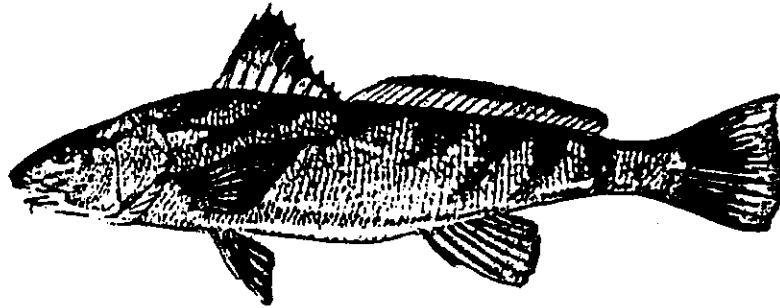




February 2, 1998  
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## SEA GRANT PROGRAM



### LAGNIAPPE

#### FISH ON TRAWL BOATS

The laws regulating finfish are very complex. I am frequently asked by shrimp trawlers what species and what number of finfish may they have on board their vessel.

Shrimp trawlers may have on board unlimited numbers, for sale or personal use, fish species such as kingfish (channel mullet), white trout, pompano (except in Breton and Chandeleur Sounds where pompano may only be commercially taken with a pompano strike net), croaker, sheepshead, and black drum. The minimum commercial size for sheepshead is 10 inches, and for black drum the minimum commercial size is 16 inches and the maximum is 27 inches. Black drum larger than 27 inches may be kept for sale, but only with a bull drum permit. Information on how to get this permit may be obtained by calling (504) 765-2384.

Southern flounder may also be possessed for sale or personal use by shrimp trawlers. The limit on this fish is 100 pounds per vessel per trip.

A commercial fish species which may not be possessed on board a shrimp trawler is the striped (popeye) mullet. The **only** legal commercial method of harvesting this fish is with a mullet strike net under the appropriate gear license and permit. Speckled trout, while not often caught in shrimp trawls, also cannot be kept for sale. The only legal means of **commercially** harvesting speckled trout is with a commercial rod and reel license and a speckled trout permit.

Sport fish may be possessed on board shrimp trawling vessels. A one day limit of speckled trout and redfish, taken by hook and line, may be possessed for each recreational licensed fishermen on the vessel. If the vessel is out over 25 hours, a two day limit of these fish may be possessed by each licensed fisherman on the vessel. These may not be sold.

Speckled trout have a daily recreational limit of 25 fish and the minimum size is 12 inches. Redfish have a daily recreational limit of 5 fish, all of which must be at least 16 inches long and only one of which may be over 27 inches in length.

It is important to note the possession of redfish on board any vessel, commercial or recreational, in **federal** waters is strictly against the law. Redfish may only be possessed in state waters!

Shrimp trawlers may also keep a recreational one day limit of offshore fish species. The minimum sizes and bag limits per person of some of the more common species are listed below. While a recreational license is not required in federal waters, each person on the vessel possessing these fish must have a recreational license to possess them once the vessel enters state waters.

<u>Species</u>	<u>Minimum size</u>	<u>Bag limit</u>
Red snapper	15 inches total length	5
Lane snapper	8 inches total length	20 (aggregate)
Cobia (ling)	33 inches fork length (federal) or 37 inches total length (state)	2
Greater amberjack	28 inches fork length	1
Groupers (except nassau)	20 inches total length	5

Fork length is the length of the fish from the tip of its nose to the fork in the tail. Note that cobia are measured in fork length in federal waters and total length in state waters. Lane snappers are small pink snappers with yellow stripes that are commonly caught in trawls. The aggregate bag limit that they fall into includes vermilion snappers (b-liner), gray and queen triggerfish, lesser amberjacks, almaco jacks, banded rudderfish, hogfish, and tilefish.

## **BIG CHANGES IN REEF FISH REGULATIONS**

The National Marine Fisheries Service has adopted Amendment 15 to the Gulf of Mexico Reef Fish Plan. Many species, including all snappers and groupers, are managed under this plan. The changes affect both commercial and recreational fishermen.

Commercial red snapper fishermen will fish under one of two new licenses. Class 1 licenses, with a 2000 pound trip limit, will be issued for vessels specified by historical captains, and holders of red snapper endorsements that were valid on March 1, 1997. Class 2 licenses, with a 200 pound trip limit, will be issued for vessels specified by owners and operators whose earned income qualified for a gulf reef fish permit that was valid on March 1, 1997, and whose vessels had red snapper landings during the period January 1, 1990, through February 28, 1997.

