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# Lagniappe

Sea Grant LOUISIANA

November 1, 2004 Volume 28, No. 11

## NEWSLETTER D-DAY

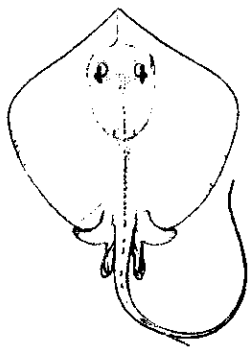
For the last two years, we have urged our newsletter subscribers to switch their subscription from paper to e-mail because of budget worries. Well, the day that we were worried about has arrived. We can no longer print and send **free** paper newsletters to our loyal readers.

Beginning January 1, 2005, readers will have two options. People who don't have e-mail or who prefer to receive paper copies can subscribe for a $10 fee per year. The subscription form is on the last sheet of this newsletter.

E-mail subscriptions will still be free. E-mail subscribers will also get each month's edition slightly earlier than paper subscribers. To change your subscription to e-mail, simply send a request to do so by e-mail to jhorst@agctr.lsu.edu. You must include your name and parish of residence.

If you are a current e-mail subscriber, you do not have to respond in any fashion. Your free subscription is extended indefinitely.

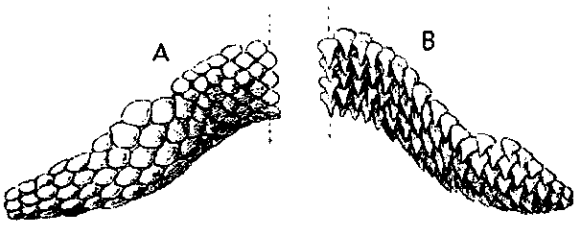
## CHANGING CHOPPERS



Three species of stingrays exist in the waters of the northern Gulf of Mexico, the Atlantic stingray *(Dasyatis sabina)*, the southern stingray *(D. americana)* and the bluntnose stingray *(D. sayi)*. The bluntnose stingray is the largest of the three, often reaching up to 3 feet across. Compared to the pointed noses of the other two species, the bluntnose stingray has, well — a blunt nose. Additionally, the front edge of the "wing" from the nose tip to the wing tips is convex or "bowed out".

The other two species are smaller, with the southern stingray seldom approaching 2 feet across and the Atlantic stingray usually topping out at 14 inches. The leading edge of the wing in the southern stingray is straight from the tip of the nose to the wing tip. In the Atlantic stingray it is concave, or bowed inward.

The Atlantic stingray is an interesting creature. It is very common in shallow, low-salinity waters and even moves up the Mississippi and Atchafalaya Rivers for miles. Most interesting, however, is the fact that male Atlantic stingrays change their teeth to breed each year.




*D. sabina* dentition - A. tooth band of female, B. tooth band of male
(Fishes of the Western North Atlantic, 1948)

Females year around and males outside of the breeding season have heavy molar-like teeth, such as those on the far left. These are useful for crushing food items such as amphipods, mole crabs, pistol shrimp, clams, segmented worms, and some kinds of starfish.

During the October-March breeding season the males shed these teeth and grow sharp pointed teeth (above right). When breeding, the male closely follows the female, nipping at her body and fins. Finally, he grabs the wings of the female with his teeth and holds her firmly while he uses his claspers (finger-like fin extensions at the base of the tail) to transfer sperm into the female.

The female Atlantic stingray keeps the fertilized eggs in her body until they hatch. After the young stingrays finish absorbing their yolk sac, the female provides more food for the young with a secretion called "uterine milk", which, of course, is not a true milk. The young are born alive in mid to late summer.

Atlantic stingrays have rows of sensory cells on their bodies called "Ampullae of Lorenzini" that are able to detect weak electric fields produced by the animals they eat. They can even use this sense to find prey items buried in the bottom. Scientists also believe that males can use this sense to find buried females during the mating season.

The major predators of Atlantic stingrays are sharks, including the bull, tiger and white sharks. In freshwater, the alligator is thought to feed on stingrays.

