

# TEXAS PARKS & WILDLIFE

DECEMBER 1967

TWENTY CENTS

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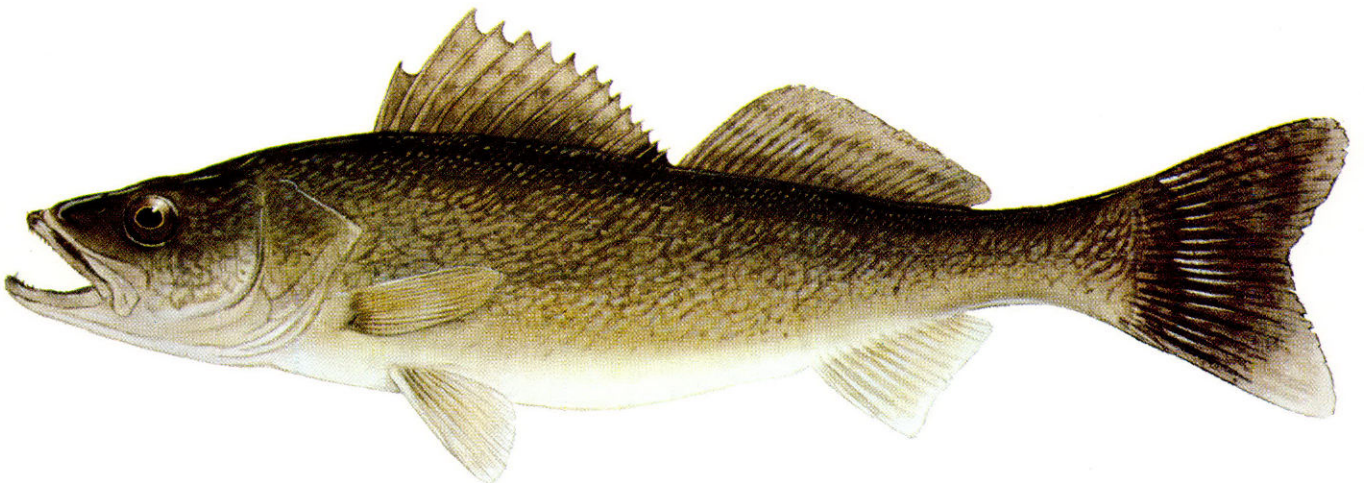
PANHANDLE STATE  
EDINBURG, TEXAS





## The Fishes of Texas

The native chain pickerel (above), *Esox niger*, an important warm water sport fish, is found in the northeastern part of the State, in quiet, shallow waters and weedy areas. It is easy to catch and, although bony, the flesh is sweet. Below are two transplants, stocked in Possum Kingdom, Caddo, and other lakes; also in the Panhandle. The northern pike, *Esox lucius* (immediately below), is distinguished from the pickerel by its pale blotches on darkish green. The walleye, *Stizostedion vitreum* (bottom of page), thrives in large bodies of water. Its non-oily flesh is excellent for freezing. Only restrictions for northern pike and walleye are on Lake Meredith, which will be opened for a limit of five per day, May 1, 1968.



Dedicated to the conservation and enjoyment of Texas fish, game, parks, waters, and all outdoors.

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# TEXAS PARKS & WILDLIFE

December, 1967

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Cover: Early morning in the rice fields near Eagle Lake, hunters hide under pieces of white sheets to very successfully decoy geese. Photo by Leroy Williamson.



# Dogs Lead the

**QUAIL HUNTING** is one of the foremost shooting sports, if not the most popular of such activities in Texas. From early reports, the supply of bobwhite quail for this season is above average, but with the heavy undergrowth in most areas, the question remains—will hunters be able to find the birds?

The best guarantee of a successful quail shoot rests with the ultra-sensitive nose and other keen senses of a good hunting dog. While most hunters wish they could work behind a good dog, few realize all the values of such a reliable four-footed companion.

From the early history of sport

shooting, much of the enjoyment has been derived from the chase, the stalk, or the point. Perhaps fox hunters started the whole thing when they loosed their hounds on a misty morning. Few hunters gain much pleasure from the final act of killing, while the more important preliminaries are anticipated and remembered for



A well-trained hunting dog insures more shooting in less time, covers more ground, keeps birds in tight for close shots, and captures cripples.

by Wayne Tiller

*After flushing a covey of birds, the experienced quail dog handler keeps his dogs under control. In this way, the birds may not go far, and a well-trained dog will find the singles.*

# Way

a long time afterwards.

To the avid bird hunter, the frenzied action of a windshield-wiper-tail of a good pointer on a hot trail means but one thing—bobs are nearby. Then, as if a televised stop action camera caught the play, everything halts, with the tail held stiff as a board and the right paw raised in pictur-



## Unlike a shotgun that you take out just before the season opens, a good quail dog must be kept in shape all year if he is to perform at his best early in the season.

esque fashion. The only thing moving is the slight twitch of the nose as it searches and tastes each delicate morsel.

Aside from the more obvious advantage of finding more birds, a properly trained canine can almost guarantee more shooting if you are pressed for time. He covers more territory with better

senses than man could ever cover with his limited facilities, keeps birds holding tighter for closer shots, and also captures wounded birds that would otherwise be wasted. Some states recognize hunting dogs as significant factors in conservation and offer higher bag limits to hunters shooting behind these fine animals.

Few hunters realize the responsibility connected with owning a top-notch quail dog. Even though the dog may have been sent to the most highbred obedience school in the country, it is not uncommon for a dog to be tempted to run too wide ahead of hunters in heavy brush, pick a fight with other dogs nearby, or even challenge any and all livestock encountered.

Other than keeping the dog under control at all times, the owner also is obligated to care for his dog properly throughout the year. Unlike a shotgun that you take out and dust off a day or two before the season opens, a dog must be kept in shape throughout the year if he is to be expected to perform at his peak during the season.

Such year-round care includes periodic workouts, adequate isolation from the human family to avoid over-domestication, and proper regimentation, as well as the more obvious food, shelter and medical care. Regimentation is very important in that it is quite common for a dog during the off-season to become rusty on his duties and reactions, even those not connected with the hunting game.

A certain amount of pride comes from knowing you trained a dog yourself. As he works out a covey, comes to a point, and holds the bobs as you come up to flush, all those rigorous days of training become worthwhile. And there is no mistaking that a spirited dog delights in serving his master. \* \*

*A good hunting dog is trained to hold after going on point, and he expects the hunter to do the flushing. Cooperation must, therefore, exist between the man and dog.*



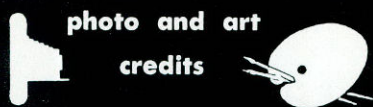


photo and art  
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**Cover**—Leroy Williamson; Mamiya C-33, 80mm; Ektachrome; 1/15 @ f/2.8; near Altair.

**Inside Front Cover**—Nancy McGowan; Grumbacher watercolor; D'Arches board.

**Page 2**—Williamson; Mamiya C-33, 80mm; Kodacolor; 1/60 @ f/5.6; near Wichita Falls.

**Page 3**—Richard Moree; Pentax, 400mm; Kodacolor; 1/250 @ f/5.6.

**Page 4**—Williamson; Mamiya C-33, 80mm; Kodacolor; 1/125 @ f/11; near Wichita Falls.

**Page 14**—(top) McGowan; Gillette crowquill; Pelikan ink; scratch-board.

**Page 16**—(top) Williamson; Mamiya C-33, 80mm; Ektachrome; 1/60 @ f/4.5; near Jonestown; (bottom) 1/125 @ f/11; near San Marcos.

**Pages 17 & 18**—(bottom) Moree; Nikon F, 50mm; Ektachrome; 1/30 @ f/11; (18) 1/60 @ f/16; near Smiley.

**Pages 20 & 21**—McGowan; Grumbacher watercolor; Crescent 300 board; (21) D'Arches board.

**Page 24**—George McKinney; Bronica, 75mm; Ektachrome; 1/125 @ f/16; near Seabrook.

**Page 26**—(left) McKinney; Bronica, 75mm; Ektachrome; 1/30 @ f/4; (right) with strobe light @ f/11.

**Page 27**—(top left) McKinney; Bronica, 75mm; Ektachrome; with strobe light @ f/16; (top right) with strobe light @ f/11; (bottom) Williamson; Nikon F, 50mm; Ektachrome; 1/60 @ f/16.

**Pages 30 & 31**—McGowan; Grumbacher watercolor; Crescent board.

**Page 32**—McGowan; Gillette crowquill; Pelikan ink; Crescent board.

**Inside Back Cover**—Courtesy of U. S. Bureau of Sports Fisheries.

**Back Cover**—McGowan; Gillette crowquill; Pelikan ink; Carter's Marks-a-lot; Grumbacher watercolor; Crescent 300 board.

# Long Shots Short Casts

Compiled by Joan Pearsall

**SWEDISH SEASONING:** Because berries throughout Sweden belong to the public, it is not uncommon for a Swede to find a total stranger picking them in his yard—without permission. This has led to bitterness verging on open feuds, because eager berry lovers often start picking them before they are fully ripe. A law setting a date for the opening of the berry picking season may have to be enacted to prevent violence. Swedish fishing waters also belong to the public. A piece of land bordering on a fishing water cannot be sold unless a strip of land along the water is reserved for public fishing.

**SLICK TRICK:** A recent demonstration on the Delaware River, near Philadelphia, may be one answer to the perplexing problem of oil spills on rivers, harbors, and oceans. A group of petroleum industry officials, newsmen, government administrators, and interested persons in various natural resource fields watched from boats as barrels of crude oil were dumped on the waters of the river. As the oil slick formed, it was sprayed with a new liquid chemical which turned the oil from an iridescent grey-blue to a muddy brown. As the water was agitated by the action of the spray boat, the oil slick was broken up and began to disappear. The new chemical is said to "homogenize" oil and water. The oil is dispersed into such minute droplets that it soon can be destroyed by the action of bacteria, light and oxygen. Though this natural breakdown of oil and chemical agent is estimated to take 20 to 30 days, the immediate remains of the oil spill are no longer in a form to contaminate beaches or coat the surface of the water. Another conservation advantage of this chemical might be achieved by using it to clean out fuel tanks of ships at sea.

**ANCHORS AWAY:** A new Minnesota law forbids the dragging of an anchor or other weight through aquatic vegetation with a motor boat. This practice flushes pike and muskies into open water, where they apparently become aggressive and strike more readily.

**A TOLL TALE:** A fisherman in Alabama carries a cowbell with a clear, rich tone on all his bream fishing trips, and rings it slowly and lightly above the water about every 20 minutes. He says that the vibrations bring bream from every direction.

**CHILL WARNING:** If birds have not been thoroughly cleaned prior to freezing, they should not be used for human food. Many birds carry bacteria of the genus *Salmonella* in their intestinal tract. Freezing and thawing of these bacteria would allow release of the endotoxin they produce.



# Flower Garden Reef

**L**IVING coral reefs, normally found in shallow tropical or subtropical waters, are growing 114 miles southeast of Galveston, in the Gulf of Mexico. They are two miles long and one-quarter mile wide with peaks, 10 miles apart, reaching within 70 feet of the surface.