The commercial red snapper season will be split into two time periods, the first starting on February 1, with two-thirds of the quota, and the second starting September 1, with rest of the quota. During these periods, fishing will open at noon on the first of each month and close at noon on the 15th of each month until the quota is filled.

During March, April, and May of each year, commercial fishing for greater amberjacks will not be allowed. Commercial fishermen may possess a recreational bag limit of one fish per licensed person (which may not be sold) during this period.

Reef fish may not be possessed (over the recreational bag limit) on any boat that has on board or is tending any trap other than fish, stone crab, or spiny lobster traps.

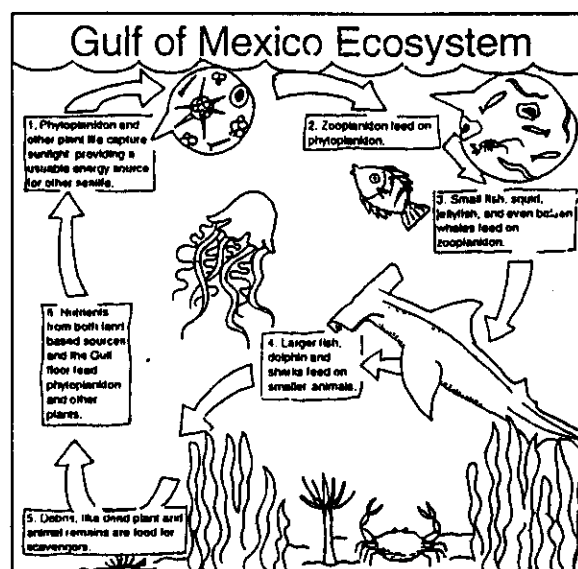
The biggest change for recreational fishermen is that sea basses, grunts, porgies (including pinfish), sand perch, and dwarf sand perch are no longer included in the 20-fish aggregate limit. This limit will now apply only to gray triggerfish, queen triggerfish, lesser amberjack, almaco jack, banded rudderfish, hogfish, lane snapper, vermilion snapper, and all five species of tilefish.

Finally, for both recreational and commercial fishermen, the temporary 10-inch minimum size limit on vermilion snapper has been made permanent.

## NOXIOUS ALGAE BLOOMS

Phytoplankton are tiny one-celled plants (algae) that are the basis for almost the whole food chain in marine waters and much of it in fresh waters. Basically, they use the same nutrients that land plants do, such as nitrogen and phosphorus, to convert the energy from the sun into growth of the plant. Without algae, other sea life would die.

Too much algae, on the other hand, can also be a bad thing. Overgrowths of phytoplanktonic algae are called blooms. Algae blooms can be either natural or caused



by human activities. Drawing the line between the two is sometimes very difficult. Many researchers feel that noxious algae blooms are on the increase worldwide. "Noxious" is another word for "harmful or destructive."

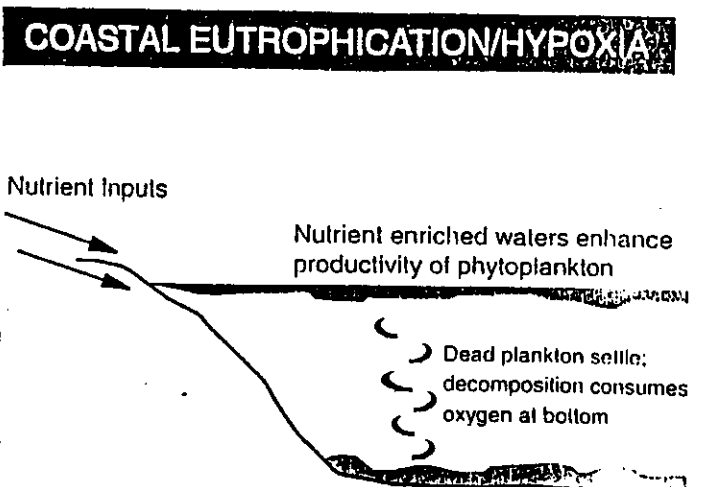
Algae blooms occur when some change in water chemistry occurs that favors algae growth. When zooplankton, the almost microscopic animals that feed on the phytoplanktonic algae (and are the next link in the food chain) can't eat fast enough to control the algae, several things can happen.