Sources: Florida Museum of Natural History website. *Predator Prey Interactions.* Michael R. Heithaus. Biology of Sharks and their Relatives. CRC Press 2004.

**ATCHAFALAYA BASIN MAP**

The Louisiana State Lands Office (SLO) has announced the completion of its comprehensive mapping of ownership for both land and water areas within the Atchafalaya Basin. Because of chanalization and sedimentation, nothing in the Basin looks anything like it did 40 years ago. As a result, a great deal of confusion exists over which areas are publicly owned and which are private.

Because of the frequency of access disputes and trespassing conflicts, the Atchafalaya Basin Program's Living Resources Committee requested the SLO to prioritize the Atchafalaya Basin in its statewide mapping initiative. SLO did so and now has available a beautiful, detailed 42" X 72" map of the entire Basin showing public versus private ownership.

The map costs $40 and may be ordered from Records Section, State Lands Office, P O Box 44124, Baton Rouge, LA 70804. Checks should be made out to "State Lands Office". If more information is needed, call Marty Beasley at 225/342-4450.

**CRABMEAT IMPORTS BACK IN THE NEWS**

Competition from cheaper imports has become a fact of life for Louisiana seafood producers and marketers. While shrimp imports have dominated the news lately, crabmeat producers have also felt the heat of increased competition from less-expensive imports.

In March 2000, The Blue Crab Coalition, representing the crabmeat producers of the southeastern United States, filed a petition with the International Trade Commission (ITC) under Section 201 of the Trade Act of 1974. What spurred the petition was that crabmeat imports tripled between 1994 and 1999 and that sales of US-produced crabmeat dropped by 38%. During the same period, 27% of US crabmeat processing plants went out of business.

To get help from a Section 201 Petition, the imported product does not have to be proved to be traded unfairly or dumped. All that has to be shown is that the imports are a "substantial cause of serious injury" or a threat to cause injury to the domestic industry. If the ITC finds injury or threat of injury, the President of the United States can grant temporary import relief, such as quotas or tariffs. Unfortunately, the ITC ruled against the US crabmeat producers' petition.

Now, many crabmeat processing plant closures later, the Louisiana industry is again up in arms. According to data supplied to the Louisiana Crab Task Force, from 2000 to 2004, levels of imported pasteurized crabmeat have increased by 94% — from 71 million pounds to 138 million pounds.

For fresh crabmeat, which competes mostly directly with Louisiana-produced product, import quantities have only increased by 4% between 2002-2003, and the 29 million pounds imported in 2003 is well below the 39 million pound figure set in 2001. Venezuela is considered to be the importing county that competes most directly with Louisiana crabmeat.

Closer inspection may reveal the problem, however. Total fresh imports for the first 7 months of this year are 20% higher than for the same period last year. Even more important than volume is price. Three of the four largest fresh crabmeat exporters showed per pound price increases for the 2002-2003 period: Thailand, +26.7%, Indonesia, +17.8% and Ecuador, +18.7%. But, Venezuelan prices dropped – by a

whopping 21.2%. The decline continues. The first 7 months of this year show another 6.5% decline in Venezuelan fresh crabmeat prices, while prices increased for the other three countries.

Frustrated crab processors on Louisiana Crab Task Force are urging the industry to consider launching an antidumping petition, similar to those successfully done for crawfish, catfish and shrimp imports. Most challenging for such an effort is how to raise the $1 million estimated to be required.

**FISHING THE EDGES OF M.P.A.S.**

California has been one of the leading states in the creation of marine protected areas (MPAs) for use in fisheries management. MPAs, or marine reserves, as they are also called, are promoted as providing many fisheries benefits, one of which is "spillover." Since fish on an MPA are protected, they should grow to larger average sizes. Some of these larger fish are expected to "spillover" or wander into areas open to fishing, where their catch benefits fishermen.

One factor likely to affect these benefits is a clustering of fishing activity on the edges of the MPA. Concentration of fishing effort on the edges of MPAs, especially small ones can have two effects: 1) It may reduce the number of fish that successfully move to other areas and limit the number of fishermen benefited by the MPA. 2) It can reduce the potential to establish populations of mature fish in the area outside of the MPA.

