always called "lilies" in south Louisiana have very few friends except for commercial crawfish fishermen. Other fishermen, boaters and duck hunters consider them a floating nightmare. Introduced into the U.S. in the 1800's, the plant is found throughout the South, reaching peak densities in Louisiana and Florida. In spite of decades of chemical spraying, in most places the plant is barely under control.

This has led scientists to look at the possibility of using biological controls, diseases or animals that attack the hyacinth. In the 1970s, researchers with the Agricultural Research Service (ARS) of the U.S. Department of Agriculture released two South American weevils and the water-hyacinth borer to attack water hyacinths.

In Louisiana, the hyacinth problem eased so that by the mid 1980's many formerly clogged areas were open to fishermen and duck hunters. Then came the great freeze of Christmas, 1989! Since that freeze, water hyacinth numbers have returned with a vengeance in south Louisiana.

Because of the continued problems with water hyacinth infestations, ARS scientists decided to search for other natural enemies of the plant. In April 1999, five scientists from four countries began a search along 72 miles of the upper Amazon River and the two rivers that meet to form it—the Ucayali and Maranon. They felt that since the plant originated in this area, the greatest variety of natural enemies would also be found there.

In all, the scientists collected hundreds of natural enemies and plant samples. One insect that excited the scientists was a *Thrypticus* fly, a member of the long-legged fly family. Female *Thrypticus* deposit their eggs in water hyacinth leaf stalks. When the larvae hatch, they burrow all through the stalk, creating holes through the skin of the stalk. This new *Thrypticus* species seems to specialize in attacking very young tender plant growth.



Long-Legged Fly



Plant Hopper

The scientists also discovered three new species of *Taosa* plant hoppers. Only one species had been known before. Plant hoppers are sap-sucking insects that can transmit plant diseases. Hyacinths infested by plant hoppers were short, weak and full of spots caused by disease.

The ARS scientists will now study colonies of the new insect species to find out which might do the most damage to water hyacinths. They are also making sure that the insects won't attack important native plants, ornamental plants and crops. Early results on the testing are very promising.

Source: *Watch out Water-hyacinth! New Jungle Enemies are Coming.* Jim De Quattro. Agricultural Research. March, 2000.

LDWF FISH STOCKING REPORT

The Louisiana Department of Wildlife and Fisheries has released its fish stocking report for the fiscal 1999-2000 year which ended June 30. The following species and number of fish were stocked in 74 Louisiana waterbodies.

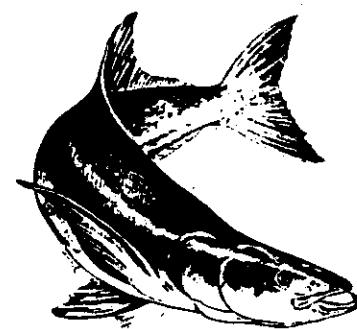
Florida largemouth bass	5,469,180
Hybrid striped bass	1,338,480
Striped bass	888,318
Paddlefish	323,089
Bluegill	217,532
Channel catfish	215,995
Blue catfish	42,933
<u>Flathead catfish</u>	<u>15,561</u>
Total	8,511,088

Fish stocking, when used as part of a complete fishery management program can improve a fishery and add to the success and enjoyment of fishing. However, fish stocking programs must be well thought out and consider many important factors, the most important of which is habitat management.

COBIA DIET

Cobia, or lemonfish as they are also called, are a delectable commercial restaurant fish and a highly-prized recreational fish. Fishermen targeting cobia with natural baits almost always use some form of finfish as bait. From this practice, it would be easy to assume that finfish are the most preferred food item by cobia.

But when scientists check cobia stomachs, they usually find swimming crabs, such as blue crabs and their kin, to be on top of the list. Another food habits study done in the lower Chesapeake Bay bears this out.



The researcher found 28 different species of animals in the 78 cobia stomachs he examined, but swimming crabs were by far the number one item in volume and number, making up 78% of their diet. This was true even in larger cobia. The researcher did find one interesting thing that no one had seen before; some of his cobia had eaten cownose rays, a very common species in the Gulf as well as the Atlantic.

Source: *Cobia Diet.* Virginia Marine Sciences Bulletin. Volume 32, Number 1. Spring 2000. Virginia Sea Grant College Program.

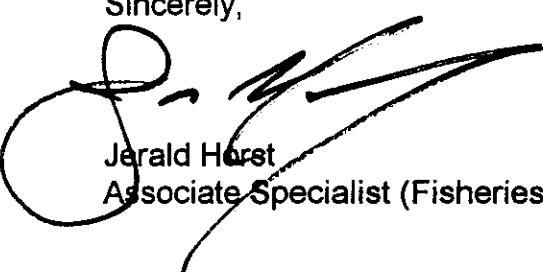
THE GUMBO POT Seafood Wheel

I first tasted this dish at a 4-H Seafood cookery contest where Raquel Dufrene entered this prize-winner under another name. It takes a little work, but it makes a beautiful and scrumptious dish.

$\frac{1}{4}$ cup margarine	1 garlic clove pressed
1 cup onion, chopped	2 tablespoons jalapeno relish
$\frac{1}{2}$ cup bell pepper, chopped	2 green onions chopped
2 stalks celery, chopped	$\frac{1}{2}$ cup half and half
2 lbs. peeled shrimp	$\frac{1}{2}$ cup crabmeat
1 tablespoon flour	6 oz processed cheese, shredded
	2 cans crescent rolls

Preheat oven to 350 degrees. Melt margarine in a large skillet over medium heat. Add chopped onion, bell pepper, and celery. Cook until soft and golden brown. Add shrimp, flour, garlic, jalapeno relish and green onions. Cook until shrimp are pink in color. Add half and half and cook until thick. Let mixture cool. Stir in crab meat and cheese. Arrange crescent triangles in a circle on a greased 13 inch baking sheet. Put bases overlapping in the center and points to the outside. There should be a 3 inch diameter circle in the center. Spread filling over base. Fold points of triangle over filling and tuck under at center. Bake 20 minutes or until golden brown. Serves 8.

Sincerely,



Jerald Horst
Associate Specialist (Fisheries)