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TEXAS PARKS AND WILDLIFE

Vol. 3, No. 2, Spring 1999

Hello Readers:
Aren't all the signs of Spring exciting to see along our beautiful Texas Coast? From the warming weather and warmer water, to the longer days and majestic whooping cranes migrating back to Canada, we can see the seasons changing.

This edition of *Texas Coastal Treasures* closes our third year of publishing a newsletter just for the school kids along the Texas Coast. We've already begun work on the next editions, but these pages include more in our series on the Texas bay systems, a feature on sharks, and we've updated the resources you can find on the Internet.

Remember, TCT is FREE. To subscribe, just ask your teacher to send us his or her name, the name of your school, your grade, your school address, and the number of copies needed for your class. Our address is on Page 2. Don't forget to send your comments, suggestions, drawings, poems, and the Internet resources you find, too. We'd like to include your contributions in upcoming issues of TCT.

Happy Spring Break!

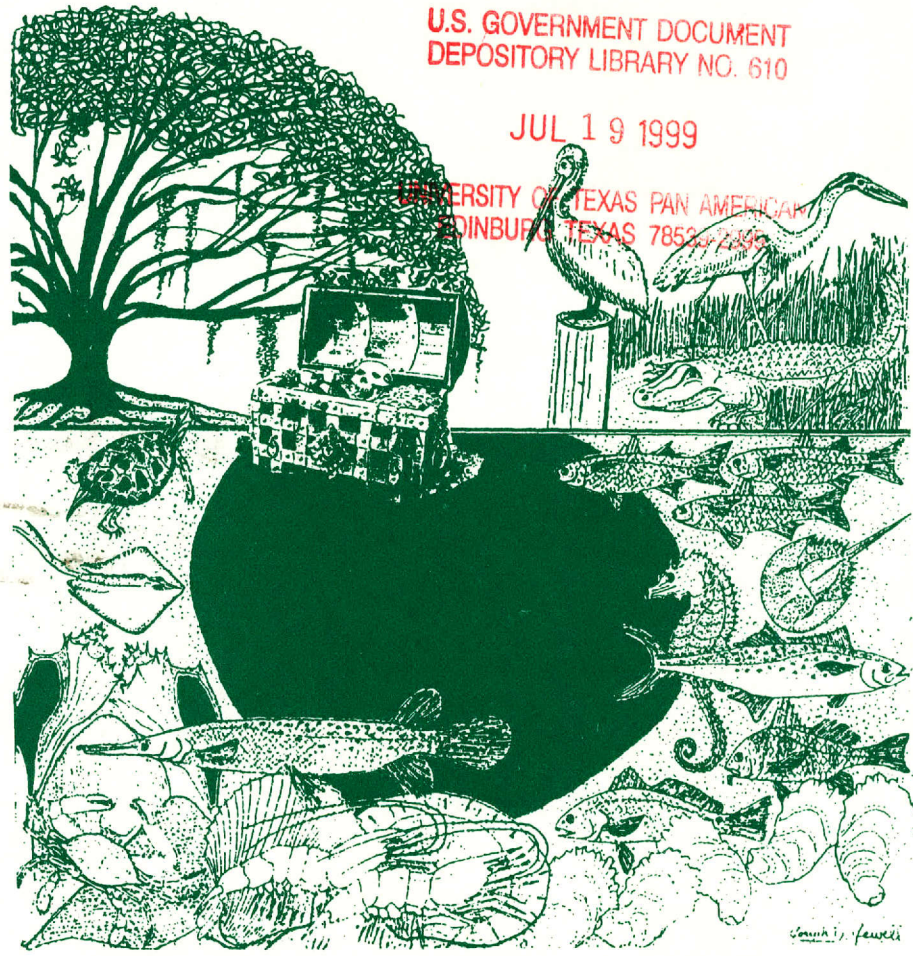
Ima Phish
Editor

Texas Coastal Treasures

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Get Hooked on Bay Fishing This Spring



If you are planning to include bay fishing in your Spring Break or Summer plans, you'll need to visit your area Parks and Wildlife Department office and pick up a copy of the 1998-1999 Outdoor Annual. Inside the Annual, you'll learn about the species of fish in our coastal waters, and all the legal sizes and legal limits for fishing the bays and all other freshwater and saltwater fishing in Texas.