- 1) In fresh or near-fresh waters, blue-green algae may multiply until their dead cells form a film that looks like bright green paint on top of the water. In some cases, fish from these waters develop an "off-flavor" making them almost inedible. A few blue-green algae release toxins (poisons) into the water which can weaken or kill fish and other animals. Finally, when blue-green algae cells die off, their decay (which requires oxygen) can remove enough oxygen from the water to kill fish. Blue-green algae were the phytoplankton involved in the toxic algae bloom in Lake Ponchartrain last year.
- 2) A brown tide may occur. The algae involved in brown tides *Aureoumbra lagunensis* does not kill fish. It simply turns the water into the color of tea with a little cream in it. Their effect is to shade out other plant life like seagrasses, from the sun and kill them, changing the ecosystem. Brown tides have occurred for the last 7 years the Texas' Laguna Madre, a 120 mile long system of bays that used to hold sparkling clear water.
- 3) A dinoflagellate outbreak may occur. Dinoflagellates are strange, having some of the characteristics of plants and some of animals. They are also one-celled, and for the sake of this discussion will be considered algae.

The first ever red-tide outbreak off of Louisiana's coast was caused by a dinoflagellate called *Gymnodinium breve*. At high concentrations, their cells turn the water a reddish color. They release a nerve toxin which kills fish and other animal including dolphins and birds. The toxin can cause respiratory problems for beachgoers that inhale surf spray and even skin irritation to swimmers. The toxin can also cause nausea, vomiting and neurological problems for people who eat shellfish taken from affected waters.

Another dinoflagellate, *Pfiesteria piscicida*, has caused large fish kills, first in North Carolina estuaries and last year in the Chesapeake Bay. This cell can change into at least 19 different forms. One very aggressive form kills by releasing toxins that stun fish. It then strips away the skin and feeds on the fish's flesh. They can also feed on other algae, and their toxin has been associated with neurological problems and sores on humans.

- 4) Finally, large algae blooms can cause hypoxic water conditions. Hypoxia is when little or no oxygen exists in layers or all of the water in an area. The "dead zone" in the Gulf of Mexico is a hypoxic zone. It occurs when otherwise "good algae" explode in numbers faster than the animals that feed on them can control. These algae have very short lives. When they die in large numbers and sink to the bottom, their decay can remove enough oxygen from the water to suffocate bottom fish and animals.



The hypoxic zone in the Gulf of Mexico forms in the summer months and may cover 6000 to 7000 square miles. The cause of the condition is believed to be a complicated interaction of very high nutrients carried to the gulf by the Mississippi River, physical changes to the river such as channelization and loss of natural wetlands and vegetation along the banks, and the interaction of freshwater from the river with saltwater of the gulf.

A significant part of the nutrients coming down the river come from human activities, including discharges from sewage treatment plants, and storm water runoff from farms and city streets. Some nutrients also enter the river and the gulf directly from the air after being released by automobile engines and electrical power plants. The exact contribution of each source is not known at this time.

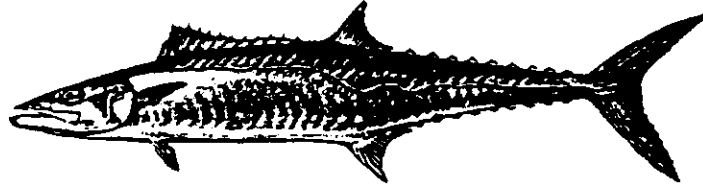
Scientists are undecided about whether to do anything about noxious algae blooms. Some say that algae blooms of some kind are a natural event and that nature should be left "hands-off". Others claim that human activities are causing more and larger blooms, and that unless action is taken that ecosystems and fisheries may be damaged.

Partial Source: Gulfwatch. Vol. 8 No. 4. Fall, 1997. National Association of Conservation Districts and the Gulf of Mexico Program.

### LOUISIANA'S KING MACKEREL STAY AT HOME

The king mackerel, *Scomberomorus cavalla*, is a popular recreational and an important commercial fish in the Gulf of Mexico and the south Atlantic Ocean. King mackerel were not fished for by Louisianans until the mid 1960's, when Grand Isle charter boat fishermen began catching 40-60 pound fish southeast of Grand Isle. For quite a

while, fishermen assumed that these large "winter kings" moved into the area around November and stayed only until mid March. They did note that "summer kings", in the 15-25 pound range, were present in the warmer months.