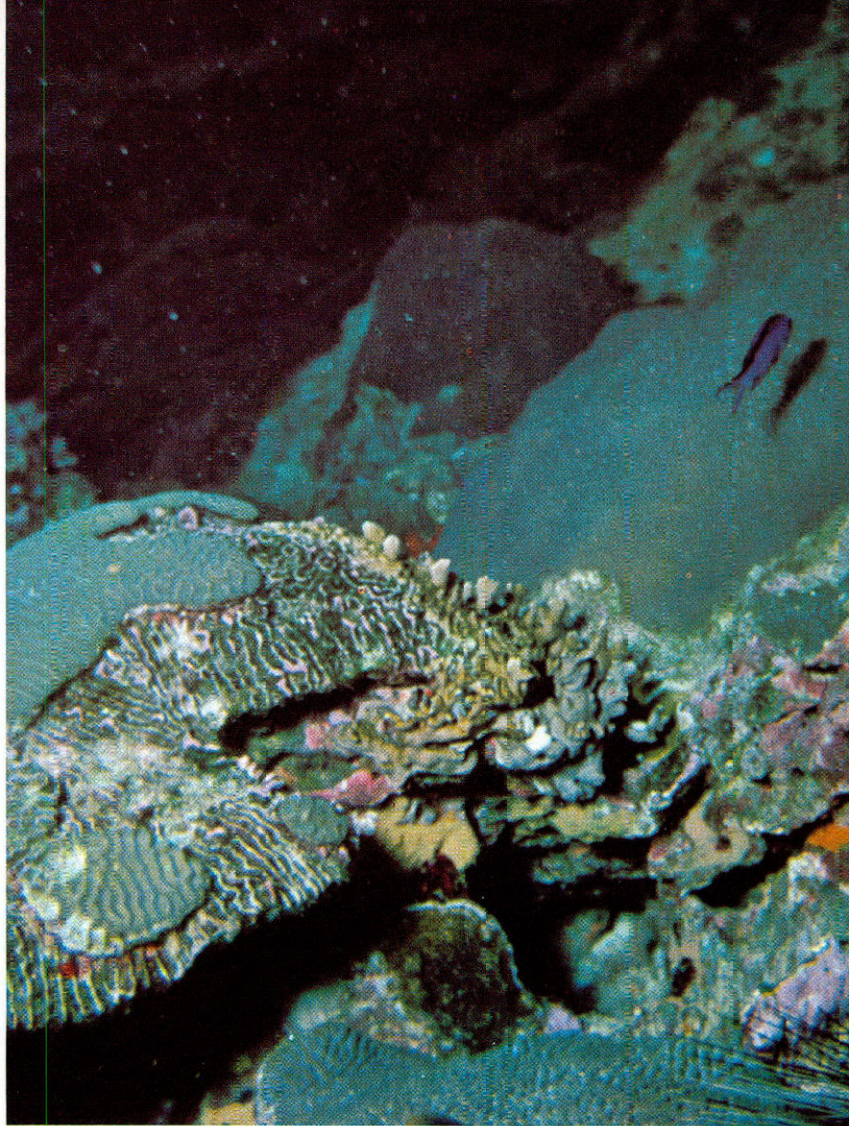
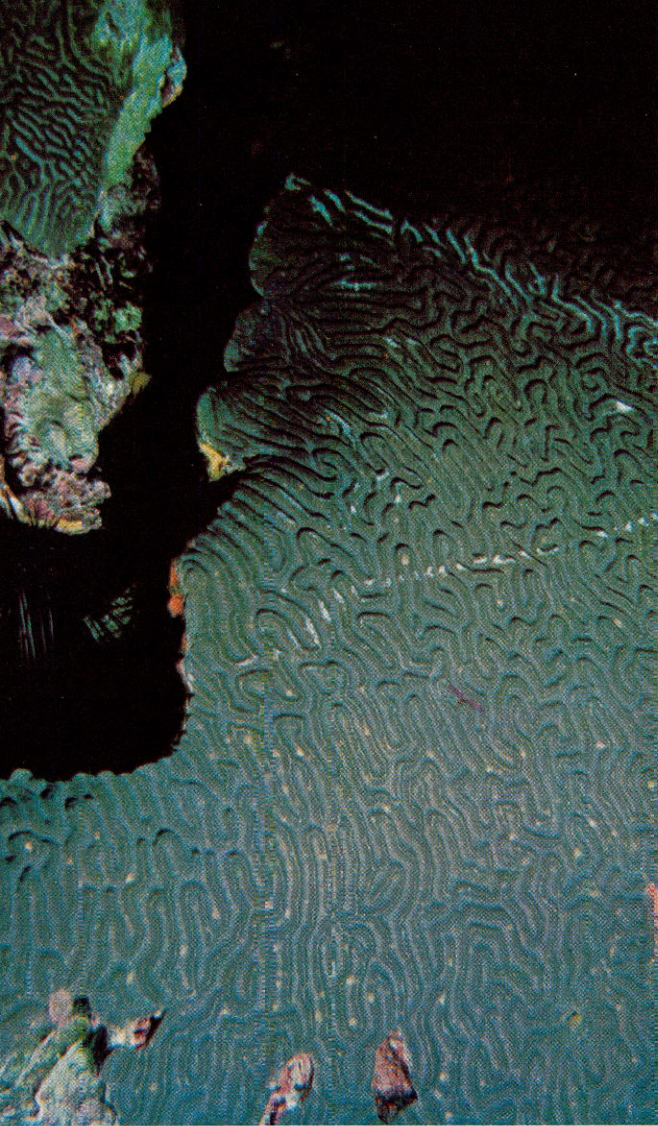
Slightly to the north of these reefs, the water is 300 feet in depth; to the south, 600 feet. Salt domes with mid-Miocene rock rise from a salt bed more than 50,000 feet below the surface to create a foundation for these reefs.

Texas commercial fishermen have been well acquainted with this area for many years due to the large fish population. When the water is calm on clear days, the bottom can be seen from the surface revealing the beauty of the living coral and sponge. Fishermen have come to know these reefs as the East and West Flower Gardens.

A former theory on the origin of the two reefs was based on a visit to this area in 1947 by the steamship *Atlantis*—a research ship of the Woods Hole Oceanographic Institute, Woods Hole, Mass. The scientists conjectured that these reefs were fossil, and that the reefs had been built up during the last Ice Age more than 10,000 years ago. At that time the sea level in the western Gulf was probably more than 200 feet lower than it is today. They theorized that when the ice melted and the sea level rose, the cold water killed the coral animals, leaving the fossil skeletons forming the two reefs.

The phenomenon of this situation is that these living coral reefs are 500 miles farther north in the Gulf than any other similar reefs. The nearest living reef in the Gulf is south of Tampico, Mexico. The Woods Hole oceanographers thought the west-





by Wendell E. Pierce, D. D. S.  
Houston

*Phenomenon of the Flower Garden reefs is their location, 500 miles farther north than any similar reefs. Teams of divers converged in an attempt to solve their mysteries, and brought up more than 1000 pounds of living coral, sponges, and mollusks for identification.*

ern Gulf waters near Galveston were too cold for such sea life.

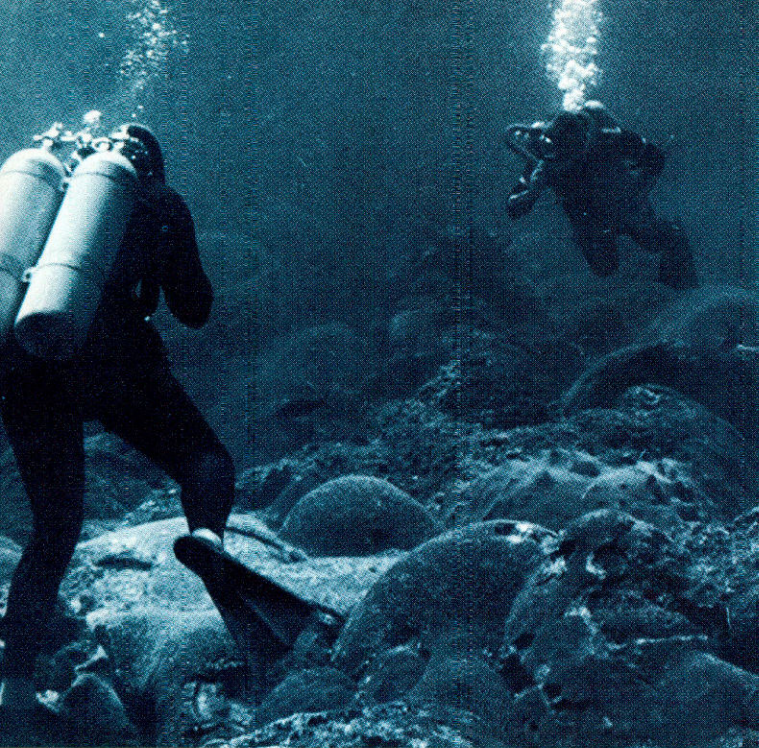
A living coral reef is a community that occurs in tropical waters throughout the world. This community consists primarily of living coral, together with many other organisms that secrete calcareous skeletons, such as ocean worms, algae, bryozoans, sponges, and mollusks (snails, clams). There are also certain physical requirements necessary for its establishment—water temperature never below 70 degrees Fahrenheit for any length of time, clearness of water for penetration of sunlight, exposure to ocean currents, and a depth less than 200 feet below the surface.

The Scripps Institute of Oceanography took many dredging samples of the Flower Garden area and lost equipment on the shallowest part because of the hard calcareous formations. Thus,

by dredging the periphery, they recovered some live mollusks but dead coral. Regarding the evidence as inconclusive, Dr. T. E. Pulley, director of the Museum of Natural Science in Houston, decided that extensive exploration should be made. The only way specimens could be recovered was by divers willing to explore the area.

A few expeditions of this nature were unsuccessful. Then representatives of the Museum of Natural Science, the United States Navy, and a select group of Houston area SCUBA (Self Contained Underwater Breathing Apparatus) divers converged to solve the problem of what actually did exist on the Flower Gardens.

In September, 1960, the U. S. Destroyer *Wren*, with Commander S. F. Simonet as her captain, set forth on "Operation Flower Gardens." The ship was anchored directly above the apex of the East



*Divers found fish life in abundance, many species being attracted to the reefs, and have since returned for a variety of sport fishing.*

Flower Garden Bank, and those on board could see through the surface of the water to the living coral reef below. In teams of three, 38 divers started entering the water to collect specimens of coral, sponges, and mollusks.

So that non-divers could appreciate the underwater world, photographs were taken of this offshore fantasyland. The region is overpopulated with all sizes of marine species from the microbe to the great barracuda.

Within seven hours, more than 1,000 pounds of living coral, sponges, and mollusks were brought to the ship and packaged for later identification. Since this operation was successful, another exploration took place in August, 1961, on the West Flower Garden Bank. Divers from other cities in Texas were allowed to keep specimens to demonstrate the finding of a living reef off the Texas coast. A greater variety of specimens, both in quality and quantity, were recovered on the second trip.

One afternoon in the Flower Garden vicinity, a pod of 20 false killer whales appeared. One whale swam too close to the port side of the vessel, was harpooned, and died. Blood filled the surrounding water, and it became evident that the whale had to be hoisted aboard before sharks mutilated it. To do this, it was necessary for two divers to go overboard to tie lines to the head and tail. A hydraulic lift then raised the 1,500-pound animal to the deck. Today, the whale's skull, with all 32 teeth in place, is exhibited in the Houston Museum of Natural Science.