If you are younger than 17 years old, you won't need your own fishing license, but if you fish with your parents or other adults, remind them to take along their current licenses and the correct stamps for the fish they plan to catch and keep.

If you are under 13 years old, you MUST wear a Personal Flotation Device (PFD) anytime you are traveling in a motorboat that is less than 26 feet long. Once you arrive at your favorite fishing spot, and the boat is anchored or on shore, you can take off the PFD, but it's a good idea to leave it on anyway.

Did you know that fishing is the fifth most popular sport? A reported 45.6 million people take part in sport fishing each year, with more people joining in all the time. You can still find a good place to catch flounder, red drum, spotted trout, or larger fish like

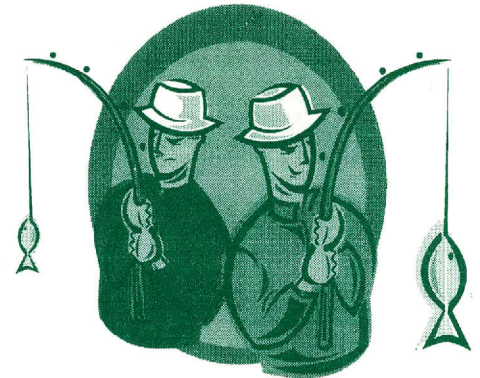
mackerel in our Texas bays or near shore Gulf. Before you cast your line, be sure you know what you can catch, what you can keep, and what you need to release. A little "brain work" and planning will make your fishing experience more fun and more fin-filled!

Catch and Release Can Give Good Fishing a Future

"Catch and Release" is a way to fish that is fun and also helps make sure there will be more great fishing in the future. "Catch and Release" means you catch fish and carefully release them back into the water. The excitement is still there...choosing your equipment, selecting bait and your lucky lures, finding the best spot where you think the fish will be. Instead of keeping the legal fish you catch, you put the fish back into the bays, lakes, rivers or streams, so they can grow and reproduce. Here's how you "catch and release."

- 1) Try not to have a slack line. Set the hook immediately when you feel a bite. This reduces the chance of getting the hook deeper into the fish's throat or gut. The fish's chances of survival increase if you set the hook when it is in the fish's mouth.
- 2) If a fish is to be released, do not let the fish get too tired from fighting. Retrieve it quickly and carefully.
- 3) Do not handle the fish more than absolutely necessary. Do not take it from the water, if possible. Handle the fish with wet hands, wet gloves, or a wet towel so you don't accidentally wipe off any of the fish's slime. Use a landing net only if necessary. Do not let the fish flop on a dry deck or beach.
- 4) There are special tools available for removing hooks from fish. Using one of these tools, remove the hook, but ONLY do this if the hook is in the fish's mouth. It's a good idea to use barbless hooks, or to flatten the barbs on your hooks before you catch and release. If the hook is buried deeply in the fish, cut the leader close to the hook.
- 6) Immediately put the fish back into the water. If it seems sluggish, gently hold it and move it back and forth to get water moving across its gills. Even fish that seem to be in poor shape have a chance of survival.

By working carefully to reduce the stress on fish you plan to release, you will be helping the fish and the anglers of today and tomorrow.



Where to write to us:

Texas Coastal Treasures
TPWD
Coastal Fisheries Division
702 Navigation Circle
Rockport, TX 78382



Catch These Cool Coastal Careers

How would you like to work in an office that has over 16,000 miles of flowing streams, more than 600 reservoirs, and 300 miles of coastline? How about doing research in a laboratory to make sure the quality of all that water is good enough to support fish and plant

life? Would you like to use your talents in a hatchery, where new fish are born and raised until you can take them to be released into Texas lakes, streams and bays? You could be a biologist who sees that our endangered species have healthy habitats.

Those are just a few of the jobs you might have if you choose a career in Fisheries Management. Whether you work for the Inland Fisheries Division, or the Coastal Fisheries Division, you might become one of only about 250 men and women who oversee the many watery wonders of Texas.

