



# TEXAS

PARKS & WILDLIFE

February 1973 • 50¢



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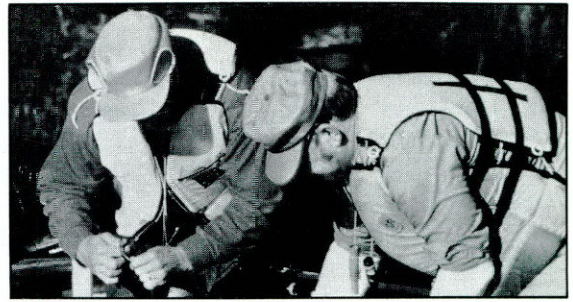
**TEXAS PARKS & WILDLIFE  
magazine**

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

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**Front cover:** The intricacies of ice on plants always reveal nature's beauty in its simplest form. Photo by Jim Whitcomb.

**Inside front:** Even though the days are short and cold, there is still much enjoyment to be found in fishing. Photo by John Suhrstedt.

Something hidden. Go and find it.  
Go and look behind the Ranges—  
Something lost behind the Ranges.  
Lost and waiting for you. Go!

*Rudyard Kipling*

Photography by Bill Reaves



South Rim Trail







Mule deer on Laguna Meadow Trail



It is only a little planet  
But how beautiful it is.

*Robinson Jeffers*

Prickly pear cactus

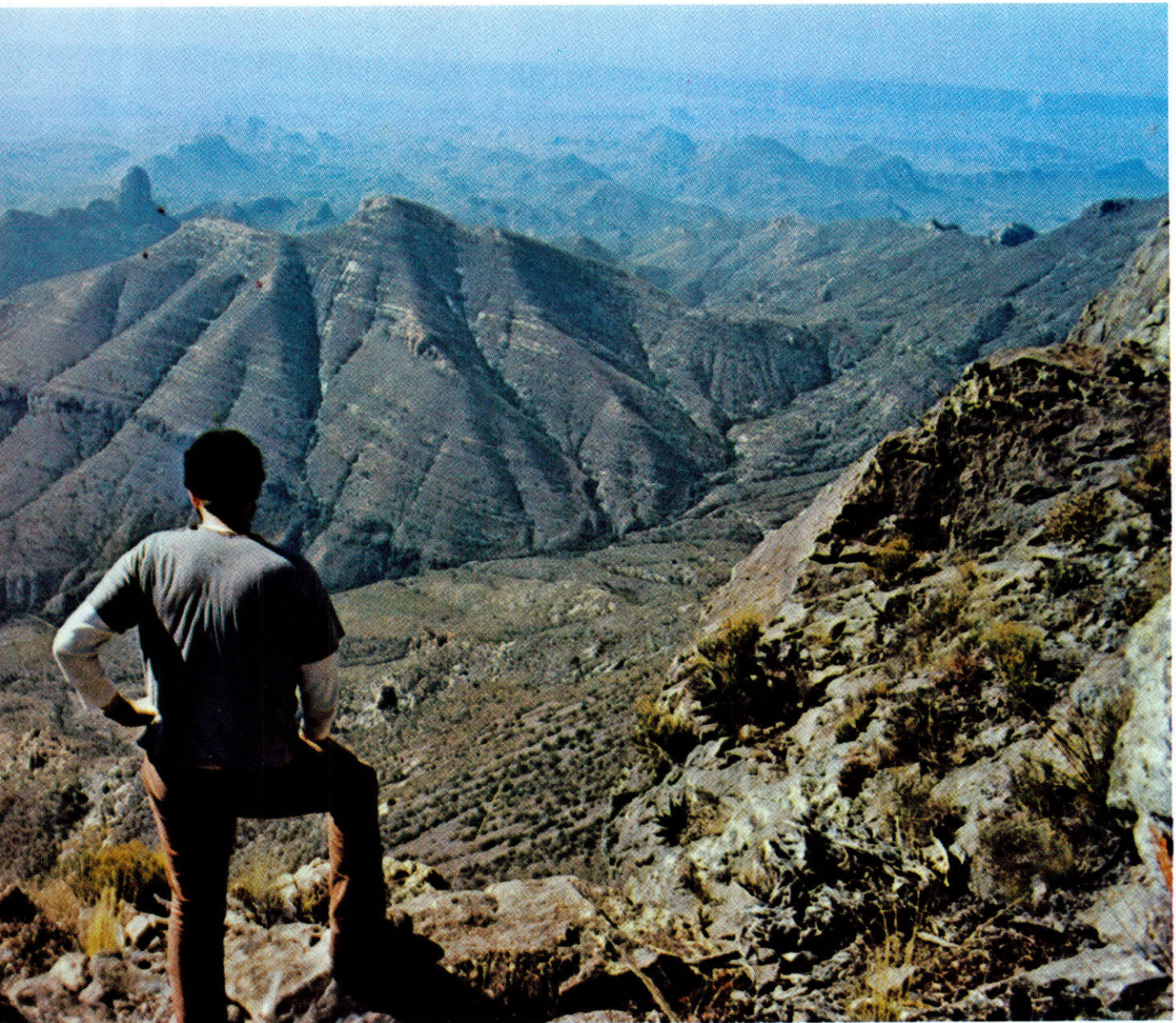




I tried to let their beauty soak in,  
And when I did so a new beauty,  
Something additional to all I had yet seen,  
Seemed to shine out of them . . .

