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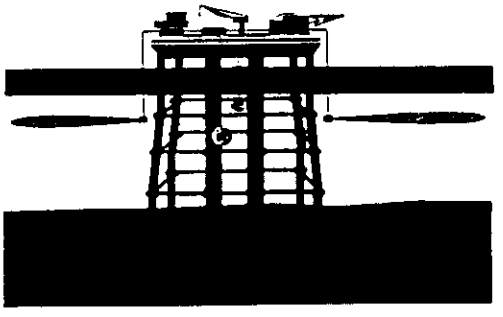
July 2, 2002 Volume 26, No. 7

FISH AT OFFSHORE OIL & GAS PLATFORMS

Shortly before leaving Louisiana State University to move to Canada. Fisheries biologist David R. Stanley completed another research project on the relationship between offshore fishes and oil and gas platforms. Stanley, is a well-known authority on this subject and this study is as interesting as his previous ones.



The researchers on this project mounted sonar transmitters on three offshore platforms to send signals from the surface to near the bottom around the edges of the platforms. Other transmitters were mounted to send signals 260 feet out from the platforms in four directions. The sonar signals were able to detect and count fish one inch long and longer. The species were identified using a small remote-controlled submarine carrying a video camera.

Sampling was done at three platforms, South Timbalier 54 (72 feet deep), Grand Isle 94 (195 feet deep), and Green Canyon 18 (712 feet deep). The deepest platform was located off of the gently sloping bottom of the continental shelf, on the more steeply inclined continental slope.

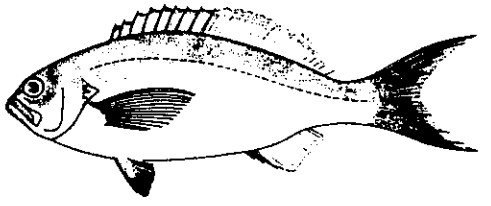
The sonar showed that the highest densities of fish at ST 54 and GI 94 were between 6 and 60 feet out from the platform. At deepest platform GC 18 the greatest concentration of fish was found within 33 feet of the platform. Fish numbers dropped to numbers similar to the open ocean by 260 feet from all three platforms.

At ST 54, the shallowest platform, fish concentrations were moderately high from top to bottom, with highest numbers near the surface and at the bottom. The mid-depth platform, GI 94, showed very high numbers of fish at all depths. At the deepwater platform, GC 18, the fish were concentrated in its upper waters. Almost 90% of the fish were found in the top 195 feet of water. Very few fish were found from 260 feet deep to

505 feet deep, and from 505 feet to the bottom at 712 feet, almost no fish were present. The estimated total number of fish at each platform and the number by species is presented in the table below.

Species	ST 54	GI 94	GC18
Atlantic spadefish	5,224		
Bluefish	1,089		
Redfish	40		
Sheepshead	1,949		
Tarpon	13		
Cobia	13	29	
Jack crevalle	121	201	
Gray snapper	390	259	
Red snapper	2,642	1,264	
Blue runner	2,447	24,883	1,426
Gray triggerfish	175	718	134
Lookdown		345	
Vermilion snapper		29	
Yellowfin grouper		29	
Almaco jack		29	1,021
Bar jack		58	393
Barracuda		144	494
Bermuda chub		316	595
Creole fish		58	4,984
Greater amberjack		201	1,055
Rainbow runner		29	22
Scamp		201	123
Black jack			101
Blackfin tuna			583
Horse-eye jack			640
Yellowtail snapper			112
Total	13,444	28,734	11,224

GI 94, the mid-depth platform held by far the most fish, but 87% were blue runners, followed in number by red snappers at 4.4%. At ST 54, five species of fish made up 99% of the fish, spadefish (39%), red snapper (20%), blue runner (18%), sheepshead (14%), and bluefish (8%).



At GC 18, the deepest platform, four species dominated, making up 76% of the species present. Most common was the creole fish at 44%. This small reddish to reddish-brown grouper seldom gets over 14 inches long. It is one of only 4 species of the 159 grouper species in the world with a deeply forked tail and the only one in the Gulf of Mexico. The other three dominant species were blue runner (13%), greater amberjack (9%) and almaco jack (9%).

Source: *Variation in the Density and Species Composition of Fishes Associated with Three Petroleum Platforms using Dual Beam Hydroacustics.* David R. Stanley and Charles Wilson. Fisheries Research 47 (2000).

