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Lagniappe

Sea Grant LOUISIANA

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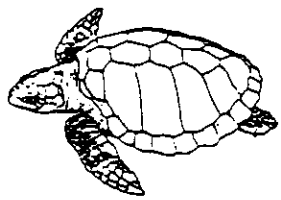
2004 KEMP'S RIDLEY SEA TURTLE NEST COUNT



After setting a modern record for numbers of nests on Mexican beaches in 2003, the number of Kemp's ridley sea turtle nests tumbled 14%, to 7,147, in 2004. While the number of nests fell, the number of hatchlings (baby turtles) produced set a new modern record at 500,767, a 5% increase over 2003.

Although some Kemp's ridley females nest two years in a row, the majority of them nest every other year, producing 2 to 3 nests during the season. Each nest contains a hundred or so eggs that require from 42 to 62 days incubation, depending on the temperature in the nest. Females come onto the beaches to dig their nests between 5:30 a.m. and 9:30 p.m. This species of turtle nests almost exclusively on Mexican beaches, with the largest concentration being at Rancho Nuevo.

YEAR	NO. OF NESTS	YEAR	NO. OF NESTS
1978	924	1992	1275
1979	954	1993	1241
1980	868	1994	1562
1981	897	1995	1930
1982	750	1996	2080
1983	746	1997	2387
1984	798	1998	3845
1985	702	1999	3640
1986	744	2000	6277
1987	737	2001	5442
1988	842	2002	6436
1989	888	2003	8323
1990	992	2004	7147
1991	1178		

In 1947, an estimated 40,000 Kemp's ridleys arrived in one mass nesting event. By the mid-1980s, nest numbers had declined to 702. The turtle's decline was primarily

due to the collection of eggs on the beaches and the killing of the adults for meat and other products. Additional deaths were also caused by accidental catch in shrimp trawls. The decline in numbers of Kemp's ridley sea turtles brought on the mandatory use of TEDs in shrimp trawls in an effort to save it.

Source: *2004 Report on the Mexico/United States of America Population Restoration Project for the Kemp's Ridley Sea Turtle, Lepidochelys kempii, on the coasts of Tamaulipas and Veracruz, Mexico.* Report to U.S. Fish and Wildlife Service. Patrick M. Burchfield and Luis Jaime Pena. Gladys Porter Zoo. 2004.

SHRIMPERS' T.A.A. TRAINING MEETINGS SCHEDULED

The LSU AgCenter's Extension Service has scheduled nine technical training meetings across South Louisiana for commercial shrimpers. Attendance at one of these meetings is required to qualify for Trade Adjustment Assistance (TAA) payments.

Attendance is not limited to shrimpers who are qualified for TAA this year. Anyone may attend any of these 3-hour seminars, including shrimpers who didn't qualify this year, but expect to qualify next year. Attendance is only required once, even if a shrimper qualifies for payments several years.

Shrimpers who have qualified for Texas TAA payments can satisfy their requirement for seminar attendance by attending a Louisiana seminar. The same applies to people who expect to qualify in Mississippi.

The dates, times, and locations of the Louisiana seminars are as follows:

Monday, April 4
9:00 a.m.
Westbank Regional Library
2751 Manhattan Blvd
Harvey, LA

Monday April 4
3:00 p.m.
Belle Chasse Library
8400 Belle Chasse Hwy
Belle Chasse, LA

Thursday, April 7
9:00 a.m.
LSU AgCenter Office
Courthouse, Suite B-110
300 Iberia St.
New Iberia, LA

Thursday, April 7
3:00 p.m.
LSU AgCenter Office
1105 West Port St.
Abbeville, LA

Friday, April 8
9:00 a.m.
Cameron Police Jury Annex
115 Smith Circle
Cameron, LA

Monday, April 11
9:00 a.m.
Slidell Auditorium
2056 2nd St.
Slidell, LA

Tuesday, April 12
9:00 a.m.
Larose Civic Center
307 East 5th St.
Larose, LA

Tuesday, April 12
2:00 p.m.
Ward 7 Citizen's Club
5006 Hwy 56
Chauvin, LA

Thursday, April 14
9:00 a.m.
Islenos Center
1357 Bayou Rd.
St. Bernard, LA

The meetings in Belle Chasse on April 4 and Abbeville on April 7 will be Vietnamese language interpreter-assisted.