Inland Fisheries is the division of Texas Parks and Wildlife Department that oversees the management, research and habitat improvement of the reservoirs in Texas. Careers with this division include biologist, technician, and manager, along with other, related jobs. Habitat enhancement is a big part of the Inland Fisheries' territory and it includes controlling aquatic vegetation, constructing artificial reefs, and doing research so the public can be informed about the inland fisheries.

Coastal Fisheries is the division of Texas Parks and Wildlife Department concerned with sport and commercial fishing in the bays and Gulf of Mexico. If you worked for this division, your job might take you to do a census of bay fish one day, and to a fish kill disaster the next. You might monitor a particular species of fish in the bays, or you might survey the commercial catch of the shrimp, oyster, or crab fleets. You would use a variety of different sampling gears, such as gill net, seine, or trawl. You could even have an opportunity to do some SCUBA diving as part of the Artificial Reef Program in the Gulf of Mexico.

Careers for Young Texans

There are many jobs you might get with TPWD, if you like working outdoors, near the water, woods or wildlife. Check with your local or regional TPWD office about careers in law enforcement and other areas, such as these:

Conservation Specialist (Bay Ecosystem Biologist): Works on land or from seagoing vessels; coordinates or assists in collection of biological, sociological, and economic information about the fishery and ecosystem. Requires Bachelor of Science degree with emphasis in Fisheries or Ecosystem biology.

Fish and Wildlife Technician: Works with Ecosystem leaders; gathers information on land and aboard seagoing vessels in the bays and Gulf of Mexico; maintains and operates boats, motors, vehicles, and sample gear. Requires high school diploma/GED and ability to observe, gather information, speak and write effectively, as well as knowledge about motor mechanics.

Competition for TPWD jobs is tough, but check them out. For some TPWD jobs, you'll need a high school diploma or GED and maybe other skills like mechanical maintenance or sampling. For other jobs you'll need to earn a college degree in fisheries management, freshwater or marine biology, or a related field. For more information, check out the TPWD home page at <http://www.tpwd.state.tx.us>.

Texas Coastal Teachers

You and your high school students are invited to attend the

16th Marine Education Symposium

April 10, 1999

Texas A&M University-Corpus Christi

Morning Lectures/Seminars. Afternoon Hands-on Experience.

To generate a greater understanding and appreciation of our rich marine and coastal environments from A (aquaculture) to Z (zooplankton).

\$10 per person

(covers facility use, field trip transportation and lunch)

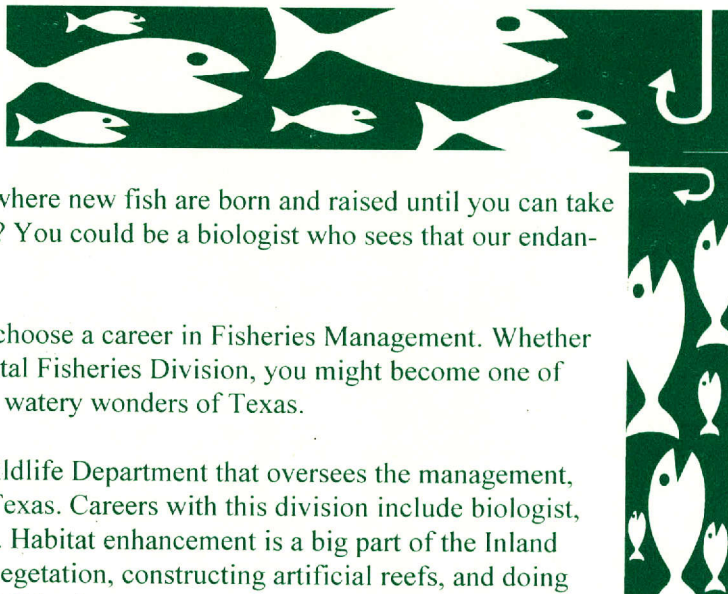
For more information: Contact William R. Younger