In 1997-1998, two California biologists studied patterns of fishing activity above, below, and near the Big Creek Marine Ecological Reserve (BCMER) located off Central California's Big Sur coast. Boats fishing the entire area can be observed from 8 points along the coast using 10x40 binoculars. This 2.7-square mile MPA is located 39 miles south of Monterey. Boats that commercially fish the area are mostly from either Monterey to the north or Morro Bay in the south. The primary fishery is for rockfish.

From September 1997 to August 1998, 144 large commercial vessels fished the area for rockfish. On 34 different days the biologists stopped at all 8 observation sites over a 41-mile stretch of coastline and counted boats in each area. The researchers found no clustering of boats on the BCMER boundaries, as compared to nearby areas. Fishing activity actually increased in areas further away from BCMER (and closer to the fishing ports of Monterey and Moro Bay).

Interviews with fishermen indicate that fishing conditions along the entire Big Sur are good, including those areas closer to the ports. This likely accounts for more fishing activity closer to ports and further away from BCMER. But even the fishermen that fished further away from the ports and near the BCMER didn't concentrate on the BCMER boundary.

The researchers said that the low concentration of fishing effort on the MPA boundaries could have been due to two things: 1) Fish outside the MPA are larger or

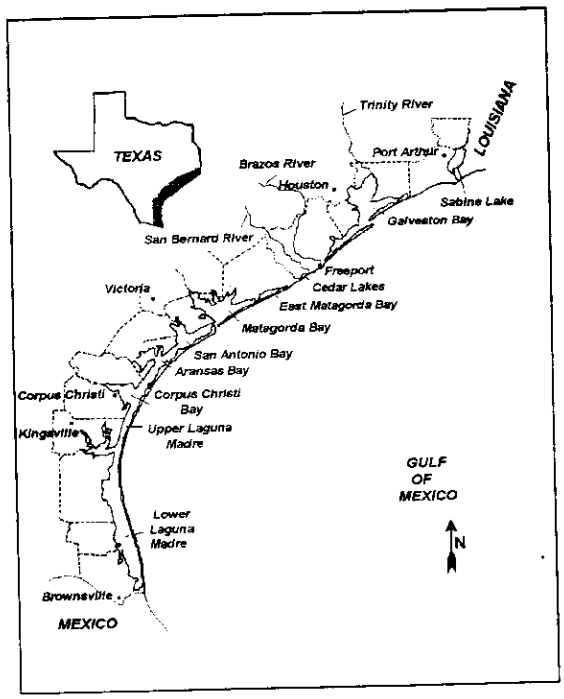
more abundant than inside the MPA. 2). Fishermen in the area may respect the MPA boundaries and avoid the area. The biologists said that they felt the second reason was the most important for this area. They said that interviews with commercial rockfish fishermen showed support for the MPA. Furthermore, informal agreements between the BCMER manager and commercial fishermen were made before the MPA was legally created. This may have created respect for the MPA.

Finally, the biologists noted that while they saw no poaching inside the MPA and no clustering of boats on the MPA boundaries, this could change with time, if fish populations change inside and outside the area. They added that they thought that the informal agreement between the commercial fishermen and the BCMER manager will continue to play a role.

Source: *Do Commercial Fishers Aggregate Around Marine Reserves? Evidence from Big Creek Marine Ecological Reserve, Central California.* Chris Wilcox and Caroline Pomeray. North American Journal of Fisheries Management, 3: 241-250. 2003.

## TEXAS FISH TAGGING SUMMARY

Biologists tag fish for many reasons. The recapture of tagged fish provides information on their migration and movement, and length of life. If length and/or weight are recorded both on release after tagging and upon recapture, growth rates can be determined. With a properly designed tagging study, the total population of a species can be estimated, as well as can the harvest rate.




