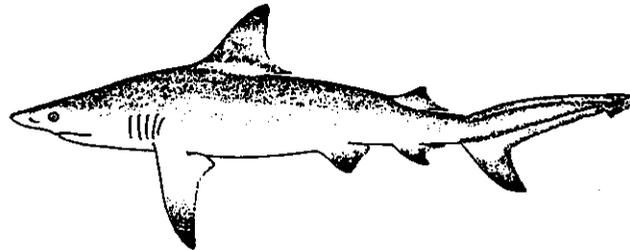




October 1, 1999
Volume 23, No. 10

SEA GRANT PROGRAM



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UNTANGLE THIS!

In the last 15 years, sharks have gone from being classified as underutilized species to being one of the most heavily protected groups of fishes in Gulf of Mexico waters. Reflecting this change, commercial and recreational shark regulations have become a confusing tangle. Louisiana state and federal regulations do not mesh, and because of a federal court order, recreational and commercial federal water laws do not agree with each other. What follows is my best attempt to clarify these laws as they now stand for fishermen.

PROHIBITED SPECIES

Federal Waters: Commercial fishermen may not take sand tiger, bigeye sand tiger, whale, basking, and white sharks. Recreational fishermen may not take sand tiger, bigeye sand tiger, whale, basking, white, dusky, bignose, Galapagos, night, Caribbean reef, narrowtooth, Caribbean sharpnose, smalltail, Atlantic angel, longfin mako, bigeye thresher, sevengill, sixgill, and bigeye sixgill sharks.

State Waters: Commercial and recreational fishermen may not take sand tiger, bigeye sand tiger, whale, basking, and white sharks, as well as any species of sawfish.

MINIMUM SIZES

Federal Waters: Commercial fishermen have no minimum size limits. Recreational fishermen have a minimum size limit of 4½ feet total length for all shark species except Atlantic sharpnose sharks which have no minimum size.

State Waters: No minimum size is provided for sharks.

LIMITS

Federal Waters: Commercial fishermen must obey a trip limit of 4000 pounds per vessel per trip. Recreational fishermen are limited to one Atlantic sharpnose shark per person and one other shark (from all other species combined that are legal for harvest) per vessel per trip.

State Waters: Commercial fishermen have no trip limits. Recreational fishermen are limited to 2 Atlantic sharpnose sharks per person and 2 other sharks (from all other species combined that are legal for harvest) per vessel.

SEASONS

Federal Waters: Commercial fishermen are limited by yearly quotas. The quota season for small coastal and pelagic sharks begins on January 1. The quota for large coastal sharks is divided into two seasons, one beginning on January 1 and the other on July 1. Recreational fishing is allowed year-round.

State Waters: Commercial and recreational fishermen are prohibited from harvesting or possessing sharks in state waters (including those legally taken in federal waters) during the months of April, May and June.

PERMITS/LICENSES

Federal Waters: Commercial fishermen are required to possess a Federal Atlantic Shark Limited Access Permit. Holders of such permits are prohibited from fishing in open state waters during federal water closures for a shark group. A Federal Dealer Permit is also required to buy sharks from holders of Federal Atlantic Shark Limited Access Permits. Charter and head boat operators are required to have an Annual Vessel Permit for sharks. Recreational fishermen have no permit requirements.

State Waters: Commercial fisherman must possess a commercial fishermen's license, a vessel license and appropriate gear licenses as well as a

state Shark Permit (at no cost) available from the Marine Fisheries Division of the Louisiana Department of Wildlife and Fisheries. Charter fishermen are covered by their state Saltwater Charterboat License. Recreational fishermen have no permit requirements beyond their Louisiana Basic and Saltwater Angler's License.

OTHER REQUIREMENTS

Federal Waters: Commercial fishermen are allowed to remove heads, tails and fins at sea, but are prohibited from removing fins and discarding the carcass. Recreational fishermen are required to land all sharks with their heads, tails and fins on them, but sharks are allowed to be bled by a cut at the base of the tail. All fishing tournaments that have shark landings must notify the National Marine Fisheries Service in advance of the event.