CRAB SANCTUARY IN MARYLAND

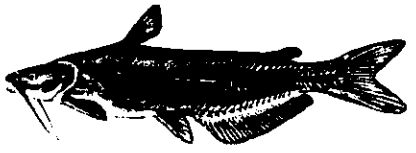
Blue crab management controversies just keep piling up in the Chesapeake Bay states of Maryland and Virginia. In the face of declining crab populations, both states and the Potomac River Fisheries Commission decided to cut back blue crab harvests by 15% over a three year period.

In the latest step to meet the 15% goal, the Virginia Marine Resources Commission expanded a blue crab seasonal sanctuary to 935 square miles. In this area, which takes in most of the main part of Chesapeake Bay in Virginia, all crabbing will be outlawed from June 1 to September 15 of each year.

The sanctuary was added to two other restrictions adopted this year, a minimum size on peeler crabs and a maximum eight-hour work day on crabbers. While some crab scientists strongly support the measure, many of the Virginia's commercial fishermen, locally called "watermen", say that the state has gone to far before waiting to see what the effects of other new regulations will be.

ALL ABOUT CATS

Catfish provide valuable sport and commercial fisheries in the southern states. Three species of catfish, flathead (yellow), blue, and channel catfish are the most important and often all three are caught in the same river or lake. Researchers in Alabama have studied how the 3 species exist together in four different river systems.



Over a 13 month period, the biologists sampled the catfish population with gill nets and by electrofishing (shocking) in four Alabama rivers. The fish were weighed, measured and sexed. They were aged by counting the rings in one of their fin spines. The water bottom type and amount of woody cover such as stumps and trees was recorded for each sample, as were water temperature, oxygen level and clarity. They collected 1,292 catfish, of which 330 were blue catfish, 243 were channel catfish and 519 were flathead catfish.

Flatheads were the largest fish and by weight, dominated the total catfish population. Other studies have shown the tendency for flatheads to out-complete (or eat out) the other catfish in an area. No one river provided conditions that were best for growth of all 3 species at the same time. In two rivers, blue catfish grew fastest and the other species slower; in the other two rivers, flathead catfish showed the fastest growth. In general, however, channel catfish grew slower than the other 2 species.

While all 3 species of catfish could be found in any one area, each species did show habitat preferences. Blue catfish were found in higher numbers over gravel or pebble bottoms. Channel catfish preferred areas with stronger currents and murky, rather than clear, water. Flathead catfish also preferred areas with strong current and their numbers were quite a bit higher in areas with woody debris, such as sunken trees and stumps.

Source: *Stock Characteristics and Habitat Use of Catfishes in Regulated Sections of 4 Alabama Rivers*. M.D. Grussing, D. R. DeVries and R. A. Wright. Proceedings of the 53rd Annual Conference, Southeastern Association of Fish and Wildlife Agencies. 1999.

FISHERIES MANAGEMENT BY LAWSUIT

In years past, many people have expressed their displeasure about the politics of fisheries management. Now, however, fisheries management has moved from the halls of Congress and state legislatures into the courtroom. A recent article in the *Boston Globe* newspaper points out just how far the trend has gone at the federal fisheries

management level. The National Marine Fisheries Service (NMFS) is dealing with over 100 lawsuits against it, more than six times the number just six years ago. NMFS now dedicates 10% of its staff of 2,500 to handling lawsuits.

Some observers feel that the huge numbers of lawsuits keeps NMFS from doing its job and diverts money away from research needed for managing fish stocks. Lawsuits, others say, are a very expensive way to manage fish stocks.

Others disagree. The article quotes Peter Shelley of the Conservation Law Foundation (which has sued NMFS several times), as saying that litigation is forcing NMFS to become more efficient. He says that "The lawsuits are a barometer of them doing their jobs. And, if they are doing their job well, they should win." He adds "Its not that they were doing a great job before, but people weren't paying attention."

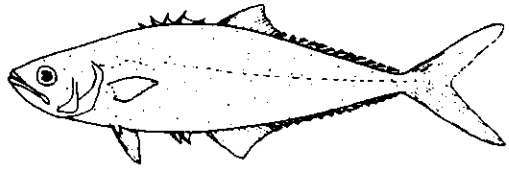
Two things, the *Boston Globe* article said, have caused the increase in lawsuits against NMFS — a 1996 law gave environmental groups firmer legal grounds on which to sue, and environmentalists have increasingly turned their attention toward the sea. Before 1996, federal law allowed NMFS a great deal of flexibility in management. In 1996, Congress passed tough standards to stop overfishing, protect habitat and save fishing communities. In 1998, with these standards in place, 8 lawsuits were filed, followed by 23 in 1999, and 31 in 2000.