COUNTING FROGS

When one thinks of frogs in Louisiana, the first thing that pops into most people's minds is tasty bullfrog legs sizzling in a pan of hot cooking oil. But there is a lot more to frogs than frog legs. Besides the bullfrog, there are actually 30 other kinds of frogs in Louisiana.

Because of their life cycle, many scientists consider frogs to be like "canaries in a coal mine". Legend has it that because canaries died more quickly from poisonous mine gases than miners did, coal miners brought the birds into the mines with them to warn them about dangerous gases.

Frogs (and toads), like their amphibian relatives, salamanders, lay their eggs in water and spend their early life histories there. After growing there a period of time, frogs, toads and some salamanders leave the water for life on land. At all stages of their life, amphibians have very thin skins that allow environmental pollutants in the water, in the air, or on land, to enter their bodies.

Frog populations have shown the wear and tear of a crowded world. Thirty percent of the world's 1,666 amphibian species are in decline. Since 1990, 91 species of frogs in the world have become extinct. Compare this to the entire continent of North America, which has only about 100 species of frogs. Many things affect frogs. Increased ultraviolet light, such as that caused by the thinning of the ozone layer, can affect the DNA in tadpoles. A newly discovered fungus, found worldwide, can cause deformities such as too many legs. High levels of certain chemicals in water have been shown in the lab to cause male frogs to become female-like. Global warming also affects frogs.

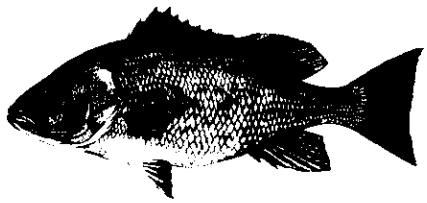
In the early 1990s, reports of reduced amphibian populations were received worldwide. In response, North American scientists began an effort to monitor amphibian populations. The Louisiana program, begun in 1996, became known as the Louisiana Amphibian Monitoring Program (LAMP).

Under LAMP, the state is divided into 59 locations. At each location, trained volunteers run routes 3 times a year during the peak breeding periods of winter, spring and summer. Each route has 10 five-minute stops at which the volunteer identifies the species calling. Code 1 is one frog calling. Code 2 is several frogs calling, but with their individual voices each being able to be heard. Code 3 is a wall of sound. The volunteer also records temperature and other environmental conditions. LAMP is intended to produce scientifically sound data on frog populations over a long period of time. This will allow scientists to determine if populations change from their normal level. In the long run, the data can be used to help determine what environmental events affect amphibian populations.

Presently, LAMP only has 43 volunteers to run the 59 routes and the program organizers are looking for more volunteers. While volunteers from anywhere are welcome, areas of critical shortage are for people interested in running routes in Terrebonne Parish and portions of north Louisiana.

Volunteers will receive training so that they can identify the species of frog by their voices. Time commitment would be 1½ hours for 3 nights per year, plus the training time. People interested in volunteering for LAMP may contact Steve Shively at 318/793-9427 or steveshively@fs.fed.us, or Jim Delahoussaye at 225/219-3002 or jim.delahoussaye@la.gov.

DISTURBING RED SNAPPER RESEARCH



There is a lot about current red snapper fishing regulations that seems to hack people off. Recreational fishermen in Louisiana dislike the April-October season, which is closed during the best winter months. Commercial fishermen dislike the derby system created by 10 day-per-month seasons and trip limits. Both groups especially dislike the minimum size rule (16 inches recreational, 15 inches commercial), suspecting that most of the released undersize fish die anyway.

In the 2001-2004 period, Louisiana State University scientists sampled 2,900 red snappers from the commercial catch in Cameron, Louisiana. The fish were weighed, measured, sexed, and aged by counting the rings in their otoliths (ear bones). This part of the study was very similar to LSU studies done in 1995-1997 and 1997-2000.

Red snappers 1-14 years old were found in the catch, with 96.6% of the fish being 2-6 years old. None of the very old fish (48 and 39 years old in the previous studies) were found. The most noticeable result found in this research was a dramatic increase in numbers of fish in the smallest sizes (18 inches and under), and a dramatic decrease in the number of fish in the largest size classes.