*W. H. Murray*

For trail information, the "Hiker's Guide to the Developed Trails and Primitive Routes of Big Bend National Park," Big Bend Natural History Association publication, can be obtained at the park for 50 cents.



Chihuahuan Desert from South Rim Trail

# ANGLING

by Ed Dutch

## Sail-line fishing ca

Innovative fishermen always seem to find a way to get their baits to the fish. Often the contraptions used are odd or humorous looking, but the results are worth the many questions, laughs or funny stares from curious onlookers. Sail-line fishing is a perfect example.

To the unsuspecting spectator, a grown man standing on the shore holding a line that runs far out into the water with a small raft and sail attached looks somewhat ridiculous. But as the man retrieves the line and removes fish from the dangling hooks, the spectator becomes an engineer trying to figure a way to construct a similar fishing device of his own.

Sail-line fishing rigs simply involve some sort of floatable raft with a wind-catching sail and a line similar to a trotline except with fewer stagings, maybe five to 10, of varying lengths. For the serious sail-line fisherman, however, the rig becomes more complex with some means of mainline attachment for maneuverability and weight releases to get the line down deeper or floats to keep it up near the surface. A reeling device of some sort will make it easier to retrieve the possibly hundreds of feet of line that have been let out.

Wind is obviously the most important factor involved in sail-lining. A direct offshore wind allows control in both directions, but any offshore wind can be utilized if direction is not so essential. Even with a wind that is parallel to the shore, a sail-line can be used to get baits out some distance.

Maneuverability or directional control is accomplished by changing the point at which the mainline is attached to the sail-raft, thereby



# WITH THE WIND

get your bait to the fish



Jim Whitcomb

changing the angle of the wind on the sail. This technique makes it possible to cover a 45-degree area to either side of the wind direction as is clarified in the illustration.

Saltwater sail-lining is comparatively easier than freshwater. Sandy coastal bays are ideally suited for this method of angling because everything seems to work together for success—water depth is seldom over four feet even at high tide, there are very few snags and fish abound. No weights or floats are needed, and because fish stay fairly close to the bank, the lines usually don't have to go out more than a hundred yards. Redfish and speckled trout are the usual catches of sail-line fishermen working the bays although just about any kind of bay fish may be caught. Preferred baits are mud minnows, cut mullet and live or dead shrimp. Artificial baits such as jigs or spoons may be used but aren't as productive as live, dead or cut bait.

Surf fishing with sail-line rigs is possible if all conditions are right.

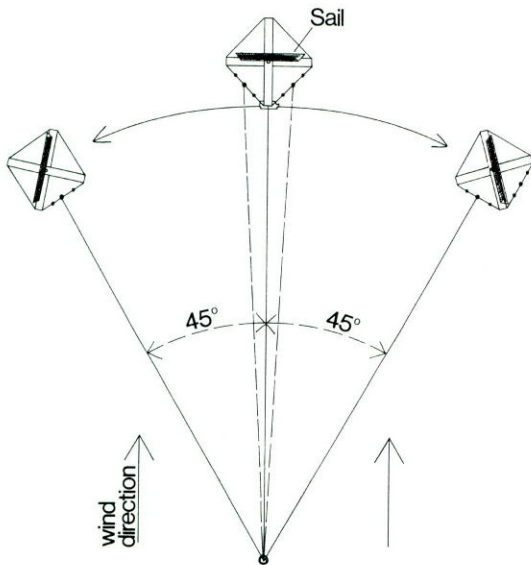
However, very few fishermen are patient enough to wait for an off-shore wind, slack currents and the relatively calm surf needed to get out their baits. With these conditions seldom occurring simultaneously, it is best for the saltwater enthusiast to stick to bays, passes or inlets.

Deeper water, numerous snags and passing boats make freshwater sail-lining more difficult for the lake or river fishermen and cause their sail-line rigs to become more complex. Weights can get the lines down into deep water or below the depth of boat propellers if a weight release of some sort is devised. The simplest kind is a clothespin attachment which will pop loose and drop a weight connected to the mainline when it is quickly jerked. The weight should not be released until the sail-raft is in deep water away from the shore. Floats can keep the line out of trees or other snags on the bottom as the sail-line is going out or coming in. The length of the staging lines can also

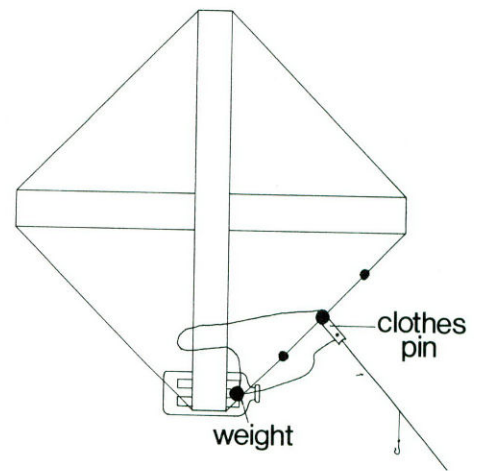
be varied to get the bait down to the fish or keep the hooks off the bottom.