Ext. Marine Education Specialist

PO Box 1283 Palacios, TX 77465

512-972-5370

Email: w-younger@tamu.edu



The Bay of the day is Sabine Lake*

General background

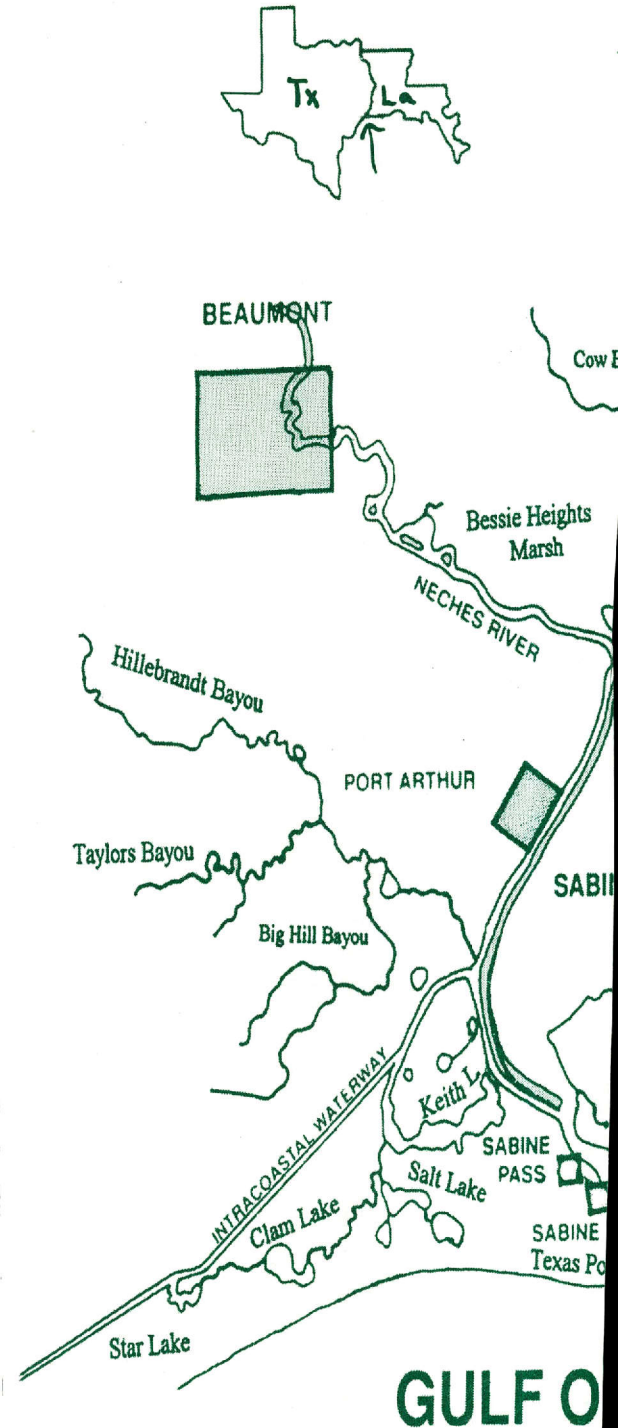
Located on the upper Texas coast at the boundary between Texas and Louisiana, Sabine Lake is a protected inland body of water with a narrow deep water channel that provides a connection to the Gulf of Mexico. Historically, it has been about 3,000 years since Sabine Lake was actually a bay in the Gulf's bay system. Currents traveling along the shoreline and carrying and depositing sediments from the Mississippi River gradually closed Sabine Lake's direct Gulf connection. The Gulfward movement of the coastline changed the bay into what is now Sabine Lake with a narrow shallow water channel called Sabine Pass. It is the Pass that now connects Sabine Lake with the Gulf.

Thousands of years ago, another interesting feature developed around Sabine Lake. This was its system of "shelly beaches", called cheniers. These cheniers protrude as ridges above the coastal marshes, and they offer some protection from rising water and give Sabine Lake a closer Gulf access. The cheniers provided people with an opportunity to build roads and a seaport (Sabine Pass). Once there was a railroad in the area, too. Dredging of the shallow Sabine Pass Channel began in the late 1800s and aided in the development of the more protected inland sea ports of Port Arthur, Beaumont, and Orange.