Fish tagging on the Texas coast began in 1950. From 1950-1975, 73,926 fish were tagged, and 3,386 of these were recovered. In late 1975, the Texas Parks and Wildlife Department (TPWD) increased its tagging efforts, producing 151,890 tagged fish by December 1999. The fish were obtained by TPWD using rods and reels, gill nets, trammel nets, bag seines, beach seines, shrimp trawls, trotlines, longlines, and fish traps. In 1998, tagging efforts slowed as biologists shifted to other priorities. Rewards were paid for all tag returns, ranging from $1 to $25.

In analyzing the data, all fish that traveled less than 1.2 miles were considered to have been recaptured at their release site Fish released from trammel nets had the

highest recapture rate (14.9%), followed by trotlines (10.5%), fish traps (9.2%), rods and reels (7.2%), and gill nets (5.6%). A total of 9,616 tags were returned for the 1975-1999 period. Tagging was focused on five species, red drum, spotted seatrout, black drum, sheepshead, and southern flounder, although 72 other species were tagged in smaller numbers. Tagging was mostly done in coastal bays, although some fish were tagged in the Gulf.

## Red Drum

Redfish had the highest recapture rate at 11.1%. They were also the most likely of the five species to be recaptured at the same area of release, with 43.7% caught at their release site. Of the total, 87.0% were caught in the same bay system in which they were tagged, 5.2% were recaptured in other bay systems, 4.1% were released in bays and recaptured in the Gulf, and less than 1% were both released and recaptured in bays. Two Gulf-released fish were recaptured in bays. Eight fish that were released in bays were recaptured in Louisiana and two others came from Mexican waters. Recaptures in bays peaked in November.

The average distance traveled was 7.2 miles and 83.1% were recaptured within 12 miles of their release site. The longest distance traveled was 376 miles, from Matagorda Bay to East Timbalier Island, Louisiana. Another fish, released in Galveston Bay, traveled 283 miles to near Grand Isle, Louisiana.

The longest time that any redfish was free after tagging was 6,763 days (18.5 years). No length was recorded at recapture. Another fish, which was free for nearly 15 years, grew from 25 inches to 38.6 inches long. Most recaptured redfish (81.3%) were caught within one year of release.

## Spotted Seatrout

The recapture rate for speckled trout was 6.2%. Of the recaptures, 83.3% were caught in the same bay as release, 8.6% were recaptured in another bay, 5.3% were released in bays and recaptured in the Gulf, and 1.2% were both released and recaptured in the Gulf. Two fish tagged in the Gulf were recaptured in bays. A third (33.3%) of the specks were recaptured at the release site One speckled trout was released in the Lower Laguna Madre in Texas and recovered in Laguna Madre de Tamaulipas in Mexico.

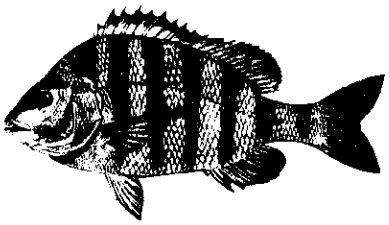
The majority of speckled trout (72.6%) were recaptured within 12 miles of their release site. The longest distance traveled was 131 miles from Matagorda Bay to Galveston Bay. The longest that a fish was free between tagging and recapture was 1,895 days (5.2 years). This fish was caught in Galveston Bay and was recovered in the same bay 22 miles from its release site. A total of 80.9% of tagged spotted seatrout were recaptured within 1 year of release. Bay recaptures were highest in June-August and lowest in February.

## Black Drum

The black drum recapture rate was 3.0%. Most of the fish (79.6%) were caught in the same bay where released, 12.7% in other bays and 2.4% were tagged in bays and recaptured in the Gulf. One was released in the Gulf and was recaptured in a bay. Two black drum were both released and recaptured in the Gulf. Two fish were tagged in the Lower Laguna Madre and recaptured in Mexico.

Recaptured black drum traveled from 0 to 227 miles, and averaged 14.4 miles. Most (68.6%) were recovered within 12 miles of their release site. Only 21.6% of the back drum were recaptured at the same site as their release. The longest that any fish was free was 6,309 days (17.3 years).

## Sheepshead



Only 2.4% of 6,977 tagged sheepshead were recaptured. Sheepshead move the most between bay systems; 63.6% were recaptured in the same bay system of their release, with 18.2% recovered in other bays and 17.0% recovered from the Gulf. No sheepshead were tagged in the Gulf.