In the other part of the study, biologists went on 16 commercial snapper boat trips of 2-5 days each. On the boat they carefully watched and recorded the condition of the red snappers that had to be released because they were under the legal minimum size limit.

They put the fish into 4 categories:

1) Alive and swam down vigorously
2) Alive and swam down slowly or erratically
3) Alive, but floated and remained at the surface
4) Unresponsive or dead

Water depth, capture depth, date, location and type of fishing gear was recorded. In addition, about 25 undersized fish were kept each trip for aging.

A total of 4,839 undersized fish were characterized during the 16 trips. All fish were caught with multi-hook rigs at depths of 29-276 feet. The results were as follows:

1) 778 (16%) were alive and swam down vigorously
2) 714 (14%) were alive and swam down slowly or erratically
3) 1,765 (36%) were alive but could not swim down
4) 1,582 (33%) were unresponsive or dead.

Fully 69% of the released undersized red snappers were dead or near-dead. The researchers noted that predators likely caused additional deaths on released fish as they were trying to swim down.

Among the 399 undersized red snappers kept by the biologists, the size ranged from 10 to 15 inches, with an average of 13 inches. Of the total, 86% were 12 or less inches long. Ages were 1-4, with 86% being 2 years old.

The researchers concluded that the current regulations have created a derby fishery that requires catching the maximum amount of fish in the minimum amount of time. This means that commercial fishermen have little incentive to fish further offshore in deeper waters, where the larger, older fish are presumed to live.

The upshot is that red snappers are harvested as soon as they reach legal size as 3-year olds or as fast-growing 2-year olds. A continuing shift in harvest sizes would be of concern.

Also, the 69% mortality rate observed for released red snappers in the study is much higher than the 33% number used to create the current system of regulations. In language that can't be confused, the scientists in the study stated that they "....recommend that the Gulf of Mexico Fishery Management Council and NOAA Fisheries reconsider the utility of the minimum length regulation on the commercial harvest of red snapper."

Source: *Red snapper (Lutjanus campechanus) in the Northern Gulf of Mexico: Age and size Composition of the Commercial Harvest and Mortality of Regulatory Discards.* MARFIN Grant No. NA17FF2007. Charles A. Wilson and David L. Nieland. Coastal Fisheries Institute, LSU. 2004.

COOPERATION NEEDED FOR SUCCESSFUL SHRIMP SURVEY

NOAA Fisheries is continuing to collect financial and social information from shrimp fishermen in the Gulf of Mexico. The survey is gathering information directly from vessel owners through personal interviews. The goal is to randomly survey 10% of the shrimp fleet in each state. All segments of the fishery are included – it doesn't matter whether fishermen have a large or small boat, shrimp full time or part time, or fish only in state or federal waters. The survey is also translated into Vietnamese.

A pilot survey started in Texas in 2003. It expanded to Louisiana, Mississippi, Alabama, and the west coast of Florida in 2004 and 2005. The project is being managed by MRAG Americas, Inc., a science-based fisheries consulting firm headquartered in Tampa, Florida.

Some in the industry are skeptical or wary of answering personal questions — no one likes sharing their financial information. But fishermen are encouraged to cooperate if they are randomly selected to participate. It has been over 12 years since this type of information has been collected, and the old information no longer applies since the industry has been changing too quickly. NOAA needs to have and use more up-to-date information when management decisions are made.

Survey questions cover all financial aspects of shrimp fishing. "Everything is kept confidential and the information is strictly for fishery management use. Final reports will only show aggregated data, not individual shrimping operations," said Heidi Lovett, project manager.

Project reports will show what shrimp fishermen are facing financially across the entire Gulf of Mexico region. Fishermen, their organizations, politicians, and managers will be able to use the reports to improve long-term management and possibly the economic and social health of the fishery.

Any fisherman with questions about the survey are welcome to contact Project Managers, Heidi Lovett (Heidi.Lovett@mragamericas.com) and Oleg Martens (Oleg.Martens@mragameri-cas.com) at 813-639-9519 in Tampa, or the NOAA Fisheries Project Coordinator, Michael Travis (Mike.Travis@noaa.gov) at the Southeast Regional Office at 727-570-5335.