Few restrictions are applicable to sail-line rigs in either salt or fresh water. These lines are considered trotlines so the laws are the same. Saltwater fishing requires the attachment of a \$1.00 saltwater trotline tag to each 300 feet or fraction thereof of the mainline. Freshwater lines must be labeled with the fisherman's name and address and dated. The date must be renewed at the end of 90 days. The hooks must be at least three feet apart in all fresh waters of Texas. Other trotline regulations may be applicable in specific counties so check the fishing guide distributed by the Parks and Wildlife Department.

Sail-lining is as versatile as the fishermen using the contraptions, and all waters can be fished in this manner with a little ingenuity and some adaptations to the rig. Maybe this is why sail-lining is growing in popularity, or maybe it is just because it works. \*\*



Approximately a 90° area may be covered with a sail-line rig simply by varying the point of attachment of the mainline. When the line is attached to the center, it will go out directly with the wind. Moving the point to the left or right of center will change the direction to each side respectively. Care must be taken not to attach the line to the extreme left or right or the sail-raft will go only so far, then spin around and go in a different direction than what you desire.



To get your line deeper in the water, after it is away from the bank, a weight may be incorporated into your rig through the use of some sort of release. The simplest is a clothespin attached to the mainline which will snap loose when the line is jerked. The weight is supported somewhere on the sail-raft while floating out, but is pulled off into the water by the tension of the mainline as the clothespin releases. The length of the line from the weight back to the point of hooking the clothespin, will determine the depth at which your line is submerged. It is important to attach this line at the same point as the clothespin in order to keep the sail-raft from moving left or right after the weight is dropped.

# Save a Part of Texas



The Texas Conservation Foundation is a state body dedicated to holding properties it acquires or selling, leasing, trading, investing or otherwise disposing of them for the benefit of the Texas public. In short, it has the power to encourage gifts of land, properties, money or other valuable items which are then converted into tangible assets for the State parks system, refuges, management areas, scientific, historical or recreational areas.

A legacy of natural surroundings, free and abundant wildlife or a historic tract that tells the story of the lives of past generations or even civilizations may be the inheritance of your children through the work of the Foundation and interested persons. You can become part of the conservation or preservation efforts by donating anything of value, from the contents of a child's piggy-bank to a devise or bequest in your Last Will and Testament.

For more information contact: The Texas Conservation Foundation, P. O. Box 12845, Capitol Station, Austin, Texas 78711.

# OUTDOOR BOOKS

**THE BLACK-FOOTED FERRET**, written and illustrated by J. M. Roever; Steck-Vaughn Company, Austin, Tex., 1972; \$3.50, 30 pages.

This children's book about an endangered species is more than just a description of the secretive little animal and its habits, although the task is accomplished quite well. It is a lesson in conservation.

By explaining the ecological predator-prey relationship between the black-footed ferret and prairie dog, the author shows the young reader that wholesale poisoning of prairie dogs with compound 1080 by the United States government is causing the fate of the ferret to become uncertain.

The author also stresses the fact that wild creatures belong to everyone, and it is everyone's responsibility to protect both the animals and their habitat.

Perhaps through children's books such as this one, the youth of America will become aware of our endangered wildlife and find a way to preserve and protect them before it is too late.—*Ilo Hiller*

**THE HUNGRY BIRD BOOK** by Robert Arbib and Tony Soper; Ballantine Books, New York, N. Y., 1972; 95¢, 149 pages.

This paper-backed book gives instructions on how to turn a garden into a year-round sanctuary for wild birds. Opening chapters explain what to plant; how to provide water, nest sites and bird boxes; and what to prepare for the birds' table.

The reader then comes to the chapter "Predators and Poisons" in which the authors stress that if we invite birds to share our gardens, we are obliged to try to reduce the hazards. However, their suggested chain link fence with two or three strands of barbed wire on angled crossarms seems a little extreme to keep out little boys, cats and other predators. Their second suggestion of a thick and prickly hedge will probably be more acceptable to neighbors. The last part of this chapter deals with residual chlorinated hydrocarbon insecticides which, according to the authors, are a greater bird menace than

predators. Readers are cautioned to beware of any gardening aids which contain any form of DDT, Dieldrin, Endrin, Aldrin, Toxaphene and Heptachlor which are classed in the D.E.A.T.H. group of non-degradable poisons.