Sheepshead traveled an average of 17.4 miles and ranged from 0 to 189 miles between release and recapture. The majority (63.6%) were recaptured with 12 miles of their release site. The longest time that any sheepshead was free was 1,711 days (4.7 years), and only 3 fish were free over 2 years before recapture.

Just over 24% of the fish were recaptured at their release sites. These fish were free for an average of 140 days, with a maximum of 830 days. Sheepshead recaptures from bays were highest during November-March. Recaptures from the Gulf were highest during November-April, peaking in March.

## Southern Flounder

The recapture rate for tagged flounder was 5.2%. Of those, 82.6% were recaptured in the same bay system, 10.4% in another bay system and 1.7% were tagged in bays and recaptured in the Gulf. One flounder was released in Galveston Bay and recovered near Hackberry, Louisiana. Two were both released and recaptured in the Gulf.

Most southern flounder (74.4%) were recaptured within 12 miles of their release site. Average distance traveled was 9 miles. Only 3 of the 230 flounder recovered traveled over 54 miles. The longest distance moved was 109 miles, from San Antonio Bay to Matagorda Bay.

Only one flounder was free over two years. This fish was recaptured 2.4 miles from its release site in East Matagorda Bay, 3.1 years after tagging. Southern flounders

had the second highest percentage (42.6%) of the five species that were recaptured at their release site. Days free for these fish averaged 143. The majority of the recaptures from bays were in the month of November. Gulf recaptures also peaked in November.

*Source:* *A Summary of Fish Tagging on the Texas Coast: November 1975-December 1999.* B. G. Bowling and A. L. Sunley. Texas Parks & Wildlife Coastal Fisheries Division. Management Data Seines No. 219. 2003.

**PUBLIC FISHERIES SEMINARS**

On Wednesday, December 1, from 1:00 to 4:00 p.m., the LSU AgCenter's Sea Grant Marine Extension Program, in cooperation with the National Fisherman Magazine, is sponsoring a day of Commercial Fishermen's Seminars at the International Workboat Show at the Ernest M. Morial Convention Center in New Orleans.

This year, instead of spreading the seminars over a variety of topics, the program will focus on the situation within the shrimp industry. Only three possible solutions to these difficult economic times within the shrimp fishery exist: reducing imported shrimp, increasing demand specifically for US-produced shrimp or changing shrimp management to produce more profits per fisherman.

In addressing the first option, the Southern Shrimp Alliance pursued and won an antidumping petition against the six largest shrimp exporting countries. For four of the six countries, the tariffs was quite low though. Also, the likelihood of increased imports from countries not petitioned against is high.

Efforts to promote domestic shrimp have begun with formation of a corporation, Wild American Shrimp Inc, to handle promotional funds and direct promotion efforts. Promotion will be long-term work.

The third option, changing shrimp management, is the subject of the seminars. Discussion will open with a presentation by the National Marine Fisheries Service (NMFS) on what they learned from their intensive series of public meetings on their Shrimp Business Plan and what they plan to do from here.

The NMFS presentation will be followed by three presentations on the challenges and opportunities in changed shrimp management as seen from the state level. John Roussel of Louisiana, Vernon Minton of Alabama and Robin Riechers from Texas will make these presentations. Attendance is free. MARK YOUR CALENDARS.

**OPEN CONTAINERS & BOATS**

The 2004, Louisiana Legislature passed an "open container" law making it illegal to possess an open container of any alcoholic beverage in vehicles on roads in the state. Recently, the rumor bounced across the state that the law applied to boats as well as to highway vehicles.

A check with Major Jeff Mayne of the Louisiana Department of Wildlife and Fisheries Enforcement Division reveals this not to be true. According to Mayne, the law was specifically written to apply to vehicles on roads and not boats.

Boat operators should remember however, that operating a boat while intoxicated is still illegal.

**A SALTY TAIL**

Most fish live either only in freshwater or saltwater. Although a few, such as alligator gar, striped mullet and flounder do well in both, most fish will die, or at least stress out if placed in water with too little or too much salt.