INTERVIEWERS NEEDED FOR SURVEY EFFORT

Marine Resource Assessment Group (MRAG) Americas, Inc., a Tampa-based consulting firm, is actively seeking individuals to work as Interviewers for the shrimp socioeconomic survey. The survey aims at gathering financial and social information

from shrimp vessel owners throughout the Gulf of Mexico. The gathered data will be used to produce a report portraying how vessel owners and their businesses are affected by economic factors.

Interviewers must be knowledgeable about shrimping; should know their local landing ports, fish houses, shrimp docks, etc.; have a vehicle, telephone, and access to either a fax machine or computer. They are looking for individuals who can work part time or full time for several months. The work involves good record keeping, contacting vessel owners, setting up appointments for interviews, and conducting face-to-face interviews.

The project is currently underway and will last until late May. The pay is $20/hour and all project-related expenses are reimbursable (phone charges, copying, mail, and mileage for all travel). If interested and/or for questions, please contact them by phone or email:

MRAG Americas, 813-639-9519
Heidi Lovett, project manager, heidi.lovett@mragamericas.com
Oleg Martens, project assistant, oleg.martens@mragamericas.com

A B Cs OF SEAFOOD IRRADIATION

Even though most of us have come up in the Nuclear Age, the word 'irradiation' still sounds scary when its used in the same sentence as the word "food". Yet food scientists say that irradiation may be the best answer for many of the problems in processing and handling seafood.

Irradiation has been approved for use with beef, veal, pork, lamb, sausages, lunch meat, chicken, turkey, duck, fruits, vegetables, flour and grains, spices and herbs, eggs, and dairy products. It is not used on nuts, nor is it often used in dairy products. Both develop off-flavors, off-odors or off-colors. In spite of its wide use, the U.S. Food & Drug Administration (FDA) has not approved its use for seafood. In seafood it may prove to be especially effective as a post harvest treatment (PHT) method to rid oysters of *Vibrio* bacteria.

Irradiation does not leave food radioactive. Although it is legally considered to be a food additive, it leaves nothing behind in the product. All irradiated foods sold wholesale or retail must be labeled and carry the radura sign shown at right. Studies have shown that consumers who are educated to be familiar with irradiation are more likely to buy and willing to pay more for irradiated products.

Radiation works because it causes molecules to ionize (get an electrical charge). When ionized, the "excited" particles only live for 1/100,000,000,000 of a second, but during that time they can cause cell death, altered growth and DNA damage. By-products of radiation treatment of food are hydrogen gas, water and hydrogen peroxide.

The effectiveness of irradiation depends on many factors, and it affects different microorganism differently. For example, bacteria are more susceptible than viruses, and higher animals are more susceptible than bacteria. Other factors include the concentration of microorganisms, how fast the radiation is emitted, and the source of the radiation. With more water or more oxygen, the ionization reaction caused by radiation becomes more effective. Low temperature can slow the process, but it is still very effective, even at freezing temperatures. Frozen products can be effectively irradiated without thawing them. Higher doses are allowed for frozen products.

Radiation used in seafood processing could come from 3 sources: gamma rays, electron beams, or x-rays. Gamma rays, produced from cobalt 60 or cesium 137, are the most effective, penetrating food best, but are very expensive. Electron beams are composed of high speed electrons produced by linear accelerators. They are less penetrating than gamma rays. X-rays are high-energy photons, similar to gamma rays. They are more penetrating than electron beams and less costly than gamma rays.

Radiation is simply energy moving through space. Radiation doses are measured in "grays" (Gys). One thousand Gys is a kGy. It takes 10 kGy to raise the temperature of one liter (1.06 quarts) water by 1.3°F.

Radiation can be used many ways in food processing. It can increase safety by eliminating or reducing disease-causing organisms. Radiation also increases shelf life by reducing spoilage bacteria, preventing sprouting, and getting rid of insects and other pests. It can even be used in fruits and vegetables to delay ripening or prevent sprouting.

Radiation has been shown to be an effective (but expensive) method of PHT for oysters to reduce *Vibrio vulnificus* to non-detectable levels. When used in low doses, it doesn't even kill the oyster.