State Waters: Commercial and recreational fishermen are allowed to remove heads, tails and fins at sea, but are prohibited from removing fins and discarding the carcass.

Identification of sharks can be very difficult. What fishermen commonly call "blacktip sharks" are really several totally different species. Louisiana recreational fishermen usually call anything without black-tipped fins or a hammer-shaped head, a sand shark. No such species as a sand shark exists in the Gulf.

Most fish identification books list the more common shark species, but often many species are missing. The most comprehensive book devoted totally to shark identification presently available is *The Sharks of North American Waters* authored by Jose' I. Castro, published by Texas A & M University Press. The book costs \$17.95. While this book is unlikely to be found stocked on local bookstore shelves, any bookstore can special-order the book with 10 to 14 day delivery

LARGEMOUTH BASS VIRUS

In late summer of this year, numbers of dead largemouth bass began appearing in the Atchafalaya Basin. Low oxygen and chemical pollution were ruled out fairly early as only largemouth bass were killed. Biologists have now learned that the primary cause of the kill is largemouth bass virus (LMBV), a disease first identified in South Carolina in the mid-1990's. Little is known about LMBV, how it is transmitted from fish to fish, the cause of infection, and if it will be a short term or long term problem. The disease has also recently appeared in Texas and Mississippi.

ABOUT TROUT

Speckled trout are still considered to be the finest inshore saltwater commercial fish available to Louisiana restaurants. Several surveys also show it to be the number one fish targeted by Louisiana sportsmen. Beginning with the debate over the use of saltwater gill nets in the mid-1070's fishermen began to focus on which group caught the most fish.



Recreational interests stated that commercial catches had to be higher because of the size and efficiency of nets. Commercial interests pointed out that in spite of the efficiency of the nets that they used, that recreational catches had to be higher because there were so many more sports fishermen. The table below shows the catch (in pounds) of each sector during 1981-1997, the latest years that figures were available for both groups.

Year	Recreational	Commercial	Total
1981	1,956,918	586,859	2,543,777
1982	6,486,290	727,606	7,213,896
1983	3,438,953	1,340,625	4,779,578
1984	851,467	973,250	1,824,717
1985	2,832,069	1,161,598	3,993,667
1986	7,755,251	1,978,038	9,733,289
1987	6,385,683	1,801,874	8,187,557
1988	4,866,904	1,435,408	6,302,312
1989	4,986,792	1,488,878	6,475,670
1990	2,455,578	648,654	3,104,223
1991	7,244,734	1,220,231	8,464,965
1992	5,835,715	971,481	6,807,196
1993	5,359,667	1,138,070	6,497,737
1994	6,510,043	1,023,665	7,533,708
1995	7,471,257	656,801	8,128,058
1996	7,434,099	774,375	8,108,474
1997	6,438,086	549,505	6,987,591
Total	88,309,506	18,474,899	106,784,405

In every year but 1984, recreational catches were higher than commercial, usually by a wide margin. In the last three years (1992-94) before the gill net ban legislation was passed, recreational trout catches were over 6½ times as large as commercial catches. Since the ban in 1985, commercial landings have declined and recreational catches have increased. The figures in the table also clearly show the effects of the fish-killing freezes of 1983 and 1989, with lower than normal landings in 1984 and 1990.

Source: *The Spotted Seatrout Fishery of the Gulf of Mexico, United States: A Regional Management Plan. (Draft)* H. B. Blanchet and others. Gulf States Marine Fisheries Commission. 1999

BLUE CRAB FOOD HABITS



Blue crabs are a very important commercial and recreational fisheries species in coastal Louisiana. It is commonly assumed that blue crabs mostly eat dead fish, probably because that is what most people use as bait to catch them. Research by scientists has shown that blue crabs eat a wide variety of foods with fish being only a small portion of the diet. Research conducted in Lake Ponchartrain, Louisiana showed the following food items (by volume) in blue crab diets.

<u>Food Item</u>	<u>Percent Of Diet</u>
Molluscs (oysters, clams, mussels, snails)	46%
Crustaceans (crabs, shrimp)	24%
Organic debris (broken down plants and animals)	22%
Plants	4%
Fishes	2%
Other	2%

Research conducted in Apalachicola Bay, Florida showed the breakdown below on crab food items by weight.