In the winter of 1981-82, several commercial king mackerel fishermen from Florida made good catches of king mackerel off of Grand Isle. By the next winter a full-scale commercial fishery had developed, with many Louisiana fishermen involved.

Researchers and fishermen in Florida waters noted lower numbers of king mackerel in their waters by the late 1970's. This prompted both the South Atlantic and Gulf of Mexico Fishery Management Councils to develop a management plan for these fish. Regulations, including quotas and catch limits, went into effect under the plan in early 1983. From the very beginning of regulations, fishermen and scientists disagreed on how many interbreeding populations existed, and what their migratory patterns were.

Years of tagging-and-releasing research was conducted, as well as technical laboratory work on the genetic body chemistry of king mackerel. Although more research will probably be done, current research indicates the following information:

- \* King mackerel north of Cape Canaveral, Florida do not migrate into the Gulf of Mexico and are a different migratory group of fish than Gulf fish.
- \* Gulf king mackerel are divided into two smaller migratory sub-groups, eastern (off the Florida Gulf Coast), and western (Alabama to Texas)
- \* Eastern Gulf sub-group king mackerel winter off of southern Florida. In spring and summer they migrate up the Florida coast and into the northern Gulf. Some will move as far as Texas and others even down the coast to Mexico.
- \* Western Gulf sub-group king mackerel move between Louisiana, Texas and Mexico, spending their winter months in the south and summer in the north.
- \* A resident nonmigratory population of large king mackerel, that is very heavily made up of females, stays year around off of the Louisiana coast.
- \* Waters off of Louisiana therefore seem to serve as a mixing zone for eastern sub-group, western sub-group and large resident king mackerel,

with the smaller fish from the two sub-groups mainly occurring here in the warmer months of the year.

Sources: *Variations in Size and Sex Ratio of King Mackerel, Scomberomorus cavalla, off Louisiana, 1977-85.* L. Trent & others. 1987. *Movements of King Mackerel, Scomberomorus cavalla Tagged in Southeast Louisiana, 1983-85.* W. Fable & others. 1987. *Movement Patterns and Stock Affinities of King Mackerel in the Southeastern United States.* F. Sutter III & others. 1990. *Evidence for Distinct Stocks of King Mackerel Scomberomorus cavalla in the Gulf of Mexico.* A. Johnson & others. 1993.

## GUIDING IS A GROWING BUSINESS

The business of providing guide services for saltwater recreational fishermen is steadily growing. In 1997 the Louisiana Department of Wildlife and Fisheries sold 263 resident and 23 nonresident guide licenses as compared to 205 resident and 21 nonresident saltwater guide licenses the previous year. Jefferson Parish currently has the largest number of guides, followed by Lafourche parish.

<u>Parish</u>	<u>Number</u>
Jefferson	61
Lafourche	49
Terrebonne	32
Calcasieu	23
Cameron	22
Plaquemines	20
St. Bernard	11
East Baton Rouge	9
St. Tammany	9
Orleans	7
St. Charles	6
St. Mary	3
Vermilion	3
Iberia	2
Acadia	1
Bossier	1
Caddo	1
Lafayette	1
Livingston	1
Washington	1
Nonresident	23

The breakdown on the nonresident guide licenses is interesting: Mississippi, 12; Alabama, 5; Texas, 3; Arkansas, 1; Georgia, 1; and Kentucky, 1.

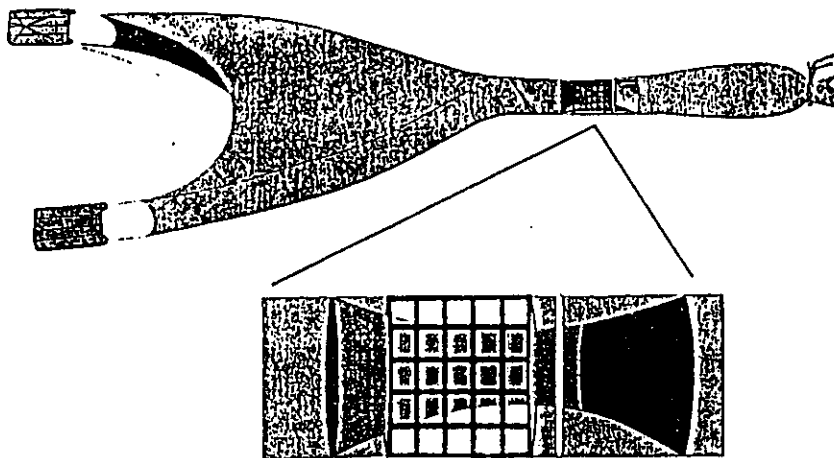
Source: Nancy Hunter, Louisiana Department of Wildlife and Fisheries