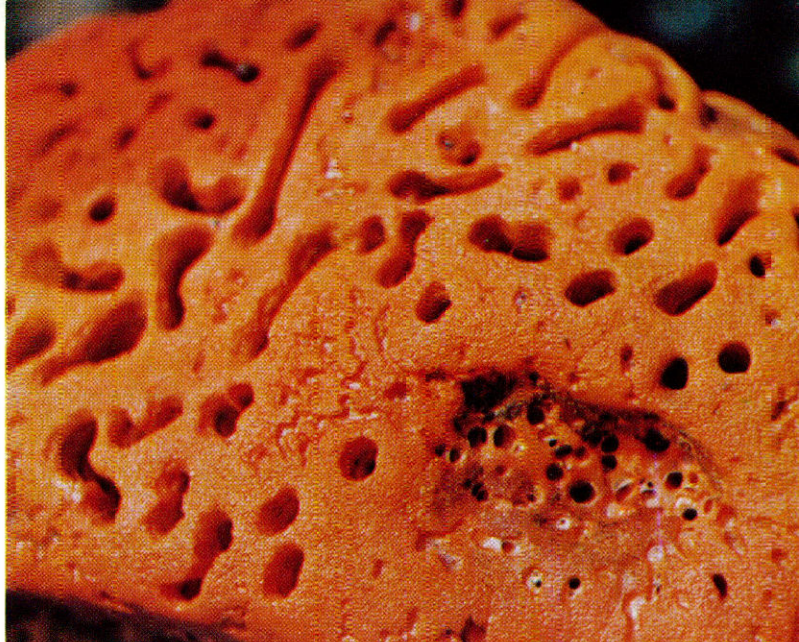
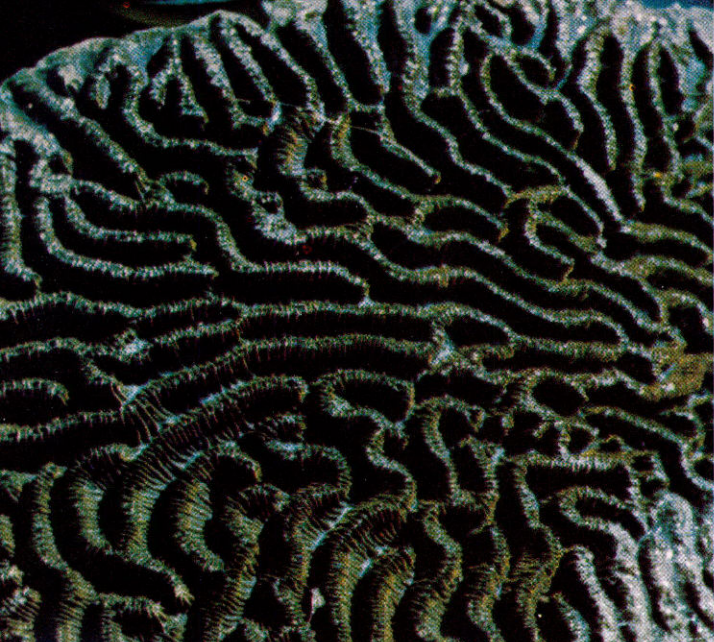
Thirty miles northwest of the Flower Gardens lies the Stetson Bank, named after Henry Crosby

Stetson, the oceanographer on the *Atlantis*. This bank is also known by fishermen as the "Ten and One-Half Fathom Lump." It is 65 feet below the surface at its apex but only 400 yards in diameter. The surrounding depth is 200 feet.

In June, 1963, the bank was explored, and 2,000 pounds of mid-Miocene rocks, sponges, mollusks, and coral were recovered. However, these were not the reef building type of organisms that were found on the Flower Gardens. This bank had all of the requirements for reef-building coral except one: the water temperature remained below 70 degrees Fahrenheit during the winter months. This condition was caused by the northers and the relatively shallow depths surrounding the bank. Although coral variety was rather limited, fish life was plentiful.

After initial exploration, divers returned to the area for sports, fishing, and spear fishing. Trolling the area resulted in catches of bonito, dolphin or dorado, tuna, mackerel, jack crevalle, and sailfish. Other Gulf sport fish are also abundant in the surrounding vicinity.

During early dives the spear fishermen's prime target was the great barracuda, especially those over four feet in length. Snapper and grouper were speared and cooked immediately. The more colorful coral fish, such as the queen trigger, French angel, and squirrel fish, were only photographed. Moray eels were considered enemies to both divers and fish so they were killed and left to attract other fish. Another unusual fish was found—the giant amberjack. It is the strongest fish per pound in the ocean and grows up to 80 pounds in weight. Even



*Samples were obtained of the vividly colored coral, whose beauty, seen through the clear water, led to the name given by fishermen to these reefs.*

the fabled heartless barracuda is terrified by them. With a fishing line or speargun, the sportsman has his hands full.

Underwater life has been called "The Silent World," but the living reef and its animals seem to activate ten-fold at night. The sea anemones come out, sea urchins appear, mollusks roam the area, and the sounds are that of a huge underwater concert. Underwater hand flashlights and floodlights lowered from the vessel illuminate the colors of the reef and increase its beauty far more than sunlight.

Where there are salt domes, there usually are oil bearing formations. Some day oil rigs might be producing in the area. To the amateur navigator, lighted oil rigs would be most helpful in locating the Flower Gardens and also would attract more fish life. Visitors there might be hindered, though, by the distance to the mainland.

All the requirements for reef-building, living coral exist 15 miles east of the Flower Gardens in 150 feet of water and 30 miles further east in 110 feet of water. In the future they will probably be explored.

At their present rate of growth, the Flower Garden Reefs will reach the surface in the next 1,000 years. The more easterly reefs will perhaps do the same in 2,000 years, creating beautiful coral islands for future generations to enjoy.

Thinking men must wonder even through reveries what existed on the prehistoric Texas coastline a few miles south of these present-day reefs where the continental shelf slopes to 11,000 feet. This mystery is but one more factor which makes the Flower Garden Reefs of the Texas coast one of the most interesting biological discoveries of the decade.



# Waterfowl Wing Bee

by C. D. Stutzenbaker

Waterfowl Biologist  
Pittman-Roberston Project W-96-R

Photographs by Bud Smith

Colorado Game, Fish and Parks Department

**F**REE WILL cooperative gatherings of workers to accomplish specific aims have long been exemplified in American history. Barn raisings, fall harvest, quilting "bees," and many other such group work sessions were commonplace.

Wildlife workers have borrowed this historic tradition and have devised the annual waterfowl wing "bee." Each year preceding the waterfowl season, a random sample of waterfowl hunters in

each of the four flyways is sent wing collection envelopes. Hunters receiving the envelopes are instructed to remove one wing from each bird bagged during the season and to forward the wings to a central collecting point designated on the addressed, postage-paid envelopes.

When the wing envelopes are received at the collecting point, they are placed in cold storage. At a later date, professional wildlife workers assemble and the

work begins in earnest. An average wing "bee" involves approximately 30,000 waterfowl wings and between 30 and 50 wildlife technicians.

At the Central Flyway wing "bee" held at Ft. Collins, Colorado, employees from the North Dakota Wildlife Department may work directly across the table from representatives of the U.S. Fish and Wildlife Service and the Texas Parks and Wildlife Department. Generally, representatives

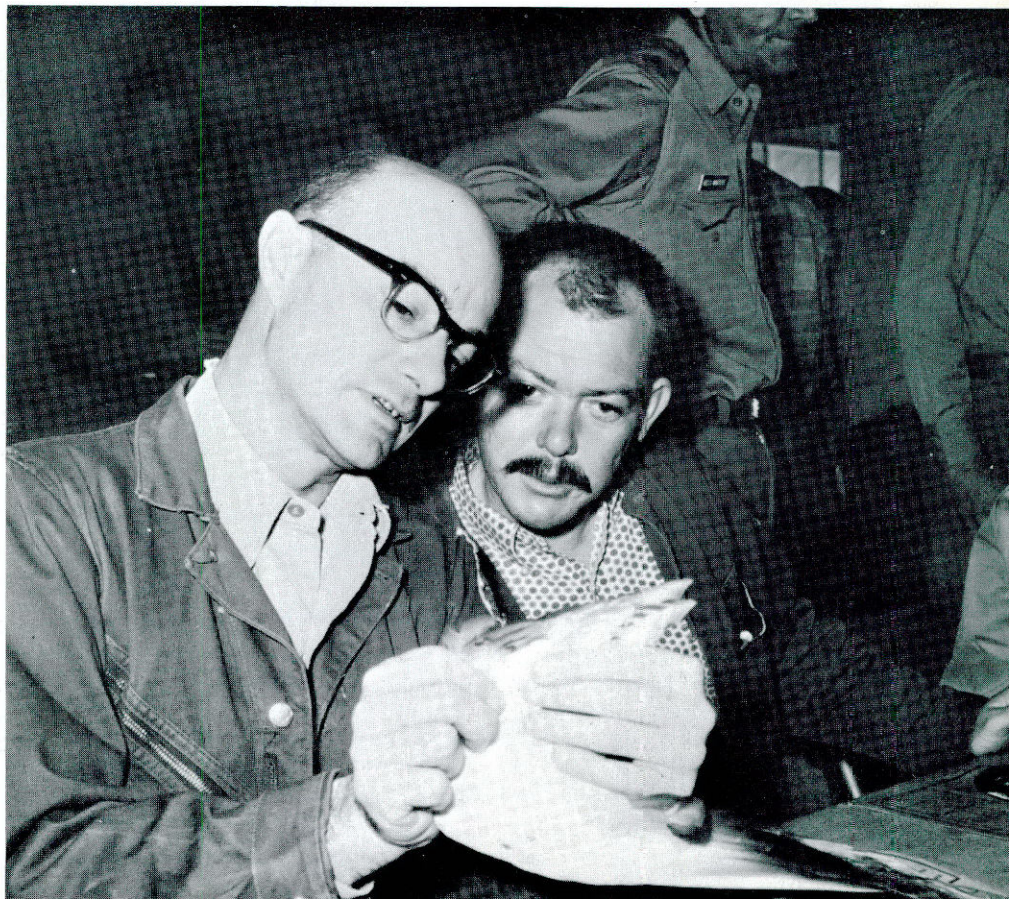


*Wildlife personnel representing states of the Central Flyway gather for a wing count after waterfowl season. About 30,000 wings of some 15 species are examined.*

of at least 10 state game departments are present at a typical wing "bee."

Each wing is carefully examined by trained wildlife technicians and identified as to species, sex, and age. Practically all birds exhibit color and feather shape variation between sex and age groups. Several days are expended in examining the approximately 30,000 wings of some 15 separate waterfowl species.

After all the wings have been





*Data gained in wing bee leads to more careful use of waterfowl resources.*

examined, the tabulation of age and sex ratios in the sample hunter kill is made. Since there is a geographic variation in the sex and age of waterfowl killed, and also greater vulnerability of immature birds to the gun, the results of the wing "bee" are weighted by additional surveys. These include banding and kill questionnaires that are used to eliminate bias factors.