Research done by Mississippi State University researchers shows that consumers, even sophisticated consumers at seafood trade shows, cannot tell the difference between irradiated and untreated oysters. The researchers conducted triangle sensory tests at four different events between 2001 and 2004. One treated oyster and 2 untreated, or 2 treated and 1 untreated oysters were given to consumers to eat. They were then asked to identify the odd one. A total of 385 panelists participated, but only 123 selected the right answer. This is lower than the 128 correct answers that could have been expected by random guessing.

FDA is expected to make a decision on permitting the use of radiation on oysters by summer, 2005.

Source: *Irradiated Foods: An Overview* and *Oyster Cobalt-60 and X-ray Irradiation: Vibrio vuluificus Response and Consumer Difference Testing.* Linda S. Andrews, Mississippi State University. Presented to the Louisiana State Seafood Industry Advisory Board. February 1, 2005.

IS YOUR FISHING RODEO REGISTERED?

NOAA Fisheries (National Marine Fisheries Service) is reminding operators of fishing tournaments, including local rodeos, that they must be registered with NOAA Fisheries if they have a category for any highly migratory species (HMS). Sharks, tunas, swordfish and billfish are considered to be HMS.

Registration is free and can be done online at www.nmfspermits.com or by telephone, 727/570-5447. Registration must be done at least four weeks before the tournament. The HMS Management Division will provide tournament operators with an identification number, which should be kept for the rest of the year.

Scientists will monitor catch and fishing effort based on the registration list. If the tournament is selected for monitoring, the operator will be contacted by NOAA fisheries scientists.

Also, private boat anglers should be alert to the fact that if they recreationally fish for, or even keep an occasional incidental catch of sharks, tunas, swordfish or billfish, they must have an HMS Angling Permit. This permit is also available online at www.nmfspermits.com Those without computer service may call 888/872-8862 and request an application form for the HMS Anglers Permit. The cost of the permit is $22. Charter boat operators are covered under the HMS Charter/Headboat Permit.

EMERGENCY COMMERCIAL GROUPER RULE

The National Marine Fisheries Service has published in the Federal Register an emergency rule establishing trip limits for the commercial shallow-water grouper (black, gag, red, yellowfin, scamp, yellowmouth, rock hind, and red hind) and deep-water grouper (misty, snowy, yellowedge, warsaw, and speckled hind) fisheries in federal waters of the Gulf of Mexico.

The following trip limits are established

1) Beginning at 12:01 a.m., local time, March 3, 2005, a 10,000-pound trip limit for deep-water grouper and shallow-water grouper combined is in effect;

2) If on or before August 1 more than 50 percent of either the shallow-water grouper quota (8.8 million pounds) or red grouper quota (5.31 million pounds) is reached, the trip limit will be 7,5000 pounds; and

3) If on or before October 1 more than 75 percent of either the shallow-water grouper quota or red grouper quota is reached, the trip limit will be 5,500 pounds.

The intended effect of this emergency rule is to moderate the rate of harvest of the available quotas, reduce the adverse social and economic effects of derby fishing, enable more effective quota monitoring, and reduce the probability of overfishing. This emergency rule is in effect for 180 days and may be extended an additional 180 days.

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 two months.

The coordinates are listed below:

Loran Sites

27638	46932	ST MARY

Lat & Long. Sites

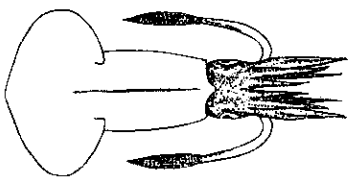
28 59.830	89 07.820	PLAQUEMINES
29 02.912	90 22.810	LAFOURCHE
29 08.313	90 56.307	TERREBONNE
29 08.910	90 56.040	TERREBONNE
29 10.226	90 40.804	TERREBONNE
29 13.485	89 49.572	JEFFERSON
29 15.801	89 57.696	JEFFERSON
29 17.040	90 43.041	TERREBONNE
29 17.318	89 41.413	PLAQUEMINES
29 18.247	89 54.946	JEFFERSON
29 20.360	89 56.200	JEFFERSON
29 21.503	89 59.114	JEFFERSON