<u>Food Item</u>	<u>Percent Of Diet</u>
Bivalves (oysters, clams, mussels)	36%
Fishes	12%
Crabs	11%
Shrimp	5%
Snails	5%
Plants	4%
Other	27%

As can be seen, oysters, clams and mussels ranked very high in the dietary preferences of blue crabs in both studies. Crabs feed by grabbing food with their claws and the first pair of walking legs. Hard objects are crushed and broken by the claws before

being swallowed. Besides grasping food with their claws, blue crabs also feed by picking small items off the bottom or scraping them off of firm surfaces with their mouth parts. Tiny floating foods are brought into their mouths by currents they create by rapidly moving their mouth parts. Blue crabs locate food items by smell, touch and vision.

Sources: *Food Habits of Fishes and Larger Invertebrates of Lake Pontchartrain, Louisiana, an Estuarine Community*. R. M. Darnell. Publication of Institute of Marine Science, University of Texas. 1958. *Feeding Habits of the Blue Crab, Callinectes sapidus Rathbun, in the Apalachicola Estuary, Florida*. R. A. Laughlin. Bulletin of Marine Science. 1982.

FISHING/HUNTING LICENSES BY PHONE

The Louisiana Department of Wildlife and Fisheries has announced that recreational fishermen and hunters are now able to purchase their licenses by calling the toll-free telephone number 1-888-765-2602.

Telephone applicants should be prepared to supply their personal information, their driver's license number and payment by VISA, MasterCard or Discover. A charge of \$3 will be added to each order, so it will be less expensive to order as many licenses as possible at one time.

Applicants will receive an authorization number over the phone, which they must carry when hunting or fishing until their paper licence comes in the mail about 14 days after the order. Non-resident trip license applicants will not receive a license in the mail because of the short duration of the trip license.

Operators are available 24 hours a day, 7 days a week.

RAINMAKER

If you think that it rains more on weekends than weekdays, you may be right. Two scientists at Arizona State University, Randall Cerveny and Robert Balling Jr. studied rainfall patterns on the U. S. east coast and found 22% more rain on Saturdays than Mondays. They also found that hurricanes that struck on weekends were 10% less powerful than those on weekdays.

Their reasoning was that pollution from car exhausts and industries could be causing these weekend climate patterns. Levels of carbon monoxide and ozone follow a seven day pattern, peaking at the end of the week. The heat-absorbing pollutant particles warm surrounding air, driving it upwards to create more clouds and rain.

Pollutants may affect hurricanes by increasing rainfall at the edges of the storm, preventing heat from concentrating in the center of the storm and therefore weakening it.