In recent years other interest groups, including fishermen, states, Indian tribes, and non-fishing groups have sued. The Magnuson-Stevens Fishery Conservation and Management Act is now before Congress for reauthorization. How it comes out will influence the number of suits in coming years.

Source: *Lawsuits Mount at Fisheries Agency.* Boston Globe Newspaper. 6/11/02

SCALE-EATER

The ocean is a strange place, full of strange creatures that eat strange things. One of the strangest diets is lapidophagy or the eating of other fishes' scales. Throughout the world, a number of fish eat the scales of other fish. Locally, the best known lepidophagist is the leatherjack (*Oligoplites saurus.*)



The leatherjack is a small 6 to 12-inch fish commonly found in bays and nearshore waters. It is a member of the jack family, but more closely resembles a mackerel in body shape and because it has small mackerel-like finlets behind the dorsal and anal fins. It is silvery-green above, with silver sides and belly, and its skin has a

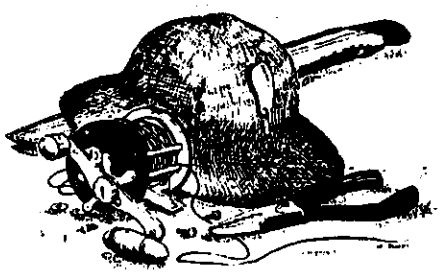
"leathery" appearance. The sharp spines in the dorsal and anal fins can give a painful prick and may carry a mild venom.

A researcher in the Lake Pontchartrain estuary in Louisiana used seines to capture young 1 to 4-inch leatherjacks over an 18 month period ending in December, 2001. Examination of their stomachs showed that fish scales were the most common food item, with 90% of the fish having scales in their stomachs. This was far more than the number with isopod and copepod zooplankters (35%), small shrimp (24%), plants (16%), insects (15%), and fish larvae (18%). The type of scales found in the stomachs indicated that the scales were most likely from bay anchovy and striped mullet. The large number of scales in the leatherjacks' stomachs convinced the researcher that the scales were actively and deliberately taken from living fish, rather than accidentally eaten.

Source: *Diet of the Leatherjack (Oligoplites saurus) in the Lake Pontchartrain Estuary, Louisiana.* Kenneth G. Blanke. Pontchartrain Institute of Environmental Sciences, University of New Orleans. Presented at the 6th Bi-annual Basics of the Basin Research Symposium. 2002.

SAVING ELMER'S

In the best of times, Louisiana surf fishermen don't have many options on beaches that they can drive a vehicle to. Such beaches were limited to Fourchon Beach, Elmer's Island, and approximately 26 miles of beach between Rutherford Beach and Sabine Pass in Cameron Parish. On Grand Isle, vehicles can be taken to parking areas near the beach, but not onto the beach itself.



Now, much of that has been lost to public access. First Fourchon beach to the east of the "Fourchon Road" was closed to vehicles by private landowners. Then last year, Jay Elmer, the owner of Elmer's Island died in a vehicle accident. This year, Elmer's Island is closed and marked "for sale."

Recognizing the interest in public access to beaches, the Louisiana Wildlife Federation (LWF) passed a resolution at its 63rd Annual Meeting in March urging public purchase of Elmer's Island. Besides fishing, the island was heavily used for semi-primitive camping, and for recreational crabbing, swimming, and wildlife-watching.

LWF executive director Randy Lanctot says the Federation has received a great deal of moral support for the idea, from the governor on down, but no other commitment. He says two things are needed, money for the $6 million asking price and

a public management agency to manage the area. Several agencies have been discussed, including the Department of Wildlife and Fisheries, the Office of State Parks, and the Lafourche Parish Parks and Recreation Board, but no agency has stepped forward yet.

LWF's objective is not only to preserve the public access to the beach, but to preserve the unique saltwater marshes and dunes associated with the beach for wildlife habitat. The entire property totals about 1,700 acres. Individuals interested in more information or in working with the Wildlife Federation on the issue may contact Lanctot at 225/344-6707 or LAWildFed@aol.com .

DO SALT BOXES INJURE BYCATCH?

Removal of bycatch from shrimp trawls is a time consuming and slow process for shrimpers. Often coastal and inshore fishermen use salt boxes to speed up the process. Salt boxes are simply tanks on the deck of the boat into which a shrimper pumps seawater and adds enough food grade salt to make the water about twice the salinity of full strength seawater. Catch is shoveled from the deck into the salt box, where because of the density of the water, fish will float and shrimp will sink. The shrimper skims the bycatch off the top of the tank's water with a dip net and returns it overboard. The shrimp are dipped from the tank, sorted to remove any stray bycatch, and then washed and iced.