The information gained through the annual cooperative wing "bee" provides an additional perspective into the past waterfowl season. It also enables waterfowl technicians to prepare future management recommendations for a more complete and equitable utilization of the nation's waterfowl resource. \* \*



# half-pint pincushion



*Fruits, flowers, and seeds easily distinguish the pincushion from similar species of cactus.*

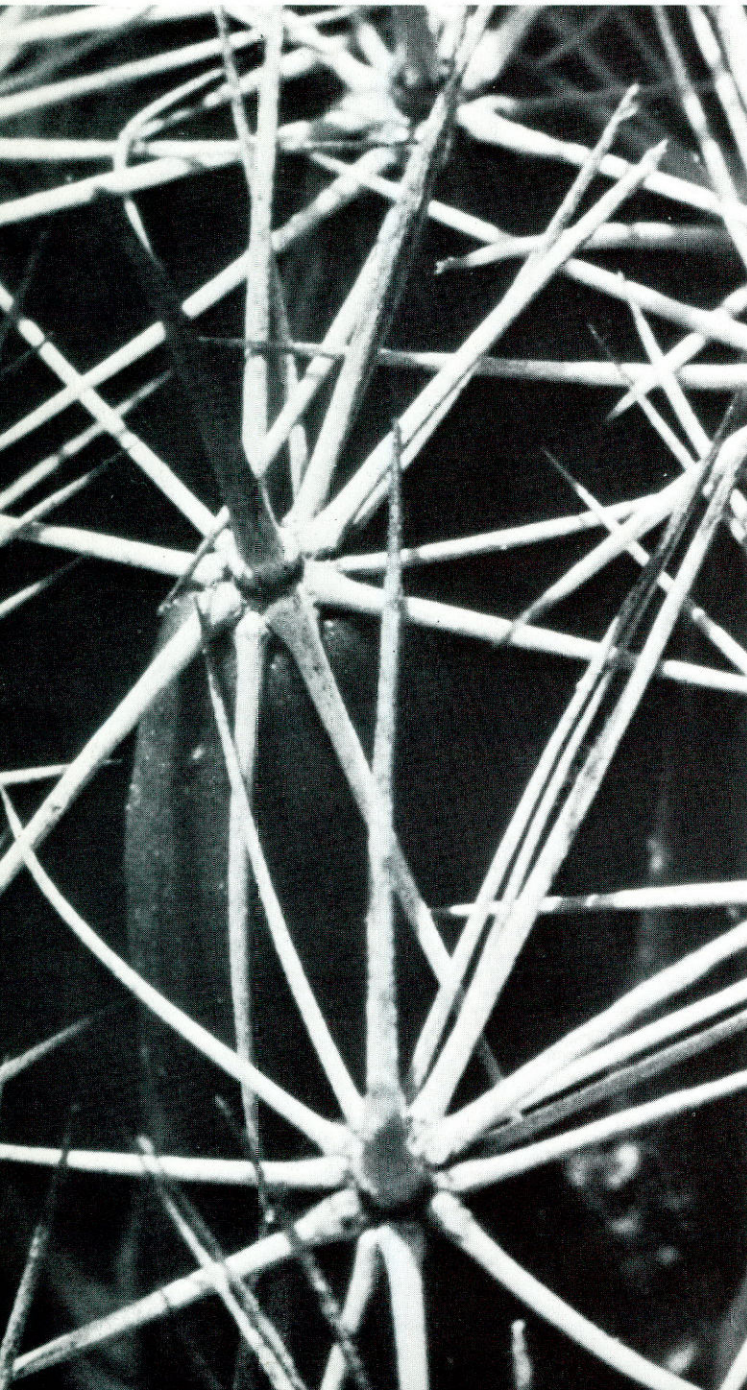
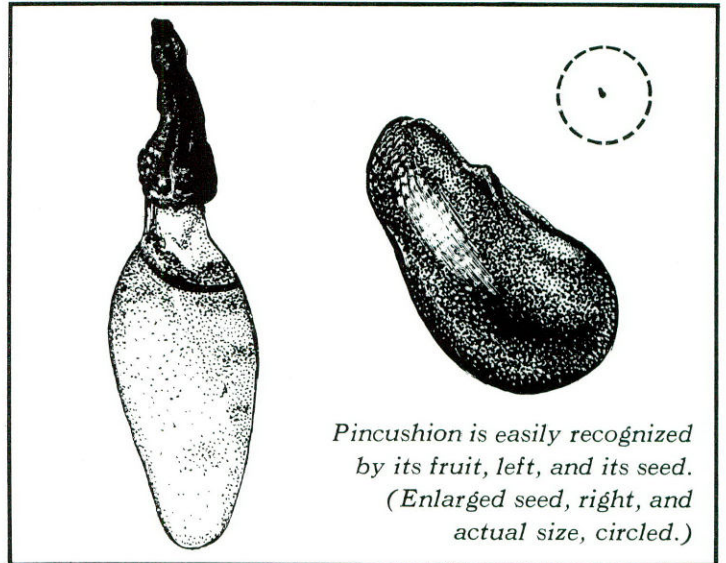


Photography and Story  
by Denton and Mary Belk  
Zoology Dept., University of Texas

**T**EXAS has as many different varieties of cactus as some states have weeds. One of the rarest and probably the most beautiful of the Texas flora is the little pincushion cactus, *Coryphantha sulcata*.

Although most authors list its distribution as being limited to a rather restricted range in the south central part of the State, it has been found

Rare pincushion cactus  
inhabits poor soils of sand  
flats and limestone hills.



elsewhere. It was first discovered in the early 1840's at Industry, Texas. In 1965, two specimens were collected from a rocky pasture southeast of the North Texas town of Muenster. A Mexican botanist also reports that it is found in the state of Coahuila, Mexico. Doubtless more would be known of its distribution if it were a common member of our flora.

Found in the well-drained and relatively poor soils of limestone hills and high sandy flats, the pincushion is a small cactus reaching a mature height of only four to five inches and a diameter of three to five inches. Each bloom is two or more inches across, and six fully open flowers have been counted on a single plant at one time. New flowers are reported to be produced throughout the summer.

Many cacti may look like the pincushion, but by observing the flower, fruit, and seed, differences can be noticed. The flower and seed are best described by the illustrations. The fruit, which remains on the plant throughout the winter, is green, smooth, and usually oblong.

Another cactus, *Neobesseya similis*, resembles *C. sulcata* enough to result in a mistaken identification. *Coryphantha sulcata* is distinguished by seven to ten lobed yellow stigma, red stamens, green fruit, and dark brown ovoid seeds, as compared with the four to six lobed green stigma, greenish yellow stamens, bright scarlet fruit, and black globular seeds of *N. similis*.

The little pincushion cactus may be very small when compared to other cacti, but when it comes to flowering, this cactus makes the efforts of many larger ones seem futile. \*\*

*EDITOR'S NOTE: The authors would appreciate correspondence from individuals knowing the location of naturally occurring C. sulcata.*



# Your Texas State Parks

|  |               | Located<br>Near<br>The Town<br>Of | Camping<br>Permitted | Screened<br>Shelters | Group Camp | Trailer Sewer<br>Facilities | Trailer Water<br>and Electricity | Restrooms | Showers | Cabins | Picnicking | Groceries | Food | Fishing | Swimming | Boats for Rent | Water Skiing<br>Permitted | Boat Ramp | Golf | Museum and/or<br>Exhibit |  |
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| <b>Recreation Parks</b>                |               |                                   |                      |                      |            |                             |                                  |           |         |        |            |           |      |         |          |                |                           |           |      |                          |  |
| Abilene                                | Buffalo Gap   |                                   | ■                    | ■                    |            |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      |                          |  |
| Atlanta (Undeveloped)                  | Queen City    |                                   | ■                    |                      |            |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      |                          |  |
| *Balmorhea                             | Toyahvale     |                                   | ■                    |                      |            | ■                           | ■                                | ■         | ■       | ■      | ■          |           | ■    | ■       | ■        |                | ■                         |           |      |                          |  |
| Big Spring                             | Big Spring    |                                   | ■                    |                      |            |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      |                          |  |
| Blanco                                 | Blanco        |                                   | ■                    | ■                    |            |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      |                          |  |
| Bonham                                 | Bonham        |                                   | ■                    |                      | ■          |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      |                          |  |
| Buescher                               | Smithville    |                                   | ■                    | ■                    |            |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      | ■                        |  |
| Cleburne                               | Cleburne      |                                   | ■                    |                      | ■          |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      |                          |  |
| Daingerfield                           | Daingerfield  |                                   | ■                    |                      | ■          |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      |                          |  |
| Eisenhower                             | Denison       |                                   | ■                    | ■                    |            |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      |                          |  |
| Falcon                                 | Falcon        |                                   | ■                    |                      |            |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      |                          |  |
| Ft. Parker                             | Mexia         |                                   | ■                    | ■                    |            |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      |                          |  |
| Garner                                 | Concan        |                                   | ■                    | ■                    |            |                             |                                  | ■         | ■       | ■      | ■          |           | ■    | ■       | ■        |                |                           |           |      |                          |  |
| Goose Island                           | Rockport      |                                   | ■                    |                      |            |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      |                          |  |
| Huntsville                             | Huntsville    |                                   | ■                    | ■                    |            |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      |                          |  |
| Inks Lake                              | Burnet        |                                   | ■                    | ■                    |            |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      |                          |  |
| Kerrville                              | Kerrville     |                                   | ■                    | ■                    | ■          |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      | ■                        |  |
| Lake Brownwood                         | Brownwood     |                                   | ■                    | ■                    | ■          |                             |                                  | ■         | ■       | ■      | ■          |           | ■    | ■       | ■        |                |                           |           |      |                          |  |
| Lake Corpus Christi                    | Mathis        |                                   | ■                    | ■                    |            |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      |                          |  |
| Lake Whitney                           | Whitney       |                                   | ■                    | ■                    | ■          |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      |                          |  |
| Lockhart                               | Lockhart      |                                   | ■                    | ■                    | ■          |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      |                          |  |
| *Mackenzie                             | Lubbock       |                                   | ■                    |                      |            |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      | ■                        |  |
| Martin Dies, Jr.                       | Woodville     |                                   | ■                    | ■                    |            |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      |                          |  |
| Meridian                               | Meridian      |                                   | ■                    | ■                    |            |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      |                          |  |
| Mother Neff                            | Moody         |                                   | ■                    |                      |            |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      |                          |  |
| Port Lavaca Causeway                   | Port Lavaca   |                                   | ■                    |                      |            |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      |                          |  |
| Possum Kingdom                         | Caddo         |                                   | ■                    |                      |            |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      |                          |  |
| Tyler                                  | Tyler         |                                   | ■                    | ■                    |            |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      |                          |  |
| Velasco (Undeveloped Gulf Beach)       | Freeport      |                                   | ■                    |                      |            |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      |                          |  |
| <b>Scenic Parks</b>                    |               |                                   |                      |                      |            |                             |                                  |           |         |        |            |           |      |         |          |                |                           |           |      |                          |  |
| Bastrop                                | Bastrop       |                                   | ■                    |                      | ■          |                             |                                  | ■         | ■       | ■      | ■          |           | ■    | ■       | ■        |                |                           |           |      | ■                        |  |
| Bentsen-Rio Grande Valley              | Mission       |                                   | ■                    |                      |            |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      |                          |  |
| Brazos Island (Undeveloped Gulf Beach) | Brownsville   |                                   | ■                    |                      |            |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      |                          |  |
| Caddo Lake                             | Karnack       |                                   | ■                    |                      | ■          |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      |                          |  |
| Davis Mountains                        | Ft. Davis     |                                   | ■                    |                      |            |                             |                                  | ■         | ■       | ■      | ■          |           | ■    | ■       | ■        |                |                           |           |      | ■                        |  |
| Longhorn Cavern (Daily Cavern Tours)   | Burnet        |                                   | ■                    |                      |            |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      | ■                        |  |
| Monahans Sandhills                     | Monahans      |                                   | ■                    |                      |            |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      | ■                        |  |
| Palmetto                               | Luling        |                                   | ■                    |                      |            |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      |                          |  |
| Palo Duro Canyon (Summer Drama)        | Canyon        |                                   | ■                    |                      |            |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      |                          |  |
| <b>Historic Parks</b>                  |               |                                   |                      |                      |            |                             |                                  |           |         |        |            |           |      |         |          |                |                           |           |      |                          |  |
| Ft. Griffin (Texas Longhorn Herd)      | Albany        |                                   | ■                    |                      |            |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      |                          |  |
| Goliad                                 | Goliad        |                                   | ■                    |                      |            |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      | ■                        |  |
| Indianola                              | Port Lavaca   |                                   | ■                    |                      |            |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      |                          |  |
| Jim Hogg                               | Rusk          |                                   | ■                    |                      |            |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      |                          |  |
| Lyndon B. Johnson                      | Stonewall     |                                   | ■                    |                      |            |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      |                          |  |
| Mission Tejas                          | Weches        |                                   | ■                    |                      |            |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      |                          |  |
| San Jacinto Battleground               | Deer Park     |                                   | ■                    |                      |            |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      | ■                        |  |
| Stephen F. Austin                      | San Felipe    |                                   | ■                    | ■                    | ■          | ■                           | ■                                | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      | ■                        |  |
| Varner-Hogg Plantation (Guided Tours)  | West Columbia |                                   | ■                    |                      |            |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      | ■                        |  |
| Washington-On-The-Brazos               | Washington    |                                   | ■                    |                      |            |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      | ■                        |  |
| <b>Historic Sites</b>                  |               |                                   |                      |                      |            |                             |                                  |           |         |        |            |           |      |         |          |                |                           |           |      |                          |  |
| Acton                                  | Granbury      |                                   | ■                    |                      |            |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      |                          |  |
| *Alamo                                 | San Antonio   |                                   | ■                    |                      |            |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      | ■                        |  |
| *Battleship Texas                      | Deer Park     |                                   | ■                    |                      |            |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      | ■                        |  |
| Eisenhower Birthplace                  | Denison       |                                   | ■                    |                      |            |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      | ■                        |  |
| Fannin Battleground                    | Fannin        |                                   | ■                    |                      |            |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      | ■                        |  |
| Gen. Zaragoza Birthplace               | Goliad        |                                   | ■                    |                      |            |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      | ■                        |  |
| Gov. Hogg Shrine                       | Quitman       |                                   | ■                    |                      |            |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      | ■                        |  |
| Monument Hill                          | La Grange     |                                   | ■                    |                      |            |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      | ■                        |  |
| Old Ft. Parker (Fort Replication)      | Groesbeck     |                                   | ■                    |                      |            |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      | ■                        |  |
| Port Isabel Lighthouse                 | Port Isabel   |                                   | ■                    |                      |            |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      | ■                        |  |
| San Jose Mission                       | San Antonio   |                                   | ■                    |                      |            |                             |                                  | ■         | ■       |        | ■          |           | ■    | ■       | ■        |                |                           |           |      | ■                        |  |