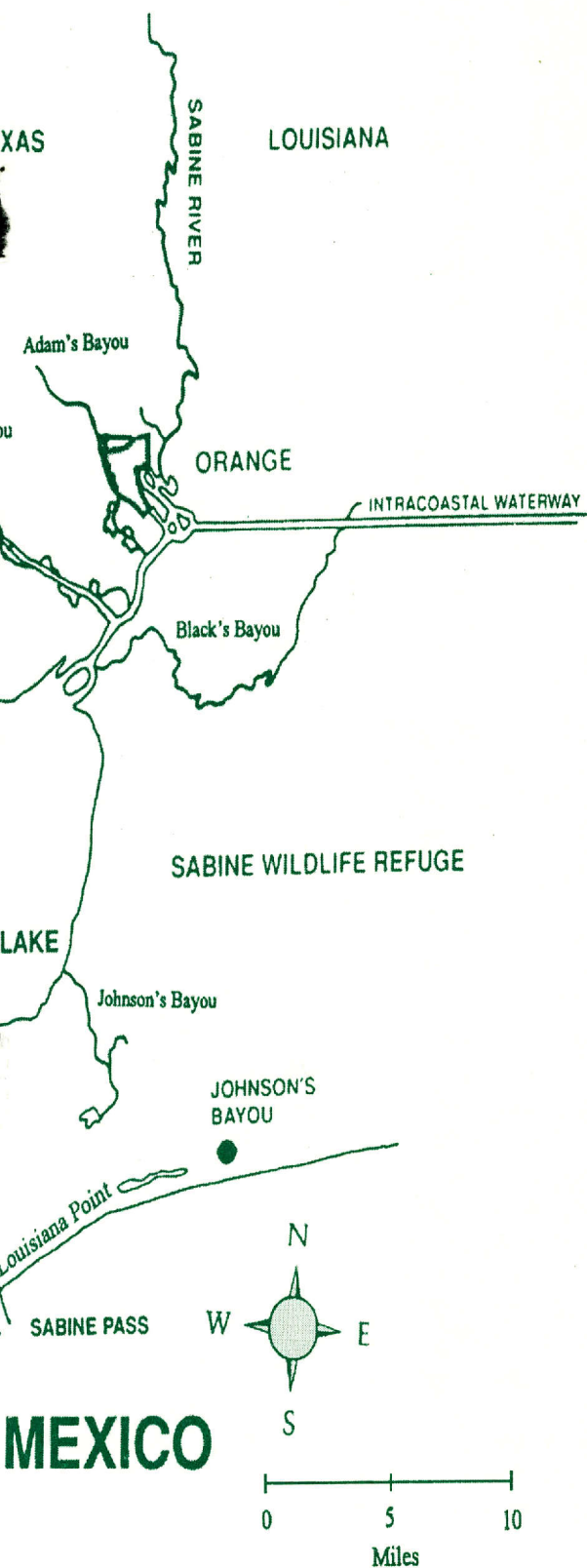
Area of coverage

The Sabine-Neches estuary is one of the smallest of the nine estuaries on the Texas Coast. The other estuaries are: Trinity-San Jacinto; Brazos; Colorado; Lavaca-Tres Palacios; Guadalupe; Mission-Aransas; Nueces; and Rio Grande. The main body of water in the Sabine-Neches estuary is Sabine Lake, which covers 44,395 surface acres and has depths of up to 10 feet. While the Sabine-Neches estuary is smaller than the other estuaries, it makes up for it by having vast emergent wetlands. These wetlands contain salt water, intermediate water, and brackish water and provide about 8,649 acres of habitat for finfish, shellfish, waterfowl and wildlife.

(Source: Terry D. Stelly, TPWD)



(*Okay, it's really an inland body of water)



Both sides of the story

Almost the entire Louisiana side of Sabine Lake remains undeveloped. Much of the lake's eastern shoreline falls within the Sabine National Wildlife Refuge where there is another 126,023 acres of estuarine marsh. The Louisiana shoreline extends along the Sabine Pass Ship Channel. Water inflows Sabine Lake through the marshes along the ship channel and through Lighthouse Bayou.

Because there is so much inflow from the rivers, and because the area where Sabine Lake is located gets a great deal of rainfall each year, the water of Sabine Lake has a lower salinity than other bays. There are about 20 grams of salt per liter in Sabine Lake. About 355,178,050 gallons of fresh water enters Sabine Lake each month, just from its two rivers! (NOTE: You could do a cool science project about the different salinity levels of Texas bays. Contact TCT for more information).