Species notes about birds which use nest boxes or visit feeding stations are given in the final chapter. These notes include information about each bird's habitat, diet, nest, eggs and suggested literature to read for additional information on the species.

Appendices to the book cover such varied items as recipes for preparing basic bird pudding, bird cake and anti-sparrow pudding, and how to record bird songs to enjoy indoors.

All in all, this compact book contains everything you need to know about how to set a table for hungry, feathered guests and entice them back again and again.—*Ilo Hiller*

**THE LONG VOYAGE** by Alvin and Virginia Silverstein; Frederick Warne and Co., Inc., New York, 1972; \$3.95, 47 pages.

What strange restlessness can cause a six-foot long green sea turtle grazing on turtlegrass and seaweed off the coast of Brazil to strike out on a 1,500-mile journey to the Ascension Island in the middle of the South Atlantic Ocean? Instinct! And the authors take the young reader along as this inborn drive forces a female turtle to return to the place of her birth to lay her eggs and mate for the next season.

The reader then waits with a team of marine scientists and the young son of two members of the team for the turtles to hatch, be tagged and some fitted with tiny radio transmitters so they can be followed on the long voyage to Brazil.

The Silversteins describe the perils faced by the tiny turtles which cause the reader to wonder how any manage to survive the trip. Terns, sea hawks and other birds swoop down to eat the babies as they crawl through the sand to the sea. Thousands of fish patrol the waters near the coast feeding on the baby turtles once they enter the water.

Sea birds continue to prey on the young, scooping them out of the water as they come up to breathe.

Months pass as the scientists and the boy follow the turtles with the aid of transmitters across the ocean to the feeding grounds off the coast of Brazil—the long voyage over.

*The Long Voyage* is the life story of a fascinating sea animal, as well as the story of a young boy's interest in the sea and the preservation of its creatures. Twelve years pass and the boy makes his long voyage to the Ascension Island as a marine biologist to study how a turtle raising project can be improved to insure that the species will not disappear from the oceans forever.—*Ilo Hiller*

**HOW TO ATTRACT, HOUSE & FEED BIRDS** by Walter E. Schutz; The Bruce Publishing Co., New York, N.Y., 1970; \$7.95, 196 pages.

The inter-relationship of man, birds and the environment is discussed in the opening chapter of the book, and the author points out that if it were not for the hearty appetites of our feathered friends, we would be wading around knee-deep in crawling bugs, gnats and insects or smothered under 875 tons of weed seeds.

Although their eating habits do us this great service, most people like them for their beauty alone and enjoy having them nest and live nearby. For this reason, the following chapter tells the reader which trees, shrubs, vines and flowers attract birds and suggests that each yard, properly landscaped for birds, could be a small sanctuary.

Food, water and shelter are the three requirements necessary for birds and subsequent chapters deal with these subjects in great detail.

For example, in the chapter on food, instructions are given on how to prepare suet and seed cakes and various seed mixtures to put out for birds during winter months when food is scarce. Detailed plans are also included for building a suet log feeder, weather-vane feeder, trolley feeder, window-shelf feeder, hopper feeder and many others.

If you want to know how to make a concrete birdbath for your yard, detailed instructions for this project are given under the chapter on water requirements.

Plans for at least 24 different bird houses are included in the chapter on shelter.

All in all, the book lives up to its title with detailed instructions on how to attract, house and feed birds.—*Ilo Hiller*

## PHOTO AND ART CREDITS

Front cover - Jim Whitcomb; Nikkormat, 55mm Micro; Kodachrome X.

Inside front - John Suhrstedt; Nikon-F, 300mm; Kodachrome II.

Pages 2-5 - Bill Reaves; Nikon-F, 28mm; Ektachrome.

Page 6 (top) - Reaves; Nikon-F, 80-200mm; Ektachrome. - (bottom) Reaves; Nikon-F, 80-200mm with m-ring; Kodachrome II.

Page 7 - Reaves; Nikon-F, 28mm; Ektachrome.

Pages 8-9 - Whitcomb; 4 x 5 Graphic, 135mm with flash; Ektachrome.

Page 10 - Margi Adey; pen and ink on illustration board.

Page 14 (top) - Reagan Bradshaw; Hasselblad 500C, 50mm; Ektachrome. - (bottom) - Bradshaw; Nikon-F, 300mm; Ektachrome.

Page 15 (top) - Whitcomb; Hasselblad 500 C, 50mm; Ektachrome. - (bottom) - Bradshaw, Nikon-F, 500mm; Kodachrome II.

Page 18 - Martin T. Fulfer; Nikon-F, 80-200mm; Kodachrome X.

Page 20 - Whitcomb; Nikkormat, 28mm with strobe; Ektachrome.

Page 23 (top) - Reaves; Nikon-F, 80 - 200mm; Kodachrome II. - (bottom) - Bradshaw; Hasselblad 500C, 50mm with strobe; Ektachrome.

Page 24 - Reaves; Nikon-F, 50mm; Ektachrome.

Pages 29-31 - Annette Morris Neel; pen and ink on illustration board.