\* Facilities Not Operated by Texas Parks and Wildlife Department



# Whose Deer?

Reprinted from the Fort Worth *Star Telegram*.

This news feature, prepared by the State Bar of Texas, is written to inform, not to advise. No person should ever apply or interpret any law without the aid of an attorney who is fully advised concerning the facts involved, because a slight variance in facts may change the application of the law.

**S**UPPOSE you are hunting and shoot a deer or a duck, which falls mortally wounded. Before you can get to it, another hunter beats you there and claims the fallen game as his own. What are your rights?

Jim had been hunting all day without success, and had headed for home when he finally saw a deer. He took careful aim and hit the deer with his first shot. Although critically wounded, the



Good sportsmanship usually decides ownership in the field, but also there are firm points of law to cover such hunter disputes.



deer managed to run a short distance, with Jim in hot pursuit.

Roy also was deer hunting. He heard Jim's shot and saw a deer running toward him. However, before it reached the spot where he was standing, the deer fell to the ground.

Although it was obvious that the deer was about to die, Roy walked to within three feet of it, delivered the finishing shot, and quickly put his tag on it. When Jim ran up and claimed the deer, Roy said that such deer were wild animals, and belonged to no one until killed. Since he was the one who killed the deer, Roy claimed that it belonged to him.

Which hunter has legal title to the deer?

In this case the deer belongs to Jim. Jim was the first to wound it and did so before Roy appeared on the scene. He had severely wounded the deer, and had it in such a situation that its escape was improbable, if not impossible. The prevailing rule is that the instant a wild animal is brought under the control of a person so that actual possession is practically inevitable, a vested property interest in it accrues which cannot be divested by another's intervening and killing it, or reaching it first.

Jim had delivered the shot which so crippled the animal as to cause it to cease trying to escape, thus permitting Roy to walk up to the animal and deliver the finishing shot. Jim had effectually brought the deer under his control before Roy took a hand in the matter. The deer legally belonged to Jim, and he can enforce his claim in court.

*Editor's note: Hunters are advised that the slightest deviation from the facts as set forth in this hypothetical incident could change possession rights. The time at which a wild animal's escape is "improbable" is certainly wide open for debate. A wounded animal running or falling onto land where the shooter does not have permission to hunt will also affect legal ownership.* \*\*

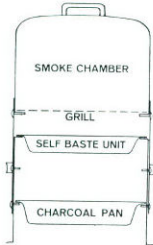
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## 5 THERMAL SOCKS



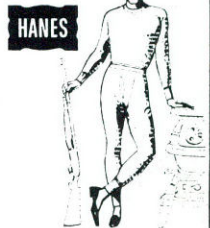
Navy's three dimension Arctic fabric insulates against biting cold... seals body heat in, cold air out. Seamless soles for walking comfort. Long wear, light weight. Won't shrink out of fit. 100% cotton.

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# NOTORIOUS MARKSMAN

by Joan Pearsall

**S**TRONG men cower and animals fearfully keep their distance at the sight of a creature who, in his own way, is the terror of all outdoors. He is not a venomous reptile or savage monster—just an amiable, good-looking skunk.

The dramatic effect he has on all he meets, in contrast to his personable appearance, is due to his far from secret weapon, his dreadful odor. In his case, spray perfume, not the pen, is mightier than the sword—it's not a defense to be sniffed at.

Skunks, in spite of the nickname "polecat," are not some kind of cat, as many believe. They are members of the weasel family, or musk carriers, and are exclusively American. Four species occur in Texas, the spotted, hooded, hognosed, and striped skunks. The latter, *Mephitis mephitis*, is commonly found throughout the State, and widely distributed in North America.

About the size of a longish but fairly stout house cat, the skunk has a long, bushy tail and a small head with a pointed snout. His legs are short with five elongated toes and long, nonretractile claws on the forepaws. All skunks have glossy, long black fur, and the different species have a great variety of white markings. The striped skunk has two white stripes along the back and tail. The stripes join in the neck region and extend onto the head. The tip of the tail is usually white. Weight is 3 to 14 pounds, depending on age and amount of fat, which can vary seasonally. The sexes are alike in color, but males usually are larger than females.

This flat-footed animal is usually calm and deliberate in movement, and seldom attempts to run away. He knows he's well protected! Not having any particular fear of humans, he is quite as happy

to make his home under a house or barn as in his more natural setting—a tree stump, an abandoned armadillo hole or under a large boulder. He generally frequents rocky, bushy, or wooded areas, and banks of rivers.

Mostly he is nocturnal, and stays concealed until dusk. Then it's time for him to come out and see what's for supper. This can be a selection from a wide variety of food, for the skunk's menu includes all kinds of insects, larvae, rats, mice, eggs, birds, fallen fruit, and plants. His fondness for insects and rodents makes him a great benefactor. He is said to be the champion among mammals at destroying harmful bugs—so much so that in some states farmers pressured for legislation to protect him. He is sometimes charged with being a menace to poultry, but studies of skunk stomachs have shown this to be a rare misdemeanor.

The skunk is generally more good-natured than he is given credit for. He would just as soon amble off and not inflict his dire punishment, if there doesn't seem good cause for it. Some cynics have suggested that this is because the spray smells horrible even to a skunk! It may be that he just wants to conserve his ammunition, although a little does go a long way and he has enough to fire several "shots" in succession.

Before firing, he gives plenty of warning. Turning his back, he growls and stamps his feet, then up goes his tail. The white tip hangs limply; however, if the foolish intruder comes any closer, up goes the tip, stiff as a board, and the animal opens fire with startling accuracy.

Many animals have anal scent glands, but none has them developed to the extent of the skunk's.





These two secretory glands are embedded in muscle tissue on either side of and slightly below the rectum and contain a yellow, oily, sulfur compound called butyl mercaptan. When the muscles contract to squeeze the scent glands, this fluid may be sprayed with such force as to hit targets up to 15 feet away.

So penetrating is the odor that for up to a mile around the whole countryside is aware of the skunk's displeasure. It's long-lasting, too, as many victims will agree, who have had to give up and bury and burn clothing or other drenched objects. Gasoline and tomato juice seem the only effective purifiers.

As if the smell were not enough, the spray has a stinging, burning effect, especially in contact with the eyes, nose, and mouth. A direct hit on a foe's eyes causes severe inflammation and tempo-

rary blindness. The scientific name, *Mephitis*, is well chosen indeed—it is Latin for “noxious vapor.”

Paradoxically, the vile liquid is used in the preparation of some perfumes. When its odor is eliminated, it has great capacity to fix and retain other more enticing odors.

The skunk is useful in other ways, also. Some say the flesh is sweet and tender to eat; the body yields an oil, for use in liniments; and the pelt is in wide demand in the fur industry. Because the guard hair of the black fur has a better texture than does the white, the less striping the skunk has, the more valuable the pelt, and often this is sold under trade names “Alaska sable” or “black marten.” Hunting or trapping for the fur is an important industry in some regions. Skunk farming, also, has become established as a regular business.

Mating of skunks takes place in early spring.

At this time, the polygamous males become seized with fits of pugnaciousness. As well as fighting each other for a female, they have been known to dash up and bite animals or sleeping campers, or even squirt a surprised bull in the face for no reason.

Such behavior often leads to an unfounded suspicion of rabies. However, skunks, like all animals, can transmit hydrophobia if bitten by some rabid creature, and the fact that they often are so bitten is due to their lack of fear of other animals.

Gestation period is 51 days, and the males leave the females before the four to eight young are born. A nest of dried grass usually is made ready for the blind, helpless "kittens," which weigh only an ounce at birth. The mother can nurse six at the same time; any more must wait their turn. Although they are hairless, skin pigmentation shows exactly how they will be marked. At the age of three weeks, they open their eyes and also are fully haired. Then they follow the mother around in single file on foraging trips.

Young skunks become independent when two months old. At that time, they are launched on the confident life of a skunk, quite unworried that the world gives them the cold shoulder. Their only real enemy in the wild is the great horned owl, which either just doesn't mind the smell or knows how to kill a skunk without suffering the consequences. Hunters are a hazard, but man has offset this by his cultivation of land and the cutting of forests, thus opening up new feeding grounds and territory for this animal. This is one case where a wild species has benefited from civilization.