Fishing and fun

The combination of freshwater inflow, wetlands, and the closeness of the Gulf make Sabine Lake and its surrounding area great for commercial and recreational fishing. In fact, Sabine Lake is one of the best fishing spots in Texas for red drum and spotted seatrout. Southern flounder, Atlantic croaker and sand seatrout are great catches, too. Largemouth bass, crappie and channel and blue catfish are found around the lake's freshwater inflows.

The state's largest southern flounder was caught in Sabine Lake in 1976. It was 28 inches long and weighed 13 lbs. Anglers on Sabine Lake claim there are spotted seatrout weighing over 10-lbs!

More than one-fifth of the state's catch of blue crab comes from Sabine Lake. In 1997, over 1.6 million pounds of crab, valued at over \$1 million, came from Sabine Lake. Shrimp and oyster landings are hefty, too. Over 88 million pounds of shellfish, valued at over \$188 million were taken in 1997.

To learn more about the Sabine Lake area, contact the Port Arthur Convention & Visitors Bureau, 1-800-235-7822. You can also look on the internet for information, at www.PACVB@portarthurtexas.com, or www.southeasttexas.com.

Yikes! Sharks!



If one of your friends said they saw a lemon, nurse, spinner, silky, and dusky, the last time they went fishing, what might you think they were talking about? Chances are, you would NOT think, "Yeah, those are all names for types of sharks."

Well, they are...and so are brown, tiger, hammerhead, bonnethead, Caribbean reef, blacktip, blacknose, bull, and Atlantic sharpnose. Those are the names of the 14 species of sharks in Texas Coastal waters. There are over two dozen species of sharks in the waters of the northern Gulf of Mexico.

Sharks are carnivorous fishes belonging to the class Chondrichthyes. Each species of shark has its own name, too. The lemon shark, for example, is properly called *Negaprion brevirostris*. The nurse shark is properly called *Ginglymostoma cirratum*. In general, sharks are shaped like torpedoes and they have five to seven gill openings on each side of their head. Their livers are large and filled with oil; they have a skeleton made mostly of cartilage and their tough skin is covered with small, toothlike scales.

Now, you have to admit, when you think of the word "shark," what probably comes to mind is a giant, man-eating creature that devours entire boats and has a big, bloody, toothy, terrible mouth. While it is true that sharks are meat-eaters, it is also true that very, very few of them actually attack or eat people. But sharks have reputations that are bigger than reality. We use the word "shark" when we refer to a person who is greedy or vicious. We use words like "card shark," or "pool shark," when we talk about people who are very good at those games. We

even use "shark" as a verb, when we talk about someone who gets something through illegal means.

From the real shark's point of view, this is nonsense. As large and toothy as they are, most sharks just go along with the flow...the current...and eat other fish to stay alive.

The drawings here will help you identify some species of sharks you might see along the Texas Coast. The websites and list of books will help you learn more about sharks...the kind that live in the water, not the kind that play pool!



Watch for More Sharks When You Surf the Net!

Apex Predators Program

<http://www.nefscsharks.nmfs.gov/>

The Pelagic Shark Research Foundation

<http://www.pelagic.org/>

Sea World/Busch Gardens Shark Cam

<http://www.SeaWorld.org>

Shark Photos

http://www.aquarium.net/sw_fish/sharks.sht

Shark Facts & Stats at Mote Marine Lab

<http://www.marinelab.sarasota.fl.us/~rhueter/sharks/shark.phtml>

Shark Research Home Page

<http://www.flmnh.ufl.edu/fish/research/>

North Carolina Sharks

<http://www.ncfisheries.net>

Read More About Sharks

(Source: amazon.com)

Bloody Waters: Terrorizing Shark Tales, by Scott Ingram, with Ron Rundo. 1995.

Draw 50 Sharks, Whales, and Other Sea Creatures, by Lee J. Ames, with Warren Budd. 1989

Fun With Sharks Stencils, by Paul E. Kennedy. 1997

Informania Sharks (Informania Series), by Christopher Maynard (illustrator). 1997.

Marine Biologist: Swimming with the Sharks (Risky Business), by Keith Elliot Greenberg, et al. 1995.

Sharks (Great Creatures of the World), by Sheena M. Coupe. 1990.

Sharks: Challengers of the Deep, by Mary M. Cerullo and Jeffrey L. Rotman. 1993.