Lat & Long. Sites

29 23.290	89 58.304	JEFFERSON
29 27.376	89 59.141	JEFFERSON
29 30.249	90 03.325	JEFFERSON
29 40.068	89 55.091	PLAQUEMINES
20 46.090	89 13.420	ST BERNARD
29 49.534	89 16.111	ST BERNARD
30 02.771	90 19.828	CAMERON
29 10.345	90 39.967	TERREBONNE
29 11.085	90 06.559	TERREBONNE
29 16.031	89 37.536	PLAQUEMINES
29 17.423	89 57.528	JEFFERSON
29 21.061	89 35.703	PLAQUEMINES
29 25.058	80 49.702	JEFFERSON
29 34.424	90 30.424	JEFFERSON
29 39.760	91 55.750	IBERIA

SQUIBS

"Squibs" is now becoming a seldom-heard term on the bayous of Louisiana when referring to squid. Several species of squid occur along and off the Louisiana coast. In 1984 - 1985, a Japanese research vessel, the *Nisshin Maru No. 201*, was contracted to do exploratory fishing for squid off of Louisiana. They found shortfin and the more valuable longfin squid species, but not in commercially profitable numbers. What they did find in large numbers was a smaller species, the brief squid, *Lolliguncula brevis.* Although they make excellent tablefare and are good bait, brief squid are small and have little commercial value.



Recently, biologists at LSU analyzed 15 years of Louisiana Department of Wildlife and Fisheries trawl sample data to learn more about this squid. Over 48,000 were captured during the period of analysis. Some brief squid were found in all areas sampled at all times of the year, but they were most common during the spring, followed by the summer. During the summer they were the smallest in size and during the fall they were the largest.

Brief squid are shallow-water animals, with some found in waters as shallow as 3 feet and most of them inhabiting waters less than 20 feet deep. During the winter months they use slightly deeper water than during other seasons.

The most preferred temperatures were 77°F - 81°F. In the winter, brief squid were found in salinities of 0 - 32 ppt (parts per thousand), but in the other three seasons, they seemed to prefer salinities that were higher. Some were found at 36 ppt (full strength sea water), but the preferred salinity seemed to be 26 ppt.

Brief squid are small, with males reaching 3.2 inches and females 5.8 inches in length. They have a life-span of only 100 - 200 days. Like other squid, they can swim rapidly by using jet propulsion, squirting water from their mantle. They can also swim slowly by using their short fins, which seems to demand less oxygen than jetting.

Source: *Patterns of Distribution and Abundance of the Brief Squid (Lolliguncula brevis)*. Monica E. Ingram and Donald M. Baltz. Louisiana Chapter of the American Fisheries Society, 26th Annual Meeting. February 3 - 4, 2005.

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THE GUMBO POT

Low Country Boil

Convincing Louisiana people that other people can boil or steam seafood as good as them is a difficult task. In fact, if you pass a positive comment on boiled seafood from somewhere else, they usually look at you as if you are crazy. But even Louisianans should like this recipe, also known as Frogmore stew. It is South Carolina's unofficial seafood dish. Like for Louisiana boiled seafood, there are many different recipes for low country boils, but I think that you will like this one.

5	lb smoked hot sausage, cut to 1-inch pieces	2	lb whole baby carrots
2	gal water	½	cup cider vinegar
1	6-oz can Old Bay Seasoning	15	ears of corn, cut to 2-inch pieces
5	lb new potatoes, halved	5	lb raw extra large shrimp, peeled
2	lb small onions, peeled and quartered		salt to taste
6	cloves garlic, minced		cocktail sauce
			lemon wedges

In a large frying pan, brown the sausage; remove from heat and set aside. In a very large pot, add water and Old Bay Seasoning. Add potatoes, onions, garlic, and carrots. Boil for 20 minutes. Add the sausage (with drippings) and vinegar: Cook another 15 minutes. Add corn and shrimp. Cook an additional 4 to 5 minutes or until the shrimp turn pink. Taste and adjust salt. Drain and spread on newspaper with cocktail sauce and lemon wedges. Serves 10.

Sincerely,

Jerald Horst
Associate Professor, Fisheries