It has been said that God showed a sense of humor when He created the skunk, although perhaps no one who has ever been on the receiving end would think it a laughing matter! The skunk is actually a far more valuable and even likeable citizen than his public image indicates. \*\*

## OUTDOOR BOOKS

# Hunting Humor and Nature

**STORIES OF THE DUCK HUNTERS AND OTHER DRIVEL**, by Gordon MacQuarrie, The Stackpole Company, Harrisburg, Pa., 1967, 223 pages, \$5.95.

As the symbol of the outdoorsman, the President of the Old Duck Hunters' Association, Inc. has no equal. He is an eccentric, temperamental old-timer, well acquainted with the woods and waters, and the hero of Gordon MacQuarrie's hunting tales.

In an uncomplicated, witty style that invites the reader along on hunting adventures, the book is a study of the kind of outdoorsman who loves nature and the excitement of hunting and fishing. As a young man, MacQuarrie is taken on his first duck hunt by Mr. President and quickly grows fond of the old man. The President is a good teacher and an accomplished woodsman, but, as MacQuarrie soon learns, he also has his unusual characteristics. ". . . He loathes to put on the storm windows when the bluebills are flying, and . . . maintains an angleworm ranch in his back yard as a form of trout stream insurance."

MacQuarrie's humor is evident in his discussion of the President's idiosyncrasies. Speaking of their excursions, he explains "that the vehicles we used in getting about the country have usually been certain ancient jalopies plucked from the half-acre used car lot he owns." And MacQuarrie goes on in one of his most amusing articles, "The Ultimate Automobile," to tell how Mr.

President acquires a jeep for the use of the Old Duck Hunters' Association.

As outdoor editor of the *Milwaukee Journal*, MacQuarrie wrote hunting stories and contributed articles to outdoor magazines including *Sports Afield*. His knowledge of nature is apparent in these stories, as well as his close observance of human nature. Although the President is partly a fictitious character, his personality is based on MacQuarrie's father-in-law and on another hunting friend.

MacQuarrie's stories offer enjoyable reading for getting away from it all for the relaxing hunter or fisherman. They can be skimmed through in a couple of hours.

—Mary Ann Bennett

**HUNTING IN THE OLD SOUTH**, edited by Clarence Gohdes, published by Louisiana State University Press, 176 pages, illustrated, \$6.50.

Before 1860, the South, rather than the West, offered the best hunting opportunities in the true sportsman flavor. In this collection of hunting tales of the antebellum South, the sportsmen themselves relate their experiences in an area where hunting was unlimited.

This situation existed because the South provided a vast region of coastal and river swamp and mountains, and thus cover for game. Aside from abundant native game, it contained the chief wintering ground for migratory wildfowl. Primarily, though, the South had the largest number of rural people with

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money and leisure in the United States.

The book contains unusual hunting tales written by journalists, travelers, sportsmen from the North and Europe, and by the plantation owners of the area. Most of the adventures are written in the typical language of the period ranging from Davy Crockett's exciting bear-shooting incident to the more serious tone of a Britisher's story of turkey hunts in Texas.

Varying little from present day sportsmen's exaggerations, the stories tend to be long-winded but do have the feeling of old-time hunting adventures. One of the most entertaining tales is about a hunter who takes an ibis-shooting trip in Louisiana. After some mishaps, the hunter is forced to eat the ibis he had shot and saved for mounting.

The other stories also are good escape reading for the sportsman who dreams of returning to a hunting paradise. They include "Wild Cattle Hunting on Green Island," "Spearing a Wild Bull," "Woodcock Fire-Hunting," and "Pitting of Wolves." Each one adds its spirit of adventure to the book and takes the reader along on another experience.

—Mary Ann Bennett

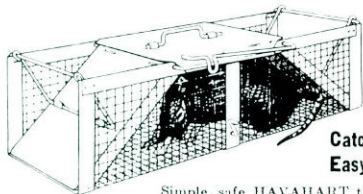
**NATURE'S WONDERS**, edited and compiled by Charles L. Sherman, Nelson Doubleday, Inc., 252 pages, illustrated, \$7.50.

To stimulate the interest of the beginning naturalist, nature photographer Charles Sherman has gathered information about plants and animals and illustrated it with photographs by several good nature photographers.

Each page contains color photographs that will encourage the reader to go outdoors and see what he can discover for himself. Although the photographs are striking, they would have been more so if they had been larger.

The fourteen articles include the topics of animal children, life in the Everglades, life in shallow sea water, birds of prey, and the more common subjects of flowers, seeds, and song birds. Each article covers a broad topic

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briefly and informatively. The book can therefore be used to stimulate family reading and children's study of nature.

In "Animal Children," the training that animals give their young and the stages of animal development are explained. The white-tailed fawn, for instance, receives lessons from his mother on how to be still to protect his safety. When the fawn tries to follow his mother, she forces him down with her head until he learns to remain in one spot while she leaves him alone.

She also teaches him to interpret the signal flagging of her tail and when to follow her into the forest. Characteristics of other well-known and more unusual animals are discussed in the book.

Sherman writes in a descriptive, clear style and uses comparisons of animal life. He mentions many facets that are taught in a simple biology course, and the book could thus be a guide to the

parent who wants to study nature with his children. For the better informed nature lover, more detailed books on the outdoors are available.

The article, "Life in the Everglades," is particularly fascinating to a beginning nature student. Animals such as the roseate spoonbill with its pink coloring and its spoon-shaped beak, and an occasional alligator, are living there. The largest of the Everglades' mammals is the unusual manatee, or sea cow, which resembles a shapeless blob and is completely aquatic.

A note on nature color photography summarizes the book and describes what the nature photographer needs for the hobby or job of outdoor picture taking. Tips from the author will be helpful to the novice or the more experienced photographer who is new at taking nature pictures.

—Mary Ann Bennett



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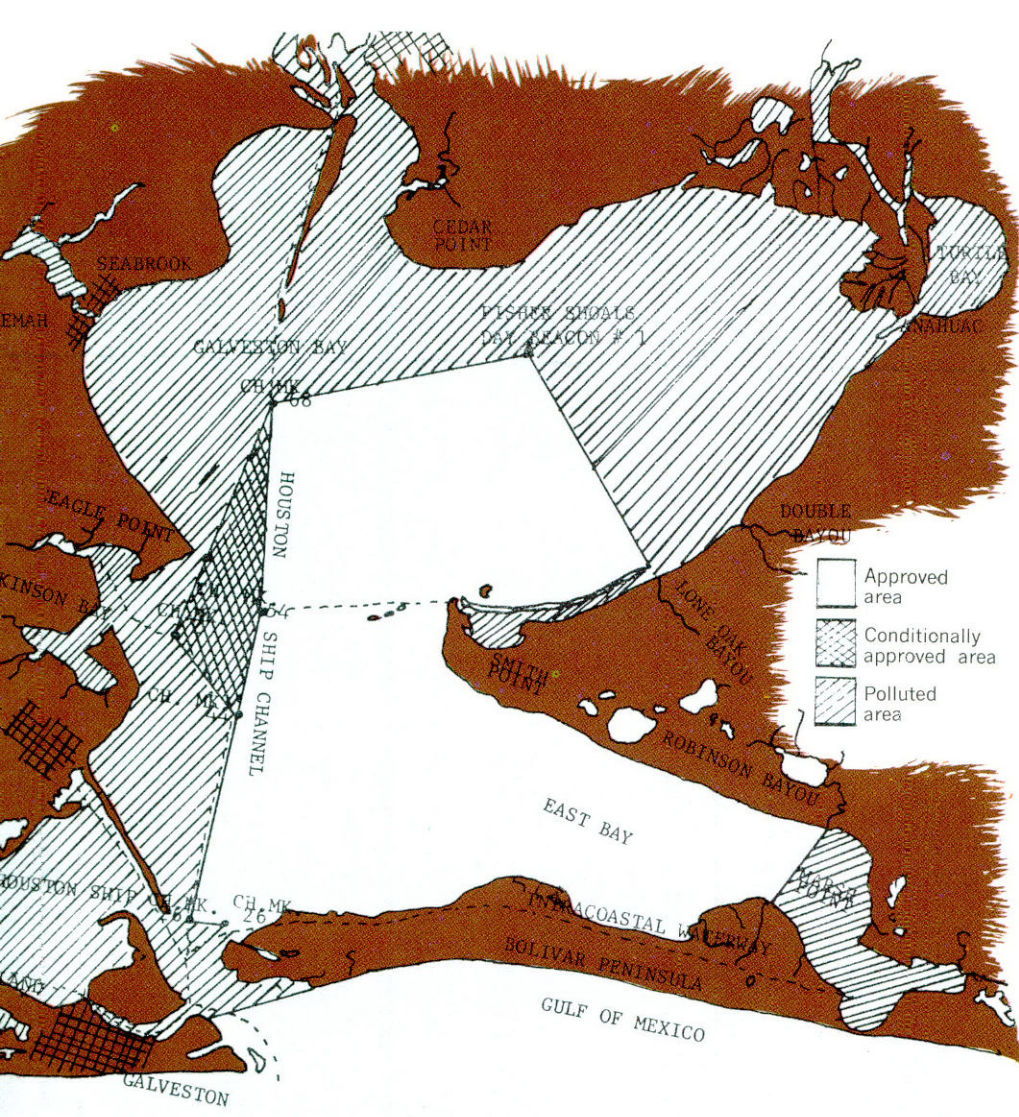
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by James Stevens  
Coastal Fisheries Supervisor, La Porte

Maps published by the State Health Department show approved areas of shellfish producing waters. Oyster dredge boats bring in controlled, unpolluted harvests.



# Certified Shellfish

**P**ROVIDING Texas both with food and a highly important industry, the oyster can be found in almost every bay from Boca Chica to Sabine.

Often at low tide, groups of men, women, and children can be seen wading over the more accessible reefs. Some simply pick them up by hand, but others use oyster tongs for raking up the shellfish in shallow water.

The old commercial method for gathering oysters in deep water used to be diving, and this still is done by some eager individuals. Now the oyster dredge is the far more efficient way to harvest large quantities. This is basically a heavy, metal-framed basket with teeth along the bottom edge of the mouth. When the dredge is pulled over the reef, the oysters are forced into the basket. When full, it is hauled into the boat by hand or by power winches.

Tonging and dredging both bring in other material, besides marketable oysters. Too small oysters, dead shells, and mud have to be culled, and various instruments are used to do this. Some small oysters and some with thin shells are unavoidably damaged in this process, but most of the undersize oysters are scattered back over the reef. This helps maintain and expand the reef. Failure to do so would result in the eventual destruction of the reef.

Dredge boats may bring in 10 to several hundred barrels a day for sale to the oyster dealer. He, in turn, sells them either in the shell or shucked, fresh, frozen, or canned.

A very important step in bringing the oysters to the consumer is getting them open. Since this is quite an art in itself, special shuckers or openers are employed. The usual method, to avoid mangled oysters and cut fingers, is to force a sharp knife between the valves and cut the muscle close to the shell. Some experts first break the bill with a hatchet, and some break the hinge and then cut the muscle. After shucking, the oysters are washed to remove particles of shell and mud.

Oysters are unique in that they are the only shellfish sometimes eaten raw, and in entirety. They also are different in that they are sedentary creatures. Except for a very short period fol-

lowing hatching, they spend their entire life in one place and must withstand all environmental changes that occur, or perish. They feed by pumping water through their system and filtering food from it, normally consisting of tiny plants and animals called plankton.