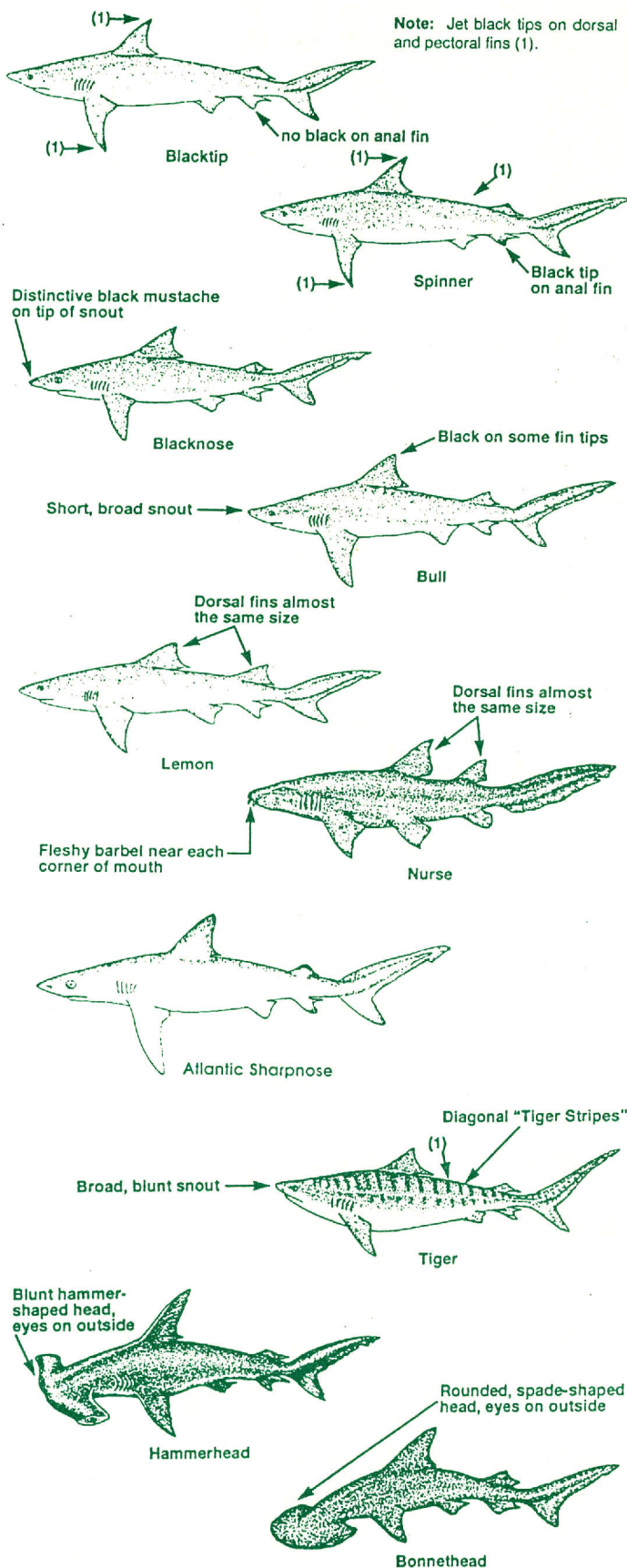
Sharks: The Perfect Predators (Close Up), by Howard Hall, and Vicki Leon (Editor). 1995

The Truth About Sharks (Young Readers), by Carol A. Amato, with David Wenzel. 1995.

Sharks, by M. Oakley. 1996.

Sharks, by Rodney Steel. 1997.

Common Sharks



(Source: National Marine Fisheries Service)

Have Coastal Adventures This Summer

Sea Camp

Would you like to have a hands-on marine adventure this summer? If you would, there are two programs offered by Texas A&M University-Galveston (TAMUG) that you might enjoy.

Sea Camp sessions are held throughout the summer for kids in different ages groups so they can learn about marine ecology; coastal camping; marine mammals; and even study in the tiny country and coastal jungles of Belize, or in Mexico.

For information about the seven Sea Camp sessions offered this summer, call 409-740-4525; email turrubia@tamug.tamu.edu, or visit the Sea Camp website: <http://www.tamug.tamu.edu/~seacamp>.