Back cover - Whitcomb; Nikon-F, 400mm; Kodachrome X.

# LONG SHOTS SHORT CASTS

compiled by Neal Cook

**Dry Boots:** To dry the insides of hip-boots or waders, blow warm air into them by attaching the vacuum cleaner hose to the exhaust outlet. An electric hair dryer also does a fast job.

**Fish in the Shade:** Bass love to lie in the shade. When you cast to a rock or stump, aim your first cast for the shaded side. If the bass is at home, that's probably where it will be.

**Keeps Them Together:** When taking apart a fishing reel to clean it, use a piece of masking tape to help remember the order in which you removed the parts and to keep from losing them. Stick the screws to the tape in the order you remove them and then just reverse the order when it is time to put the reel back together.

**Javelina Hunting:** Some Texas counties have no closed season on hunting javelina and these interesting animals are fun to hunt. Contact the chambers of commerce in the major cities in the county where you wish to hunt and they should have information on who to contact for a hunting spot.

**1970 Statistics:** A recently released survey by the U.S. Department of the Interior showed that in 1970 there were some 33,158,000 fishermen who spent \$4,958,883,000 on their sport. They traveled 29,482,799,000 passenger miles in 576,210,000 trips. During the same year there were 14,336,000 hunters who spent \$2,142,648,000 on 176,201,000 trips totaling some 9,284,953,000 passenger miles. These sportsmen made a tremendous contribution to the economy of the United States, and through their support of state and federal fish and game departments by the purchase of licenses and ammunition, they aided conservation of both game and nongame species.

**DEATH Pesticides:** As noted in the book review on the opposite page, the DDT group of pesticides—Dieldrin, Endrin, Aldrin, Toxaphene and Heptachlor—have first-letters which spell D.E.A.T.H.

**One-at-a-time:** Picking one bird from a covey of quail is the only effective way to shoot as the covey bursts out of the cover. With birds scrambling in all directions, choose one, shoot him and only then switch to another. Aiming at the whole covey only ends up with the hunter shooting a lot of holes in the air.

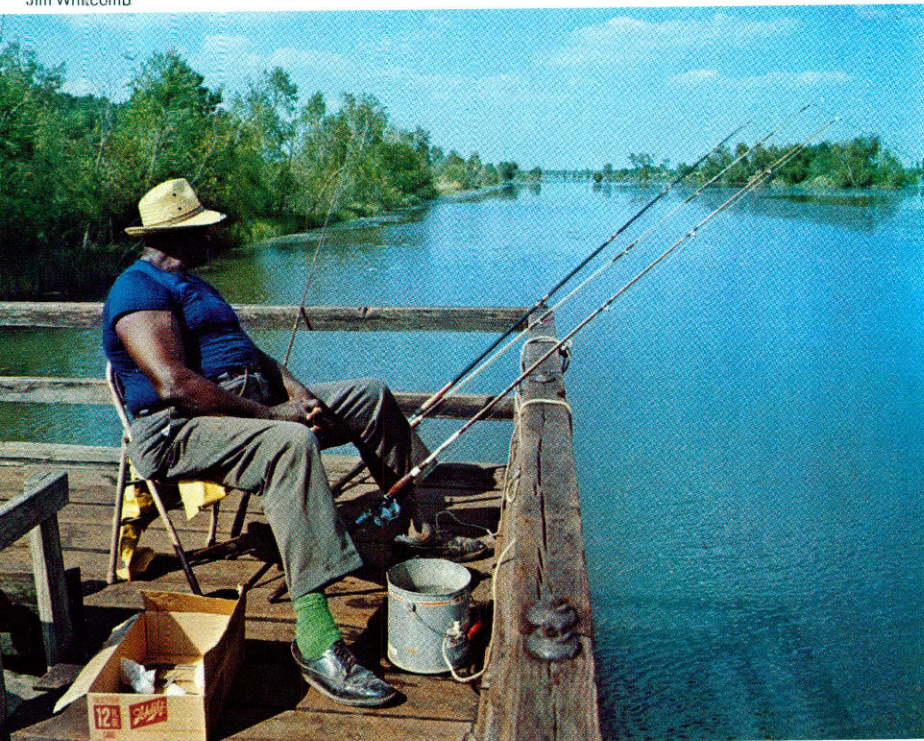
YOU'RE THE SOLUTION  
TO WATER POLLUTION



Reagan Bradshaw







# ***SHELDON WILDLIFE MANAGEMENT AREA***

***Where wildlife and fisheries  
research work side-by-side.***



Reagan Bradshaw

by W. D. Brummel  
Wildlife Biologist

Texas' upper coastal region winters about three-fourths of all migratory waterfowl of the Central Flyway and the Sheldon Wildlife Management Area, supplying food, water and resting areas, attracts its share of the many species of ducks and geese.