Other material, beside food, also gets filtered from the water and, in polluted areas, this can include undesirable bacteria. When bacteria become concentrated in the oyster, from the large volume of water filtered through it, a problem for both harvesters and consumers may occur. This possibility has given rise to anxiety and sometimes panic over the years, especially as the industry has grown.

There have been some cases where oysters from sewage polluted waters did contribute to epidemics. Therefore, in 1925, the shellfish industry and state health officers requested the U. S. Public Health Service to develop a control program to prevent any further such outbreaks and thus restore consumer confidence in their product.

Thus came about the Cooperative Program for the Certification of Interstate Shellfish Shippers. This program has been revised and broadened on several occasions down through the years as knowledge has increased.

The program is cooperative since there is no specific federal legislation which authorizes it. The Public Health Service, the participating state governments, and the shellfish industry each share the responsibility for administering it.

The Public Health Service establishes guidelines of sanitation to be followed by the participating states. Employees of the service evaluate each state's program and publish semi-monthly lists of Certified Interstate Shellfish Shippers. They also provide for continuous research in the field of marine food sanitation and conduct training courses for the many groups of people involved.

The shellfish industry is responsible for constructing and operating plants which meet the required standards and pass inspection by the State Health Department. They obtain their shellfish only from the approved, sanitary growing



areas and apply their own certification number to packaged products. This number is assigned by the State Health Department, and is a valuable guarantee to the consumer that the product has been produced and processed under conditions approved by that Department. The industry also makes its records and facilities available for inspection by properly authorized personnel.

To the states fall the lion's share of the responsibility for placing the cooperative program in operation. Their responsibilities include the classification of growing areas (based on surveys conducted in all shellfish producing waters), the control of shellfish harvest in unapproved areas, the supervision of shellfish transplanting operations, the certification of shellfish processing establishments, the regular inspection of all processing establishments and shippers of shellfish, and the overall execution of a sanitation program that meets the standards established by the Public Health Service. In addition, each state legislature must provide the legal backing for this program plus the personnel and facilities to conduct it.

In Texas, the State Health Department conducts the surveys necessary to classify the bays for the commercial harvest of oysters. (Oysters are the only mollusk of commercial importance in Texas.) This agency publishes maps showing the approved and unapproved areas and is responsible for the certification and inspection of oyster processing plants and shippers.

The Parks and Wildlife Department, through its enforcement function, is responsible for the control of oyster harvest in unapproved areas and for the supervision of oyster transplanting operations.

Oyster transplanting, or relaying, involves the moving of oysters from unapproved to approved areas, leaving them in approved areas for a minimum of two weeks, and then harvesting them for market. Studies have proven that sewage polluted oysters will cleanse themselves rapidly when placed in clean waters. This makes it possible to utilize a resource, since unapproved areas of the bay produce large quantities of market-size oysters.

Recent legislation (Article 4050f, Vernon's Annotated Criminal Statutes) has made it illegal for anyone to harvest oysters from unapproved areas except with the permission and under the supervision of the Parks and Wildlife Department. In order to fulfill the requirements of this act, the Department has developed a permit system for the control of transplanting operations.

Some of the stringent rules that have been established are:

1. Transplanting permits are issued only to holders of private oyster leases. All oyster leases from which oysters are marketed are located in approved areas of the bays.
2. Transplanting permits are issued only during closed oyster season and each permit lists the reefs from which oysters may be taken, the volume which can be taken, the lease on which the oysters



*Professional shuckers have expert ways for opening the shells and removing the oysters, which then are thoroughly washed clean.*

taken are deposited, and the boats to be used for the transplanting.

3. Boats engaged in transplanting cannot be used to harvest oysters.

4. A harvest permit is required before oysters may be taken from a private lease. Such permits do not become effective until two weeks following the completion of transplant operations, and a lease holder cannot hold transplant and harvest permits simultaneously for the same lease. Coupled with this permit system and its built-in safeguards is the careful patrol of transplanting by coastal game wardens.

The same coastal game wardens spend many hours checking the harvest of oysters from public reefs during the open oyster season. Here they check to see that oystermen are properly licensed, that harvest equipment meets the requirements of the law, and that legal oyster size limits are followed, as well as insuring that oysters are not harvested from unapproved areas.

As a result of the cooperative program and its many inspections, controls, and demanding standards, shellfish are one of the most carefully scrutinized food products you can buy. Among them, the oyster ranks the noblest, a health-giving luxury celebrated through the ages and now available to all. So, if oysters suit your palate, purchase them through recognized food suppliers and enjoy them with the assurance that is due this wholesome and nutritious food. \* \*

*A dish fit for a king, oysters and other shellfish are among the safest and most nutritious of foods.*



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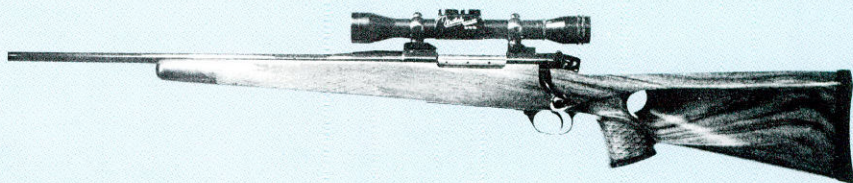
## Southpaw Specials

The left-handed shooter has always had a problem with his guns. Until a few years ago, guns were made almost entirely for right-handed shooters. Even back in the days of the flintlock and the later percussion models, the hammer was on the right side of the gun. The first real break came with the double-barreled hammer

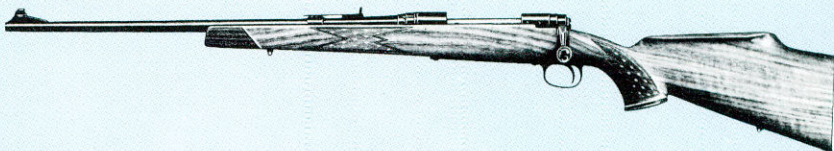
shotgun, which permitted a southpaw to cock his shooting iron as easily as a right-hander.

The same applied to the early day lever action rifles, which had an exposed hammer.

Then pump shotguns came along. For left handers it was all right with the old 97 model with the small exposed hammer, or the



Weatherby Mark V left hand action and stock.



Savage m/110-PL left hand action and stock.



Savage m/30-L shotgun with left ejection port.

original Marlin with an even larger exposed hammer.

But then came the hammerless shotguns. All of them had the ejection port on the right side. Since the safety also worked from the right side, shells flew across the face of the shooters.

Finally, the 1917 Remington was developed with bottom ejection, but the safety was still on the wrong side. This model Remington, however, was discontinued but Ithaca took up the design and made its famous Model 37 with bottom ejection.

Rifle shooters also had a problem, particularly with the semi-automatic, which ejects shells across the face. This can be controlled, though, in several models such as the 88 Winchester lever action, the 760 Remington pump, and the 99 Savage. The later editions of the model 99 can have a tang safety, making it slightly easier for the shooter to operate.

Many southpaws have spent a lot of money modifying the high-grade bolt actions for left-handed operation. This has been done successfully by gunsmiths who rebuild the action for left-handed use.

Other left-handed shooters with long practice have become adept at reaching across the gun and operating the bolt almost as fast as a right-hander.


Several years ago, Savage's Model 110L was the first factory-made bolt action for the left-hander. Last year the Ranger Arms Co. opened its plant at Gainesville and introduced plans for a left-handed deluxe gun.

Savage also has a left-handed shotgun with a left part and left-sided safety plunger. It is the Model m/30-L, being built currently for 12 gauge only. It has a ribbed barrel, however, and will handle 3-inch shells.

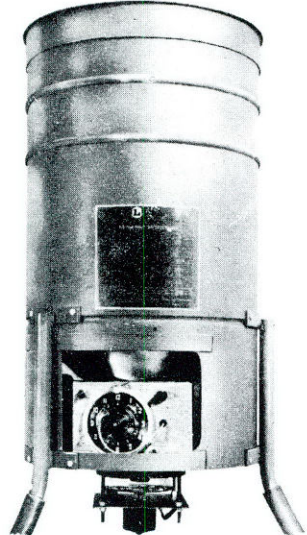
With a 26-inch modified barrel, it should make a good all-around gun for the man who puts it to his left shoulder. Its price is listed at less than \$100.

Now the southpaw is getting recognition in his shooting irons. \*\*

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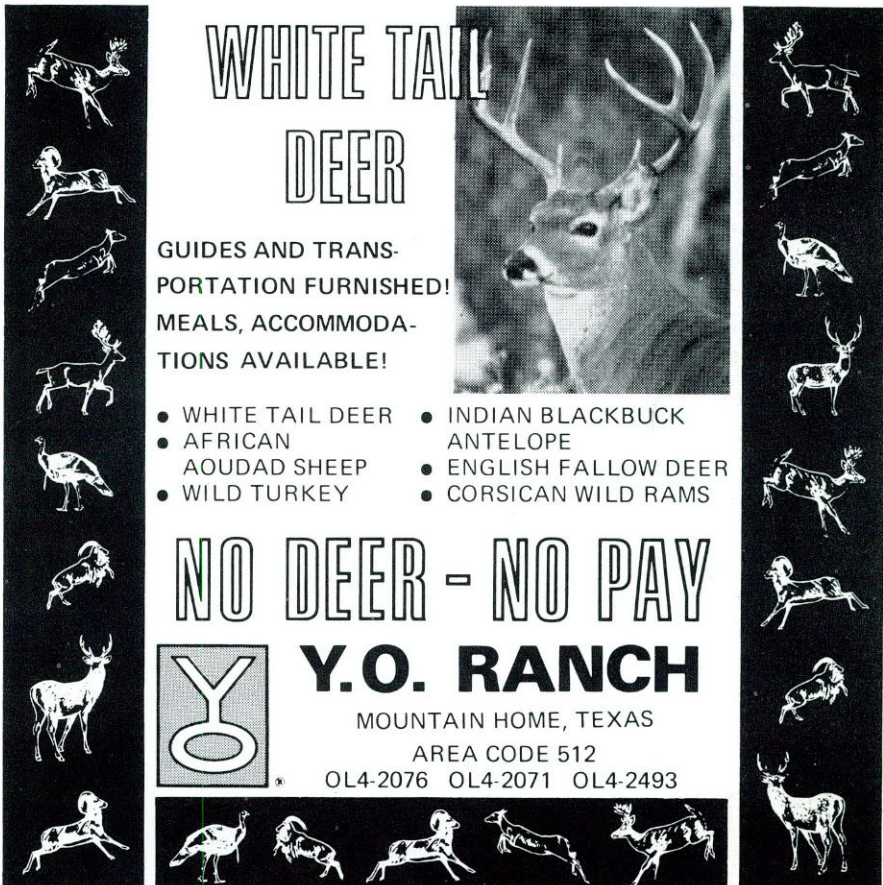
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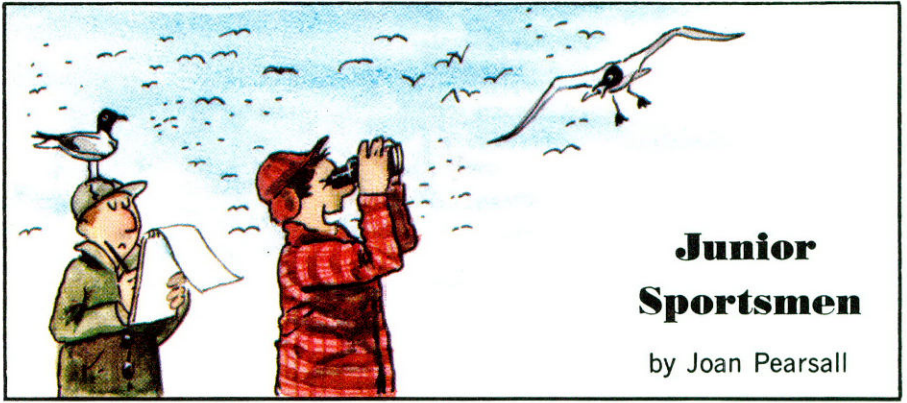
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Christmas is a season of happy traditions, that is, customs which have been handed down for many years. Carol singing, the Christmas tree, Santa Claus, delicious things to eat—all these are things we look forward to at this merry time of year, and you can no doubt think of a lot more. For many of you, hunting trips are a regular part of the family's holiday plans.