### **1996 FISHING SURVEY**

The results of the 1996 Louisiana recreational fishing survey have been published. Unlike previous surveys, which questioned only fishing license holders, this one surveyed the general population of the state about people's attitudes concerning fishing. Some of the highlights are as follows:

- \* The area of the state with the highest percentage (48%) of the population that recreationally fished were the parishes surrounding the Atchafalaya Basin. The area with the lowest percentage of fishermen (36%) was the area from Terrebonne to Orleans Parishes in southeast Louisiana.
- \* The area of the state that the fishermen made the most trips was also in the area around the Atchafalaya Basin.
- \* When nonfishermen were asked why they didn't fish, the number one answer was that they were not interested (44%), followed by not having enough time (32%), and being physically unable (11%). Only 2% said they had no place to fish, and less than 1% felt that fishing was too expensive. In light of recent mercury contamination publicity, it was interesting that less than 1% listed as pollution for the reason that they don't fish.
- \* When asked where they preferred to fish, 54% said freshwater, 7% saltwater, and 39% said both. Only in the Terrebonne to Orleans area did majority of fishermen prefer saltwater fishing.
- \* Of the people that said they fished both freshwater and saltwater, when asked what was their most preferred of the two, a two to one majority preferred freshwater fishing.
- \* The highest percentage of the population that fished were in the age groups under 45 years old. As people aged, the percentage of them that fished steadily declined.
- \* The survey indicates that there are 148,737 fishermen in Louisiana who are over the age of 60 and are exempt from buying a fishing license.
- \* Ethnic differences existed. Of white respondents, 45% said they fished compared to only 24% for African-American respondents.





### Expanded Mesh BRD

Three different hard grid TEDs were tested against each other or against nets without TEDs for fish exclusion. Two soft TEDs were compared against nets without TEDs and against each other. One type was compared against a hard grid TED.

Fisheye BRDs were tested in 12 different sizes and positions in the net. In the Gulf, only one configuration, a 5 by 12 inch fisheye set 30 meshes back from the start of the cod end of the net was successful in meeting the goals of red snapper release, with an exclusion rate of 38%. However, there was a 6% shrimp loss with this gear. Other fisheye configurations reduced red snapper catch by 20-25%.

Four configurations of expanded mesh BRDs were tested. Three of these provided good fish exclusion in general, with no shrimp loss, but only one met the goals of red snapper reduction.

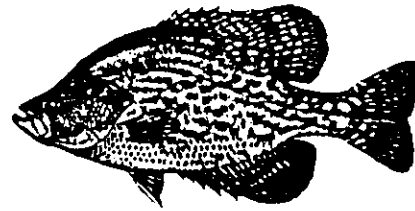
Most testing of TEDs for fish exclusion was in waters outside of 15 fathoms in the northwestern Gulf. Results of these tests indicated that hard grid TEDs (Anthony Weedless, Georgia Grid, Super-Shooter, and Seymore) did not contribute greatly to the exclusion of small fishes, even though they did exclude large fish. Two soft TEDs (Morrison and Andrews 5-inch) did exclude 40-60% of total finfish. The Andrews TED also excluded over 70% and the Morrison excluded about 25% of red snapper. (Unfortunately soft TEDs are not legal any longer for use as turtle excluders in the Gulf.)

Source: *Bycatch and its Reduction in the Gulf of Mexico and South Atlantic Shrimp Fisheries*. Steve Branstetter. Gulf and South Atlantic Fisheries Development Foundation. 1997.

### STOCKING CRAPPIE IN PONDS

I get many calls from fishing pond owners about the advisability of stocking crappies (sac-au-lait) in their fishing ponds. Crappies are probably the most popular food fish in freshwater because of their sweet white flesh.

The standard answer that fisheries biologists give is to NEVER stock crappies in ponds smaller than 10 acres. Because of their reproductive biology, crappie populations in small ponds either go "boom and bust", or over populate and become stunted.