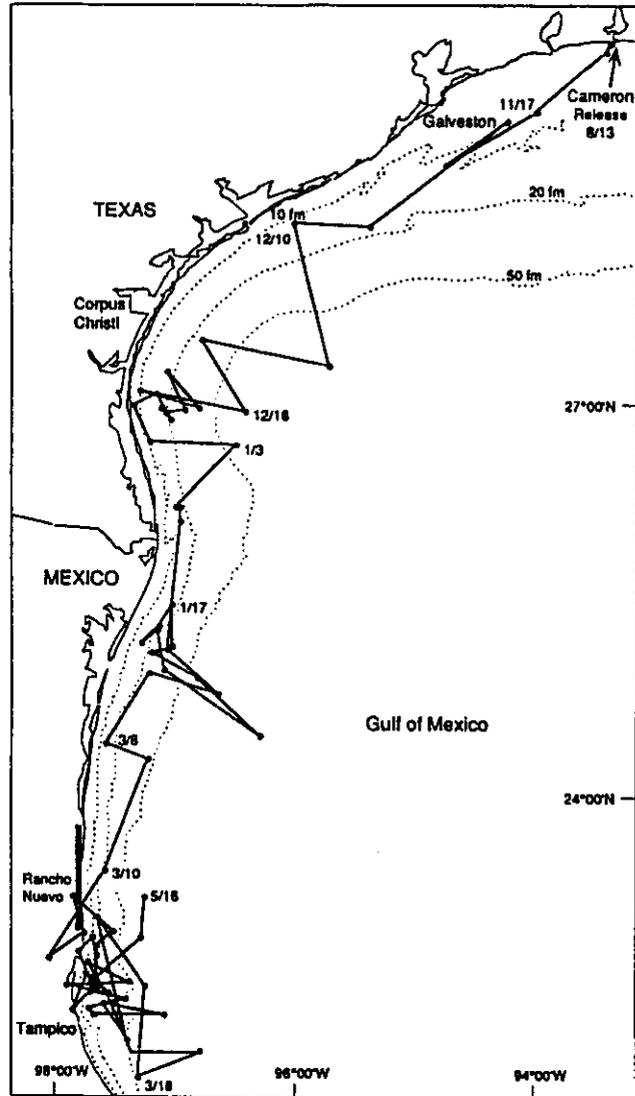
Source: *Discover*. November, 1998

SEA TURTLE MOVEMENTS

Beginning with the debate over the use of TED's in shrimp trawls, Louisiana shrimpers have had an interest in sea turtle biology. Most shrimpers are generally aware that the Kemp's ridley turtle is the most endangered species of sea turtle, that it nests on only one beach (Rancho Nuevo) in Mexico, and that it is generally found near the coastline rather than further offshore like some other species of sea turtle.

These habits were clearly shown in 1994-95 when Texas A & M University biologists managed to capture and tag a Kemp's ridley turtle with a radio transmitter that could be tracked by satellite. The turtle was an adult female weighing 94 pounds. Tagging and release took place off of Cameron, Louisiana on August 13, 1994.

By November, the turtle moved southwestward to an area off the upper Texas coast. It reached the lower Texas coast by January. It was offshore of the Rancho Nuevo nesting beach by March 10, 1995, but moved another 60 miles south before returning to nest on April 23 and again on May 19.



Both nestings were recorded by workers at Rancho Nuevo. The first nesting produced 121 eggs, of which 103 (85%) successfully hatched on June 14. The second nest had 129 eggs; 98 (76%) hatchlings emerged from the nest on July 5, 1995. This was the first time that a Kemp's ridley turtle has been remotely tracked to a nesting beach.

Source: *Kemp's Ridley Sea Turtle (Lepidochelys kempii) Tracked by Satellite Telemetry from Louisiana to Nesting Beach at Rancho Nuevo, Tamaulipas,*

Mexico. M. L. Renaud, J. A. Carpenter, J. A. Williams, and A. M. Landry, Jr. Chelonian Conservation and Biology, Volume 2, Number 1. 1996.

AT WAR

World War II is now beyond the memory of all but older fishermen. The big war brought changes to Louisiana's commercial fishing industry, as I found out during a recent visit to the Morgan City Archives.

Morgan City was a commercial fishing boom town in the 1930's and 40's. Some of this was due to its location at the southern end of the Atchafalaya River, but more of it was probably due to the fact that Louisiana's offshore shrimp stocks were discovered from this port. In 1934, an out-of-state 45-foot boat with a 40 HP engine, put into port there with between 40 and 50 barrels (a barrel of shrimp is 210 pounds) of very large shrimp caught in waters offshore of St. Mary Parish. Before this event, Louisiana's commercial shrimp fishery was concentrated in inshore waters. This discovery started an explosion of boat-building and shrimping activity.

The Morgan City newspaper, the *Daily Review*, documented the growth of the fishery and how World War II affected it. The first change that the war brought was that by January 1942, all boatmen, including fishermen, had to carry identification cards with their pictures and fingerprints on them. By May, the war came home when three local trawlers brought in 23 survivors of a submarine attack on a merchant ship in the Gulf. In June, a group of Norwegian survivors of an attack was brought into port, followed by a lone lucky survivor from another torpedoed ship.

Also in 1942 the fishing industry began to feel the hardships of the war, as key men were being drafted for military service. In October, deferment of shrimp boat captains and engineers was sought. By February 1943, captain and engineers were allowed deferments from the draft ranging from 90 days to six months. Since it took one to two years to train men for these jobs, the War Manpower Commission finally took action in March to make boat captains exempt from the draft.