Sheldon, located in eastern Harris County about 20 miles from downtown Houston and just north of U. S. Highway 90, was purchased by the state from the City of Houston in May 1952 to serve as a waterfowl refuge and public fishing lake. This refuge, which consists of 2,302 acres with a flowage easement on an additional 221 acres, has the first combined fish and game Federal Aid project in Texas. Area personnel spend approximately 60 percent of their time on waterfowl projects and 40 percent on fisheries management.

# **Sheldon Wildlife Management Area**

Sheldon Reservoir, wholly within the boundaries of the area, was built in 1941 by the federal government to furnish water for war industries. After the war, it was declared surplus and transferred to the City of Houston. The city used the water for domestic purposes until the completion of the larger Lake Houston on the San Jacinto River in 1953. Some improvements were needed to convert Sheldon Reservoir from a water storage reservoir to a waterfowl refuge and public fishing lake. Major construction began in 1954 and was essentially completed in 1957. The reservoir was drained to repair four miles of levees and construct 29 barrier islands to protect the levees from erosion. The headquarter complex, consisting of office-laboratory, warehouse, resident manager's house and other buildings, was built in the northeast corner of the area. Two boat ramps, shelled parking areas, restrooms and a shelled access road along the west levee were provided. Five "T"-head fishing piers and a large number of fish shelters (brush piles) were also built prior to refilling the reservoir. Signs giving fishing regulations were installed at all points of public access and adjacent to each fishing pier.

The present reservoir covers 1,200 acres and has an average depth of three feet when full to the spillway level. The reservoir is normally open to free public fishing from 5:00 a.m. to 9:00 p.m. Tuesday through Sunday. During the period of October 1 through March 31 when waterfowl are present, the reservoir is closed to boat and wade fishing, but bank and pier fishing is allowed year round. Most fishermen use cane poles, take mostly sunfish and catch an average of about one fish per man hour. Approximately 70,000 fishermen visit the area annually.

As a part of the fisheries management program, experimental gill nets are set monthly in the reservoir to gather growth rate information and population data by species. Bag seine samples are also made to check the growth rate of young bass. Water samples are taken

every other week for a chemical analysis of the reservoir. Size and catch limits are enforced to study the effects of directed fishing pressure.

Another fisheries project currently underway at Sheldon is the experimental stocking of 300 to 500 croaker fry in a one-third acre freshwater pond. A similar sized pond has also been stocked with 39 redbass fry. This study will help determine the feasibility of releasing these saltwater species into the fresh waters of the state.

Although the reservoir was drained in 1954 and restocked with desirable fish species, an overabundance of rough fish developed with shad, gar, chub sucker, carp, yellow bass and stunted sunfish being the main problem species. To correct the rough fish problem, the reservoir was treated with rotenone in April 1972, and the kill was close to 100 percent effective, with 11,000 people harvesting about 50,000 pounds of fish.

When water conditions were again safe for fish life, the reservoir was restocked with channel, blue and flathead catfish, black bass, crappie, warmouth and hybrid sunfish. Threadfin shad, brook silversides and red horse minnows were also stocked to serve as forage foods for the game fish. The results of this treatment and restocking will be closely watched through the coming years with hopes for a "good fishin' hole."

As a part of the waterfowl management program, vegetative studies are made each year to determine the kinds and amounts of preferred waterfowl food plants which are present and the effects of the various management techniques used in favoring the growth and abundance of these plants. Undesirable vegetation is controlled by rolling, mowing, disking or burning.

The 113-acre field just west of the headquarters and the 600 acres on the east side of the area are used for farming. A contract farmer plants half of the fields to rice and the other half is laid fallow or planted to soil-building soybeans each year in rotation.

Rent from the farming operations is collected either as crops left in the fields for waterfowl food or dried and bagged for use as bait in state-wide waterfowl trapping. Area personnel plant a part of these fields in winter greens for the waterfowl after the regular crops are harvested. The fields are usually flooded in the fall to encourage use by waterfowl. The kinds of food and degree of usage by waterfowl by species is observed and recorded.

From September through April,

weekly sight counts of waterfowl are made. Approximately 20 species of ducks and geese commonly use the area and a peak population of around 40,000 birds per day is reached during December.

Ducks and geese are trapped, banded and released each year for migration and mortality studies. Ducks banded here have been recovered from widely dispersed parts of the Western Hemisphere, such as Arkansas, California, Iowa, Kansas, Louisiana, Maryland, Minnesota, South Dakota, Texas, Wisconsin, Veracruz and the Yucatan Peninsula in Mexico, Costa Rica in Central America, Venezuela in South America and the Canadian Provinces of Alberta, Manitoba, Ontario, Quebec and Saskatchewan. One speedy female blue-winged teal banded and released on September 25, 1964, was killed in Venezuela on October 4, 1964. She covered approximately 3,000 miles in just nine days.