In spite of recommendations, some people do stock crappies in ponds and occasionally we get reports that it sometimes works out well. Because of this, researchers in Oklahoma studied 11 ponds ranging in size from 0.8 to 42 acres to determine management recommendations for ponds with crappies in them.

They found that crappies both compete with bass for food and serve as food for bass, making their management difficult. They found that the most important factor in producing good crappie fishing was that a large population of bass should be present to feed on small crappies (under 8 inches) and reduce their numbers.

In order to keep the population of bass high, the number of bass harvested by fishermen has to be kept low. High bass numbers means that few bass in the population will grow larger than 15 inches because of competition. Also, the few large bass produced should not be harvested because they are such effective crappie predators.

Very few fishermen want to lower their catch of bass, and in fact most fishermen would like a pond to produce as many large bass as possible. The researchers also point out that even if bass populations are kept high, the unpredictability of crappie spawning success from year to year makes management for large crappies difficult.

The researchers concluded that trying to produce quality crappie fishing in small ponds that the public has access to is not likely to work. They did feel that it was possible in private ponds that were closely managed. They also pointed out that a pond managed for productive crappie fishing would likely also produce high-quality bluegill populations.

Source: *Largemouth Bass Influence on Size Structure of Crappie Populations in Small Oklahoma Impoundments*. Jeff Boxrucker. *North American Journal of Fisheries Management* 7:273-278. 1987.

## **MARYLAND FISHERMEN MEET ON LIMITED ENTRY**

A Limited Entry Work Group made up of Maryland commercial fishermen and other interested parties has been meeting since October to consider modifications to their state's commercial fishing limited entry management program. The work group, made up of 24 members, is considering the impacts of switching fisheries, use it (the license) or lose it provisions, apprenticeship qualifications, and license transfers.

The current program, which was created in 1994, allowed those with licenses to keep them. Licenses were also issued to all those on a two-year "delayed entry" waiting list by April, 1996. No new licenses have been issued since. The program was created to last 5 years, until April, 1999.

A bill to extend the program or make it permanent was introduced in the 1997 state legislature, as well as a bill to create an apprenticeship program. Both bills were delayed for study.

The Maryland Department of Natural Resources' position is that limited entry allows them to manage in the best interest of the resource, while at the same time maintaining economic benefits to the fishermen.

At its first meeting, the work group agreed that the most important goal was not to increase fishing effort.

Source: *DNR Fisheries News. Waterman's Gazette. November, 1997.*

## **PAYING THE WAY**

While New Jersey is a long way from Louisiana, I thought that the results of a recent angler survey conducted by the Jersey Coast Anglers Association and the New Jersey Sea Grant Marine Advisory Service would be of interest to you. The survey polled 1130 saltwater fishermen. Unlike Louisiana, New Jersey does not require a license to fish in saltwater.

When asked if they would be in favor of a saltwater recreational fishing license, a large majority (81.5%) opposed the idea. Only 8.7% supported the license and 9.8% were undecided. When asked if they would buy the license if it were mandatory, only 56% said they would, 33% said they wouldn't, and the rest were undecided.

The next question was whether a license should be required to sell saltwater fish; 54% said yes, 34% said no, and 12% were undecided.

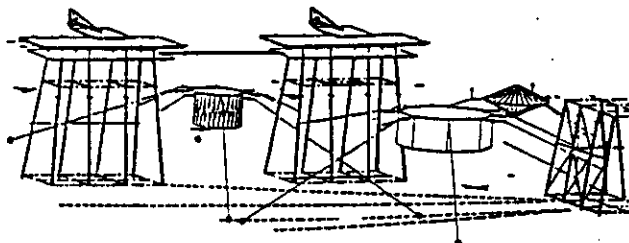
Only 33 people answered a question about stopping the use of net fishing in New Jersey in order to protect spawning grounds, but 31 of them (94%) were in favor. They were also asked if they were in favor of no commercial fishing within six miles of the shores of the United States. Twenty seven were in favor of the idea and 2 disagreed.

When asked whether saltwater fish hatcheries should be started, 22 people said yes, 3 said no, and 4 others were undecided. As a follow up question, they were asked if they were in favor of commercial fishermen running the hatcheries; 8 were in favor, 11 were opposed, and 12 were undecided.

Source: *The Jersey Shoreline. Volume 18, No. 1. Summer 1997.* Cooperative Extension Service, Rutgers University.