The action was done, in part, because wartime shortages in the nation's meat supply made seafood supplies more important. Demand was so high that almost all seafood was shipped out of the state and seafood became difficult for consumers to find in Morgan City. When seafood could be found, it brought a high price.

The high demand and price for shrimp caused the wartime Office of Price Administration (OPA) to step in and set maximum prices that could be paid to fishermen for shrimp. Previous setting of prices that processors could charge for shrimp when they resold them, meant that processors couldn't afford to buy shrimp at the prices fishermen were getting on the fresh market, and the entire catch was being diverted to the fresh market. The fishermen's price ceiling was announced in September, 1943.

Head on. (per 210 lb. barrel)

Under 9 per lb.	\$32.00
9 - 12 per lb.	\$28.00
12 - 15 per lb.	\$24.00
15 - 18 per lb.	\$20.00
18 - 25 per lb.	\$17.00
26 - 39 per lb.	\$14.00
40 and over	\$11.00

Headless. (per pound)

Under 12 per lb.	33 cents
15 - 20 per lb.	28 ½ cents
21 - 25 per lb.	24 ¼ cents
26 - 30 per lb.	21 ½ cents
31 - 42 per lb.	19 cents
43 - 65 per lb.	16 ½ cents
66 and over	14 cents

Newspaper accounts stated that shrimp 9 to 12 and 12 to 15 to the pound were the predominant sizes landed locally.

Other stresses on the shrimp industry appeared in 1943. Shortages of ice kept many boats at the dock. Parts were difficult to get and many boats began breaking down. Often they were tied up for months waiting for repairs. The draft and high-paying factory jobs caused a shortage of workers in seafood plants. The labor shortage became so serious that the Child Labor Bureau allowed 14 and 15 year olds to work at heading and peeling shrimp.

In January 1944, Harvey Lewis, President of the Fishermen's Association and John Santos, President of the Southwest Louisiana Shrimp Dealer's Association teamed up to push OPA to increase the price of shrimp 20 count and larger from \$24 a barrel to \$28 a barrel. A movement began in March to get all fishermen the same deferral from the draft as agricultural workers.

In spite of the problems, 1944 was shaping up to be a very good shrimp year, with shrimp catches as high as 40 barrels a trip in August. In November, a local shrimper, Ashley Galloway, brought in a record catch of 147 barrels. November was called the "biggest month in history."

With the war nearing an end, Harvey Lewis traveled to Washington to get a plan approved for the federal government to finance fishing boats for returning veterans. The war's end meant other changes as well. The first all-steel shrimp boat appeared in Morgan City in 1945.

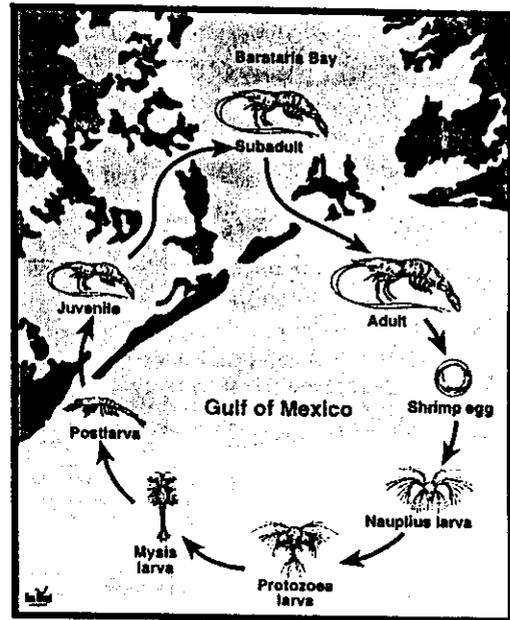
The offshore oil industry in the Gulf of Mexico began to expand after the war. In August, offshore drilling was called a threat to the fishing industry and claims were made that seepage and spillage would ruin fishing grounds. Harvey Lewis of the Fishermen's Association complained to the Maritime Commission that markers put out by an oil company were fouling nets and propellers of trawlers. The U. S. Coast Guard warned the company and instructed that markers must be flagged and then be removed immediately after use.