Osmosis plays a major role in the lives of fishes. Osmosis is simply the movement of water across a membrane (like a cell wall) from a liquid with a low concentration of dissolved material in it, to a liquid with a higher concentration of dissolved material. This is simply nature's way of evening things out, but it is important to fish.

A freshwater fish has blood and body fluid concentrations of salt that are higher than the water around them. This means, that by osmosis, water is constantly seeping into the body of the fish, trying to dilute the salt concentration in its body to the level of the water around the fish. The opposite happens to fish that live in water that is saltier than their body. Water leaves their body to dilute the saltier waters around the fish. Obviously, neither can go on for long or the fish will die.

The ability of fish to control the salinity of their body fluids is called "osmoregulation". Animals that can osmoregulate efficiently include those with well-developed kidneys that work to either dump or keep salt in their bodies. Freshwater fish do not drink water and produce large amounts of dilute urine to rid their bodies of water. Their kidneys are efficient at keeping salts in their body. Additionally, they can absorb through their gills what little salts are in the water they are in.

Marine fish, on the other hand, must constantly drink water to replace the losses from their bodies caused by osmosis. This leads to the intake of large amounts of excess salt. The kidneys of marine fish produce urine with very high salt concentrations and they also get rid of salts through their gills.

Fish species that spend time both in salt and fresh water have kidneys that are not set for one function and can either conserve or excrete salt. In fishes, the kidney does not have the familiar "kidney-bean" shape as it does in mammals. It is the red tissue located between the ribs near where the ribs meet the backbone in the gut cavity.

Salt and water management as explained above applies only to fish with boney skeletons (teleosts). Fish such as sharks, rays, and skates have a cartilage skeleton and are called elasmobranchs. They keep their blood and body fluid concentrations balanced with the water around them by keeping high levels of urea in their blood. This urea is what gives improperly handled shark catches the "wet diaper" smell often noted

by fishermen. Fortunately, urea dissolves easily in water and can be removed from the flesh by soaking it in ice water.

Source: *Estuarine Ecology of the Southeastern United States and Gulf of Mexico.* Robert R Stickney. Texas A & M University Press. 1984.

## 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

None

Lat. & Long. Sites

| | | |
|---|---|---|
| 29 15.090 | 89 37.794 | PLAQUEMINES |
| 29 22.171 | 89 57.094 | JEFFERSON |
| 29 38.286 | 89 37.565 | PLAQUEMINES |
| 29 40.380 | 91 54.790 | VERMILION |

Lat. & Long. Sites

| | | |
|---|---|---|
| 29 41.710 | 89 46.952 | PLAQUEMINES |
| 29 43.418 | 89 38.089 | ST BERNARD |
| 29 44.190 | 89 50.741 | PLAQUEMINES |
| 29 47.544 | 89 32.789 | ST BERNARD |
| 29 47.978 | 89 41.402 | ST BERNARD |
| 29 48.993 | 89 38.970 | ST BERNARD |
| 29 50.201 | 89 24.919 | ST BERNARD |
| 29 40.132 | 89 53.809 | PLAQUEMINE |

**********

## THE GUMBO POT

### Shrimp Spread

This recipe produces a creamy, delicious spread, which when slightly warmed makes a good dip too. The zip from the chili powder and soy sauce really work for this dish. Mince the garlic, celery and onion as fine as possible.

| | |
|---|---|
| ½ | lb cooked, peeled shrimp |
| 8 | oz cream cheese (softened) |
| 2 | tsp prepared horseradish |
| 2 | tsp mayonnaise |
| 1 | clove garlic, minced |
| 3 | tbsp celery, minced |
| 3 | tbsp onion, minced |
| ¼ | tsp chili powder |
| 1 | tsp soy sauce |
| ½ | tsp hot sauce |

Chop the shrimp into very fine pieces. Combine all of the ingredients and blend well. Chill overnight to allow flavors to blend. Makes 2 cups.

Sincerely,

Jerald Horst
Professor, Fisheries

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