It is easy to assume that the strong salt solution rapidly kills anything put in the tank. In 1995, the Texas Parks and Wildlife Department (TPW) conducted experiments on the effects of salt boxes on bycatch. In one experiment they put redfish, speckled trout, flounders, croakers, and blue crabs in a saltwater solution the same strength as is usually found in salt boxes. The fish and crabs were left in for a range of times up to 128 minutes and then returned to normal strength seawater and watched for 48 hours. Redfish were the most affected species with 50% of fish exposed to salt box water for 17 minutes dying. Blue crabs were the least affected, requiring 67 minutes in the salt box to reach a 50% death rate.

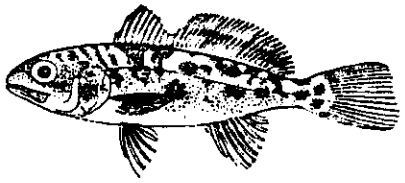
In the second experiment, TPW biologists on commercial shrimp boats timed how long it took to sort and release bycatch with and without salt box use. TPW determined that bycatch placed in salt boxes took an average of 1.7 minutes to separate and release, compared to 7.8 minutes without a salt box.

The last experiment determined the effects of the length of trawl time on bycatch survival. Not surprisingly, they found that the longer the trawl was towed, the lower the bycatch survival rate was. TPW concluded at the end of the experiment that the length
of time that it took to sort bycatch and the length of tow times had the most effect on bycatch survival. Use of salt boxes had little or no effect on bycatch survival.

Source: *Anchor Line*. Volume 2, Issue 2. Texas Parks and Wildlife Department.

JUVENILE REDFISH RESEARCH

That to have big fish, one has to have little fish first, only makes sense. Many species of fish have good spawns some years and poor spawns other years. A strong year class, as a good spawn/survival situation is called, can influence the number of catchable fish for many years. In Texas, biologists collected over 30,000 thousand juvenile (young) redfish from 7 Texas estuaries over a 20-year period and from two other estuaries over a 13-year period.



The researchers compared variations in numbers of juvenile redfish, and also growth and mortality (death) rates. Both young-of-the-year and one-year-old fish were studied. The researcher found huge variations in numbers and in the growth, and mortality rates of young-of-the-year fish from year to year in each estuary and also between estuaries in the same year. Generally speaking, however, growth was higher in the more southern estuaries, like Laguna Madre, than in northern ones such as Sabine Lake. Growth was slowest in fall and winter months, but increased rapidly in early March.

Interestingly, the researchers found very little connection between numbers of redfish and survival and growth for young-of-the-year redfish and average seasonal water temperatures, freezes and water temperature variations. Average winter water temperatures did affect growth, however, with warmer temperatures resulting in high growth for young-of-the-year fish.

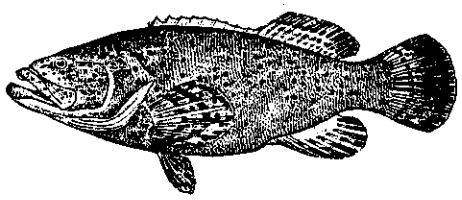
For one-year-old redfish, very little connection was made between water temperatures and numbers of fish. Surprisingly, there was no relationship between growth and mortality rates on young-of-the-year fish and numbers of one-year-old fish. The average size of one-year-old fish was 13 inches. Overall, year to year variation in numbers of one-year-old fish was lower than for young-of-the-year fish. What the researchers did find, was that numbers of one-year-old redfish declined steadily after 1991 for all estuaries in Texas except East Matagorda Bay, in spite of a steady increase in the stocking rate of hatchery-produced fish. Stocking rates rose from about 7million in 1989 to 25-30 million a year by the mid-1990s.

While previous studies have indicated that stocking of hatchery-raised fish can contribute to redfish populations on a local scale, these research results concluded that increasing stocking rates have no effects redfish populations. If year-class strength is not determined until late in the juvenile stage of this fish, the stocking of small redfish is much less effective than if older, larger fish were stocked.

Source: *Patterns in Abundance, Growth, and Mortality of Juvenile Red Drum across Estuaries on the Texas Coast with Implications for Recruitment and Stock Enhancement.* Frederick S. Scharf. Texas Parks and Wildlife Department. 2000

IS THE GOLIATH BACK?