Today, over a half a century after World War II, shrimp fishermen still have complaints about shrimp prices and are still sharing Gulf waters with the oil industry. The shrimp fleet is larger, and although the total annual catch for the state is larger, the catch per vessel is less. Probably the biggest change is the avalanche of fisheries regulations that have been put in place in the last 20 years.

SEA GRANT OFFERS NEW POSTER

The Louisiana Sea Grant College Program has printed a new 19 X 26 inch four-color poster illustrating the typical life cycle of saltwater shrimp. The reverse side of the poster is loaded with information on shrimp biology and the shrimp fishery.

The poster may be ordered at no charge by writing the Louisiana Sea Grant College Program, Communications Office, 104 Sea Grant Bldg, LSU, Baton Rouge, LA. 70803 or by calling 225/388-6448.



THE LIFE CYCLE OF A SHRIMP

CATFISH ANGLERS ARE DIFFERENT!

Besides being an important commercial fishery in the south, freshwater catfish are also fished heavily by recreational fishermen. Two surveys in our neighboring states of Mississippi and Texas were recently conducted to gather information on the attitudes of catfish anglers.

While surveyed catfish fishermen agree with other recreational fishermen about some of the reasons for fishing, such as relaxation, getting away from routine, being outdoors, and so forth, one big difference popped out. They wanted to catch and keep large numbers of fish to eat and they were against regulations to control their catch.

Even specialized catfish fishermen that targeted large blue and flathead (yellow) catfish were opposed to regulations. This is very different from specialized fishermen that target bass and trout, who generally support low limits and catch-and-release fisheries. The catfish fishermen in the Mississippi survey even agreed that regulations were needed for other sport fish but did not agree with the need for any regulations to prevent over-fishing for catfish.

Catfish fishermen are different critters!

Source: *Fishing Environment Preferences and Attitudes Toward Overharvest: Are Catfish anglers Unique?* H. L. Schramm, Jr., J. T. Forbes, D. A. Gill, W. D. Hubbard. Differences in Attitudes and Fishing Motives Among Texas Catfish Anglers. G. R. Wilde and R. D. Ditton. 1st International Ictalurid Symposium. 1998.

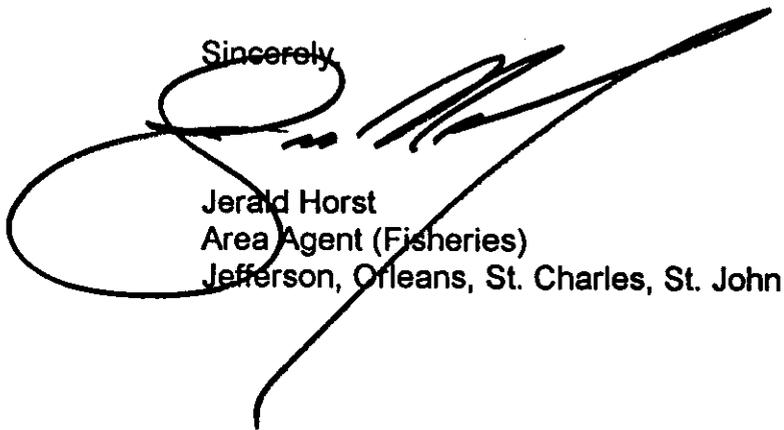
THE GUMBO POT
Crabmeat Quiche

Whoever said "real men don't eat quiche" hasn't tried this recipe. It is delicious. I enjoyed it as is, but if you are a salt lover you may want to taste the mix to check if it has enough salt for you before putting into the pie shells. This tasty recipe comes to us from Michelle McKeon, owner of Silent World Aquariums in Metairie.

1 lb crabmeat	4 green onions, chopped
8 oz Swiss cheese, shredded	2 tbsp flour
8 oz cheddar cheese, shredded	8 drops tabasco sauce
1 cup half & half	2 frozen deep-dish pie shells
2 eggs, lightly beaten	

Place all ingredients (except pie shells) together in a bowl and mix well. Spoon the mixture into the two unbaked pie shells. Place on a cookie sheet in a 350 degree oven and bake for 30 minutes. Serves 6.

Sincerely,



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