The closeness of Sheldon to about 2½ million people in the Houston urban complex has proven to be most valuable to our department. Many guided field trips are conducted through the area each year for groups of public school children, college and university science classes, social groups, scouts and nature clubs. Sheldon is included in the National Audubon Society's handbook as a good location to observe birds, and as a result a good number of local and non-resident "birders" utilize the area. The Houston Museum of Natural Science conducts its summer program field trips on Sheldon, and the University of Houston regularly conducts an ornithological class on the area during the spring semester. Many bird watchers were fortunate enough last year to observe a family of four whistling swans and to see both bald and golden eagles.

Last year visits from individuals other than fishermen totaled over 65,000. For many people the Sheldon Area provides an education in wildlife ecology and conservation, as well as first-hand observation of experimental vegetation, waterfowl and fisheries management practices.

As the Houston urban area population increases and more and more land is taken over for houses and industries, a place of refuge for both wildlife and people becomes more important. The location of and easy access to the Sheldon Wildlife Management Area provides bird watching, fishing, or just a place to escape from urban surroundings and problems for a few hours and to relax and enjoy nature. \*\*



# Texas State Rifle Association

Organized 1919 AFFILIATED WITH THE NATIONAL RIFLE ASSOCIATION

## CALLING ALL OUTDOORSMEN — TSRA Seeks Your Membership!

In the interest of the general public, to promote better sportsman-landowner relations, to represent you in public matters, and to foster public sentiment favorable to the shooting sports, we seek your membership. Conservation, wildlife and its environment, ecology, law and order—all pressing issues of our time can be dealt with only through the unified voice and action of concerned citizens. Through your membership in the Texas State Rifle Association, you can stay informed and be represented in such matters.

Organized in 1919, the purpose of the Association, then and now, is clearly stated in our constitution and bylaws...

“... the objects of this Association shall be to educate the youth of this State in marksmanship; to encourage marksmanship throughout the State of Texas among all classes of citizens, both as a sport and for the purposes of qualifying as finished marksmen those individuals who may be called upon to serve in time of

### TSRA MEMBER'S PLEDGE

I certify that I am not now and never have been a member of any organization which has as any part of its program the attempt to overthrow the government of the United States by force or violence; that I have never been convicted of a crime of violence; and that if admitted to membership in the Texas State Rifle Association I will fulfill the obligations of good sportsmanship, and uphold the Constitution of the United States and the Second Amendment thereto.

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY, STATE \_\_\_\_\_

ZIP CODE \_\_\_\_\_

war; to encourage competition in marksmanship between individuals and teams in all parts of the State of Texas; to hold one annual competition for each branch on behalf of the Texas State Rifle Association and to declare championships in all divisions; to encourage legislation for the furtherance of ideals and purposes of the National Rifle Association; to combat all unfavorable laws against such purposes and ideals; to encourage the building of suitable ranges; to secure the issuance of arms and ammunition to practice on such ranges; and to create a public sentiment for the encouragement of rifle practice both as a sport and as a necessary means of National Defense.” To these principles we shall be absolutely devoted.

Each year, each member receives the “Snortin’ Bull” deal with his membership, along with quarterly issues of the TSRA “Sportsman.” Periodically and as required, the TSRA publishes special bulletins of interest to its members. For example, the TSRA arranged for the mailing to sportsmen throughout the state of over 70,000 bulletins concerning legislation pending before the 62nd Texas Legislature. Additionally, the TSRA encourages hunter safety programs and seeks to pass along to younger hunters the skills and high ethical standards of sportsmanship essential to a true outdoorsman. We take pride in our high standards, and our assistance to the Texas Legislature is a matter of public record.

Dues are \$3.00 annually, and memberships run from January first through the following December 31st. We urge you to join your fellow Texans and be a member of this honorable organization. You'll be glad you did.

(Please allow 45 days to process your application.)

Make Checks Payable To: **TEXAS STATE RIFLE ASSOCIATION**

Mail Application and \$3.00 Membership Dues To:

**TEXAS STATE RIFLE ASSOCIATION**

Lafe R. Pfeifer, Secretary, P.O. Drawer 34809, Dallas, Texas 75234

(Your ZIP code is an essential part of your address. Without it, your application cannot be processed.)

# This is Probably the Most Unique Magazine in the World!

It is dated October, 1923!

## Talk about a collector's item!

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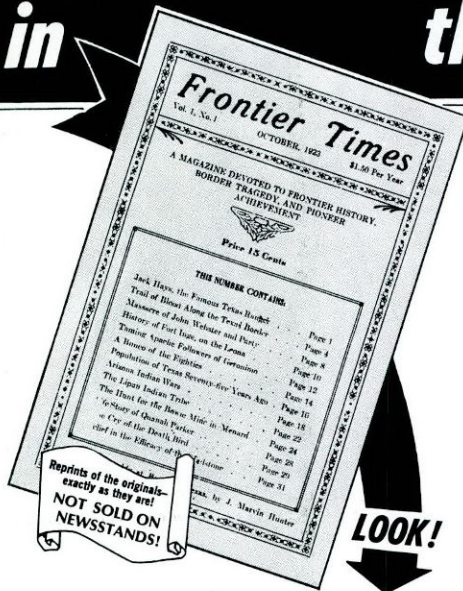
In these extremely rare copies of a magazine conceived a half-century ago you can relive the Old West in accounts written by actual participants in the daily struggle with Indians, outlaws, and forces of nature which people entering the West neither understood nor anticipated. In the twenties many pioneers and frontiersmen were still living, and Marvin Hunter sought them out. It isn't dry history—some of these true, on-the-scene accounts are hair-raisers!