The goliath grouper, until very recently known as the jewfish, was one of the first fish put on the "no-take" list in the Gulf of Mexico. Populations of this huge fish, which can reach nearly 700 pounds, were severely depressed. It is a shallow-water species, almost never found deeper than 150 feet, easy fishing depths for anglers. They are not hook-shy, and as more and more reefs and wrecks become easy to find with the common use of LORAN, the fish become increasingly scarce. Their fearlessness also made them easy prey for spear fishermen.



Finally, in 1990, a moratorium was placed on their harvest. At that time, no one could have imagined that their population could recover in less than several decades. Now fishermen in Florida, near the goliath grouper's historic breeding grounds, are seeing large numbers of these fish. At the May Gulf of Mexico Fishery Management Council meeting, council members were shown underwater videos of concentrations of 300-500 pound goliath groupers on artificial reefs in 40 to 150 feet of water. It was reported that every wreck had goliath grouper on it.

The Council also heard a report from Dr. Anne-Marie Ekland, the head of National Marine Fisheries Service goliath grouper research group. She reported that while the fish is indeed more common than it was, it still hasn't reached its pre-1983 levels and that it is too early to say that it has recovered from overharvest.

Interestingly, data collected by volunteer divers for Project R.E.E.F. (Reef Environmental Education Foundation) found that off of Charlotte and Lee Counties, goliath grouper were present on 50-60% of artificial reefs but only 10-20% of natural reef sites. Here off of Louisiana, the fish were most common at offshore oil and gas platforms. Louisiana offshore waters are believed to be at the edge of the species' range.

Source: *Council Receives Update on Goliath Grouper Populations.* Gulf Fisheries News. Volume 24, No 2. May – June, 2002. Gulf of Mexico Fishery Management Council.

UNDERWATER OBSTRUCTION LOCATIONS

The Louisiana Fishermen's Gear Compensation Fund has asked that we print the coordinates of sites for which damage has been claimed in the last month. The coordinates are listed below:

Loran Sites

27923	46869	TERREBONNE
28586	46898	JEFFERSON
29036	47037	ST BERNARD

Lat. & Long. Sites

2905.120	9014.250	LAFOURCHE
29 08.076	90 25.277	TERREBONNE
29 14.168	90 30.872	TERREBONNE
29 16.799	89 51.933	JEFFERSON
29 24.549	89 46.915	PLAQUEMINES
29 25.878	89 29.939	ST BERNARD
29 26.176	91 41.933	ST MARY
29 29.602	92 21.252	VERMILLION
29 33.067	92 18.065	VERMILLION
29 37.851	89 30.320	ST BERNARD
29 45.548	93 23.860	CAMERON
29 47.625	89 33.269	ST BERNARD
29 50.417	89 41.346	ST BERNARD
29 52.732	89 42.556	ST BERNARD
30 00.810	89 54.340	ORLEANS
30 01.179	89 52.552	ORLEANS
30 05.228	90 11.749	JEFFERSON
30 06.697	89 34.568	ORLEANS

THE GUMBO POT

Courtbouillon

Courtbouillons are the classical Cajun finfish soup. Typically, they have a rich, spicy tomato broth. In recent years, the tendency has been to tone down the pungency of the tomato by the addition of roux. This recipe is in between the classical red courtbouillon and the "newfangled" brown courtbouillons. Any firm-fleshed fish can be used.

3	lbs fish fillets	1½	qt water
¾	cup oil	1	tsp dried thyme
¾	cup flour	1	tsp dried basil
1	cup chopped onions	3	bay leaves
1	cup chopped celery	3	lemon slices
1	cup chopped bell pepper	1	cup chopped green onions
2	tbsps minced garlic	1	cup chopped parsley
2	cups sliced mushrooms		salt and pepper to taste
2	8-oz cans tomato sauce		

Cut fillets into bite-sized pieces. In a one gallon or larger heavy-bottom sauce pan, preferably cast iron, heat oil over medium high heat. Using a wire whisk or wooden spoon, add flour, stirring constantly until a dark brown roux is made. Add onions, celery, bell pepper, garlic, and mushrooms, and sauté until vegetables are wilted, approximately three to five minutes. Add tomato sauce, and stir well. Add water and stir until well-mixed. Add thyme, basil, bay leaves, and lemon slices. Bring to a boil, reduce to a simmer and cook thirty minutes. Add water to retain volume. Add green onions and parsley, and season to taste using salt and pepper. Cook an additional ten minutes, then add fish pieces. Stir occasionally, but gently until fish is done, approximately five to ten minutes. Serve over rice. Serves 6.

Sincerely,

Jerald Horst
Associate Specialist (Fisheries)