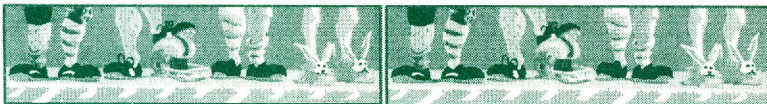
TAG

A program called TAG (for Talented and Gifted) is also offered in TAMUG's Galveston Island Adventure. There are three sessions of TAG this summer and the "adventures" include a research cruise, computer technology, and veterinary medicine. For more information about TAG, call 409-740-4921, or visit the TAG website: <http://www.tamug.tamu.edu/tag/>

TX Maritime Museum*

(*Just For Aransas County Kids)

The Texas Maritime Museum in Rockport will hold its second annual Sea Camp for kids who live in Aransas County. Kids between the ages of 6 and 11 can attend Sea Camp during the end of June and beginning of July. Sea Camp includes visits to the historic Fulton Mansion, Goose Island State Park, Rockport Center for the Arts, the Maritime Museum, and a hands-on experience at Little Bay. For information, call 512-729-1271.



Your Page

Wildlife Expo wants YOU!

Each October, TPWD Headquarters in Austin is the scene of an amazing event called The Texas Wildlife Expo. This a free, two-day family festival includes lots of hands-on learning activities, demonstrations, and workshops focusing on the resources available in the great Texas outdoors. The events at the 1998 Expo included hunting, fishing, birding, wildlife management and conservation, boating skills and boating safety, kayaking and canoeing, archery, habitat preservation, rock climbing, camping and hiking, and, of course, marine fisheries.

Besides the two-day festival, there is an annual contest for Texas school kids who like to write essays and poetry, or draw and design posters. You could be the 1999 winner of the Texas Wildlife Expo Poetry Contest or the Texas Wildlife Expo Poster Contest!

If you visit the TPWD webpage, you can see the winning posters from the 1998 Wildlife Expo, and read the winning poems and essays.

These contests are open to any Texas student. Each student can submit one entry. The poster contest is for students in grades K-6. Drawings can be in any medium on standard poster board. The essay contest is for students in grades 7-12; essays are to be 500 to 1,000 words. The poetry contest is for students in grades K-12; poems should be 50-500 words.

Essay, poetry and poster entries are all based on a theme that TPWD will announce. The entries are judged on originality, imagination, and appreciation for the natural world. One winner from each grade level in each of the contests is selected and, as you can see, the winning entries are published on the TPWD website "kidspage."

For more information about the 1999 Wildlife Expo contests, visit the website: <http://www.tpwd.state.tx.us/adv/kidspage/expo98/index.htm>, or call TPWD, 1-800-792-1112 and ask for Expo contest details.

Just for Teachers

Texas Coastal Teachers, how about an adventure all your own? You can attend one of several TPWD OutdoorsWoman workshops throughout the year. The workshops range from a relaxing weekend at Camp Balcones Springs on August 20-22, to a backpacking event at Big Bend Ranch State Park from November 10 to November 14.

For more information about the Becoming an Outdoors-Woman Program, call 1-800-792-1112, ext. 64, email debra.bunch@tpwd.state.tx.us, or visit the TPWD website: <http://www.tpwd.state.tx.us/edu/baow/baow.htm>

a^{lp}ha^{bet} Soup

H

is for:

Hooked Hatchery
Habitat
Hammerhead

I

is for:

Internet Island
Inland Inflow
Intermediate

J

is for:

Jacinto Jobs
Jungles Judged

Find and underline each word in the pages of TCT. On a separate piece of paper, write your best definition of each word. See how many sentences you can write using these words.

Beach Clean-Up Is April 24: Young Volunteers Needed

Mark your calendars for Saturday, April 24. That's the day when kids all along the Texas Coast will help clean-up our beaches. This twice-yearly event is sponsored by the Texas General Land Office (GLO) and is open to all individuals and groups who want to volunteer.

For more information, call the GLO's Adopt-A-Beach Program, 1-800-85-BEACH, or visit these Texas GLO websites: <http://www.glo.state.tx.us/on-the-beach.html>, or <http://www.glo.state.tx.us/adopt-a-beach>.