There is another outdoor activity which has grown so much in respect and popularity that it, too, has become a Christmas tradition. This is the yearly Christmas Bird Count.

Each year, groups of people all over the country give up one day of the holiday season to go out and count birds. They do this with a lot of enthusiasm and good fellowship, but also in a very businesslike way.

The National Audubon Society sets a period of about 12 days, out of which each group may choose a day to have its Count. This year, the dates are December 20, 1967, through January 1, 1968, and it will be the 68th Christmas Count. That number of years ago, the idea was first started by Dr. Frank M. Chapman, as an alternative to the shooting of birds at Christmas.

Each group works in an area covering a circle 15 miles in diameter. Inside this space, they

break up into smaller numbers of one or more, depending on how experienced the people are as birdwatchers, and how many birds can be expected in various places. The counting goes on from dawn to dusk, or even longer.

Every person has an official report form, and on this they note every species of bird they see which they are absolutely certain they can identify correctly. Jokes are always being made about the "whoppers" fishermen tell, when they describe their catches. Birders can't get away with that at all! They must be among the world's most truthful people, for their lists have to be strictly accurate if they want them to mean something.

When all the reports are in, from each of the states and Canada, they tell a wonderful story of the movements of the birds, where different species are located, and if they are increasing in numbers or becoming rare.

Often, there are interesting stories about the people themselves, who do the reporting. Up in Alaska, Canada, and the northern states, they brave deep snow, biting winds, and below zero temperatures. One man endured this for 8½ hours, at 22° below zero, just to see four species, and another spent four hours at 50° below in 10-inch snow, to find just one species! Some go mountain

climbing—Colorado has the record here for the highest Christmas Count altitude, when a group watched at the top of Pikes Peak.

One group in a boat got stuck on a sand bar in Delaware Bay for five hours, until rescued by the U.S. Coast Guard. Another time, a birding family in northern California had been flooded out, their belongings scattered in the mud, but still they spent several hours on the Bird Count in the soaked countryside.

One party in Florida had a funny adventure. They were surrounded by security guards on National Aeronautics and Space Administration grounds. The officer thought he'd caught a nest of spies because of their high-powered binoculars and telescopes!

Each year there is keen interest to see which group will sight the most species of birds. Naturally, the highest counts are always in the southern coastal areas, where many birds concentrate in the winter. Florida, California, and Texas have these fortunate geographical locations. Cocoa Beach, Florida, has been the champion all along, but last year San Diego, California, tied with Cocoa, with 206 species each. Freeport, Texas, was next with 190 species.

Birders of Texas are confident that Freeport has a good chance soon to head the list. The birds are there, and it's a matter of enough spotters joining the Count. This may not take long, with all the growing interest in birdwatching. The number of groups of people making Counts has always been largest in New York, but last year Texas pulled way ahead of New York's 48, by having 62, which shows how people here are becoming more and more bird conscious.

Maybe you yourself will one day join in a Christmas Bird Count. Anyway, while you are busy shopping, trimming the tree, or opening presents, think for a minute of all the thousands of people far and near who are cheerfully out in all weathers, making notes on the birds. \*\*

Books are always fine things to include in your Christmas gift lists. Here are some especially recommended for young people by the National Audubon Society.

**WHEN ANIMALS ARE BABIES**, by Elizabeth and Charles Schwartz (Holiday House, \$3.25). Simple, interesting facts about young wild animals, well illustrated. (3 to 8 years)

**THE BOOK OF SEA SHELLS**, by Michael H. Bevans (Doubleday, \$3.25). Beautifully illustrated; enough text to give meaning to a child's collection of shells. (8 to 14 years)

**THE STORY OF ANTS**, by Dorothy Shuttlesworth (Doubleday, \$3.25). Presents all a child could want to know about ants, well illustrated. (8 to 14 years)

**THE GIANT GOLDEN BOOK OF BIRDS**, by Robert Porter Allen (Golden Press, \$3.99). A fine elementary world ornithology, with many simple facts. Lavishly illustrated. A bargain for any child.

thology, with many simple facts. Lavishly illustrated. A bargain for any child.

**THE BIRDS**, by Roger Tory Peterson and the editors of *Life* (Time, \$3.95). Covers all aspects of bird life; may be read with ease by young people. (12 and up)

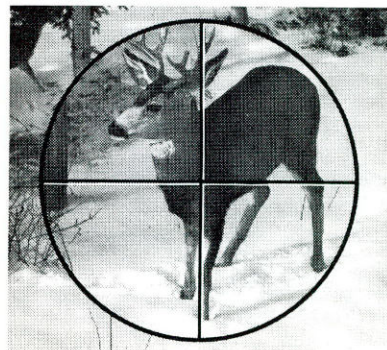
**FISHES AND THEIR WAYS**, by Clarence J. Hylander (Macmillan, \$4.95). Comprehensive guide to American fish, useful to young naturalists and fishermen. (12 and up)

**THE WONDERS OF LIFE ON EARTH**, by the editors of *Life* and Lincoln Barnett (Time, \$9.95). A large book to delight the young nature enthusiast, dealing with evolution, migration, symbiosis, anthropology, and more. (14 and up)

**THE NEW NOAH**, by Gerald Durrell (Viking, \$3.50). Hilariously funny animal tales. (10 and up)

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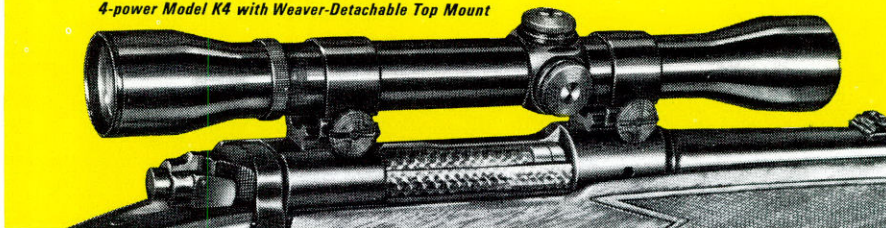
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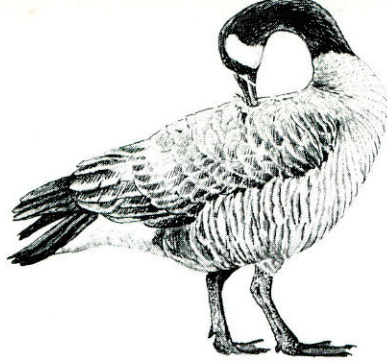
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# Letters



# to the Editor

## Drouth Effect

This photograph is of two sets of horns from deer killed in Llano County. The lower set is 10 points, from a deer killed in 1956; the upper set is also 10



points, from a deer killed in the same pasture in 1966. The deer weighed almost the same, and the general appearance of the horns suggests they were approximately the same age.

The significant difference in the "beam" I attribute to the complete success of the screwworm eradication program which took place between the two kills. We have noted a general improvement in the quality of the deer in these later years.

Is there merit in this conclusion?

Forest S. Pearson  
Austin

The opinion of our wildlife services section is that the difference in development of these antlers is not attributable to the screwworm eradication program, but that antlers from deer shot during the drought year of 1956, all other things being equal, would be smaller than those taken in 1966 when the antler growing season was excellent. Screwworm damage to antlers, if the deer survived the case, could be expected to result in distortion or malformation, and neither of these two racks show any such signs. The significant difference in the beam is usually attributed to age of a deer, so it is quite possible that the only definite supposition

we can make from comparing the two racks is the 1966 animal was somewhat older than the one shot in 1956.

—Editor.

## Aloe Allergy

Referring to the aloe vera article in your September issue, I have kept much information on this truly miracle healing plant.

Only I'm allergic to taking it internally, as many are. What terrible blisters it put on my arms and legs! Took \$65 worth of high-priced medicine the doctor gave me, to cure that spoonful of diluted aloe vera I swallowed. It does not cause trouble when applied to my skin.

Mrs. D. C. Ring  
Alamo

## Trout Parasites

Last July, I found some white looking blemishes in the flesh of two speckled trout (weakfish). In one trout this appeared as a round spot the size of a five cent coin, while in the other there were four spots but of a smaller size. These were not growths but were part of the usual flesh. The large blemish resembled a scallop in texture—firmer than the rest of the meat. None of these spots were visible on the skin, but only occurred inside. I would not have detected them if I had not filleted the fish.

I caught both trout fishing the east side of Mud Island—opposite Bird Island (the San Louis Pass area). They were well cared for, iced down after dressing, and filleted the evening of the same day.

I talked to a number of fishermen but no one had seen anything similar in trout. I would appreciate knowing what might have caused these spots, if this is more common than I have found, and if the flesh can be eaten.

John Hallas  
Bellaire

The blemishes you mention fit the description of a larval stage of a tapeworm commonly found imbedded in the muscles of several fishes along the Gulf Coast. This stage of the worm has a bulbous head, which you described, and a "tail" which reaches considerable length, providing it with a common

name, "spaghetti worm." The complete life history is not known, but it is believed that fish are infected by consuming a crustacean which serves as host to an earlier stage of the parasite. The larva penetrates the intestinal and peritoneal wall of the fish and lodges in the muscle tissue, where it must remain until it is able to reach its final or adult stage—only after the host fish is eaten by a shark or ray. The larval stage then develops into an intestinal tapeworm in the shark or ray. Although the appearance is not appetizing, this worm is not harmful to man. Some fish parasites, particularly in northern fresh waters, can be parasitic to man, but these are destroyed when the fish is cooked. Since many of our popular meats are possible hosts of parasites, your detection of the harmless shark parasite, I hope, will not adversely influence your attitude toward fish.—Terrance R. Leary, Coastal Fisheries Coordinator.

## Crab Enceinte

Let us hope that your wardens cannot identify the sore fingered model in the center picture on page 7 of your July issue, the "Dip a Dinner" article. It is obvious he did not check the holding box as you urge in the caption, for a lady is about to get dunked in the boil. Or is a female only illegal while enceinte—or with egg sponge attached?

M. R. Waddell  
Houston

Our administrative people inform us that only egg bearing female crabs are protected by law. This allows persons to keep and eat female crabs except when they are bearing the egg sponge.

—Editor.

## Back Covers

**Inside**—Bounty of Texas Gulf Coast seafoods should not be overlooked when adding that special holiday touch. Recipe for this shrimp tree is available. Photo courtesy Bureau of Commercial Fisheries, U. S. Fish and Wildlife Service.

**Outside**—All personnel of the Texas Parks and Wildlife Department take this opportunity to wish all their friends a Merry Christmas and a prosperous New Year. Art by Nancy McGowan.



HAPPY HOLIDAYS