## MARICULTURE USING OIL AND GAS PLATFORMS

Occasionally, the subject of using offshore oil and gas production platforms for saltwater fish farming comes up. Now it appears that an actual trial operation will take place off of the Texas coast. The Seafish Mariculture Project will use a platform 48 nautical miles south-southwest of Freeport, Texas as a trial to determine what type of cages should be used and what grow-out techniques should be used. Grow-out is the time to raise fish from fingerlings to market size. The project will last 26 months.



All fish used will be from hatcheries and no wild stock fish will be used. It will start with redfish, but will also raise dolphin (mahi-mahi), amberjack, pompano, red snapper, and southern flounder. The fish will be raised in round net cages made of 2 inch stretched knotless nylon mesh, surrounded by a larger mesh predator net.

The project was approved on an exempted fishing permit by the National Marine Fisheries Service. This permit was needed to possess certain fish species, to possess undersize fish during grow-out, and to harvest and sell these fish in Texas.

Source: Gulf Fishery News. November-December 1997. Gulf of Mexico Fishery Management Council.

## OYSTER INITIATIVE WORKSHOP

The National Sea Grant College Program has received a \$ 1 million appropriation from U. S. Congress to put into effect the Gulf Oyster Industry Initiative. This long-term research-based plan is aimed at assisting the oyster industry in solving its most serious problems through research and helping it to full economic recovery.



The office of Sea Grant Development at Louisiana State University will administer the initiative in the Gulf region. An Oyster Industry Advisory Panel, with representatives of each Gulf state, will identify and prioritize industry needs and issues. This panel along with the Scientific Advisory Panel will also review oyster research proposals.

To begin this new program, a workshop will be held in conjunction with the Louisiana Oyster Industry Convention on February 28, 1998, at the New Orleans Airport Hilton. The workshop is open to anyone including oyster industry members, scientists fisheries managers and advisors.

The registration fee is \$30 and covers meals. Pre-registration must be made. To do so, send your name, address, affiliation, telephone number, and FAX (if you have one) number to Jo Paula Lantier, Office of Sea Grant Development, LSU, Baton Rouge, LA 70803.

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### THE GUMBO POT

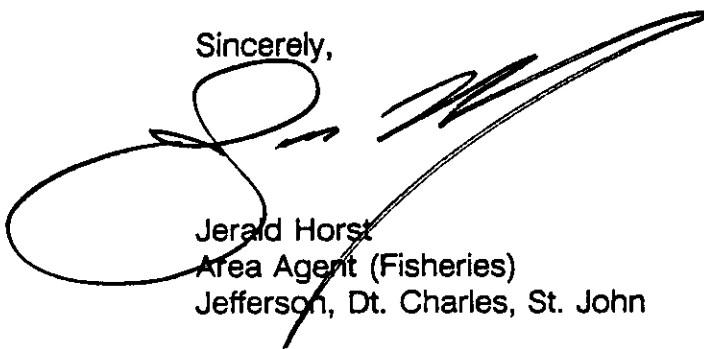
This recipe comes to us from Meagan Prince of Bossier Parish. It was the best-of-show gold medal winner in the Louisiana Cooperative Extension Service's 4-H Seafood Cookery Contest. To reach this level of recognition, Meagan's recipe had to place first at each level through six levels of competition, making her recipe the best of thousands judged. This contest is funded by an endowment from the Louisiana Seafood and Promotion and Marketing Board.

#### Crawfish Dip

- |                                      |                                      |
|--------------------------------------|--------------------------------------|
| 1 bunch green onions, finely chopped | 2 tsp onion powder                   |
| 1 tbsp vegetable oil                 | 1½ tsp curry powder                  |
| 1 pound cooked crawfish tails        | 2 tsp oregano                        |
| 1 tsp cayenne pepper                 | 1 tsp thyme                          |
| 2 tsp celery seed                    | 1 8-oz bottle Italian salad dressing |
| 2 tsp black pepper                   | olive oil                            |
| 2 cloves minced fresh garlic         | 1 8-oz package lowfat cream cheese   |

Saute onions in oil. In medium bowl, mix together onions, crawfish tails, and the next 8 ingredients. Stir in the salad dressing and marinate overnight in the refrigerator. Spoon slightly drained crawfish mixture over cream cheese. Serve with crackers. Serves 6 to 8.

Sincerely,



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