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—Joe “Hosstail” Small

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### Vol. 1, No. 1 features the following stories:

JACK HAYS, THE FAMOUS TEXAS RANGER • TRAIL OF BLOOD ALONG THE TEXAS BORDER • MASSACRE OF JOHN WEBSTER AND PARTY • HISTORY OF FORT INGE, ON THE LEONA • TAMING APACHE FOLLOWERS OF GERONIMO • A BUNCO OF THE EIGHTIES • POPULATION OF TEXAS SEVENTY-FIVE YEARS AGO • ARIZONA INDIAN WARS • THE LIPAN INDIAN TRIBE • THE HUNT FOR THE BOWIE MINE IN MENARD • LIFE STORY OF QUANAH PARKER • THE CRY OF THE DEATH BIRD • BELIEF IN THE EFFICACY OF THE MADSTONE

# 1972-73 Fishing Digest

To acquaint sport fishermen with the regulations which apply when fishing in any of the fresh or salt waters of Texas, this digest is presented.

## LICENSE REQUIREMENTS

**TEXAS FISHING LICENSE** (For Residents or Non-Residents, \$2.15.):

This license is required of any person who fishes in the waters of Texas with the following exceptions:

- Persons under 17 years of age
- Persons over 65 years of age
- Persons fishing in private waters
- Persons fishing in their county of residence with trotline, throw line, or ordinary pole and line having no reel or winding device attached.
- Persons holding a valid Texas commercial fishing license.

## DUPLICATE LICENSE:

A duplicate license may be obtained for a fee of 50 cents if original is lost or destroyed. When applying for a duplicate license the serial number of the original license must be provided.

## SALTWATER FISHING TROTLINE TAG: \$1 each.

All trotlines placed in the salt waters of the State of Texas must have numbered tags attached to each 300 feet or fraction thereof. These tags will be issued by the Texas Parks and Wildlife Department or its agents.

## SPORTS OYSTER DREDGE LICENSE: \$5 each.

This license is required for all persons using a sports oyster dredge, such dredge to be not more than 14 inches in width.

## FRESHWATER REGULATIONS

Regulations specifying legal means and methods for taking fish and minnows and size, bag and possession limits for fish are included in the following six groups of regulations. In the COUNTY LISTING following these regulations the regulation group number that applies to each county is indicated along with any other special or local exceptions that apply. Also appearing in the COUNTY LISTING is a code symbol for those counties having regulations concerning possession, transportation or sale of minnow.

M—indicates county has special minnow regulations. For a summary of these regulations refer to the section of this guide headed MINNOWS—SESSION, TRANSPORTATION AND SALE.

## GROUP I REGULATIONS

### Legal Means and Methods—Fish and Minnows

- Pole and line or rod and reel.
- Hand line or set line.
- Throw line with hooks at least three horizontal feet apart.

Trotlines (including sail lines or rubber band lines) of non-metallic material. There is no limit on the number of such lines, or the number of hooks which may be used, but hooks must be at least three horizontal feet apart. All freshwater trotlines

must be identified by a legible tag, constructed of a material as durable as the trotlines, bearing the name and address of the fisherman and the date it was set out. All trotlines that remain in public waters shall be redated at the expiration of each 90-day period. Any trotline in violation of fishing regulations may be removed from public waters by a game warden. No such lines may be placed or set in the vicinity of any public boat dock, public bathing pier, public bathing beach or any public place commonly used as a swimming or bathing area and no such lines may be placed in any body of water 500 acres or less lying totally within any state park or in that portion of any stream bordering any state park.

Artificial or natural bait.  
Bow and arrow or spear gun and spear for taking rough fish and no other species of fish may be possessed when using these devices. Rough fish are defined as carp, suckers, buffalo, gar, shad, Rio Grande perch, gaspergou (drum), bowfin (grindle), pickerel, mullet and goldfish only.

Minnow seines no longer than 20 feet, or common fruit jar trap or similar metallic devices no more than 24 inches in length with throat not over one inch in diameter, dip nets, cast nets or umbrella nets of non-metallic materials for taking only minnows, sun fish (bream or perch) and rough fish (as defined above).

Wire loop or gig for taking rough fish only (as defined above) and no crappie, bass or catfish may be possessed when using these devices.

Snagging or jerking, a method of taking fish by means of one or more hooks attached to a line



Martin T. Fuifer

(not including artificial lures) and periodically jerking said line, is illegal for taking fish.

No nets, except minnow seines as specified, are permitted except as allowed by local regulations indicated under the county listings. When using a hoop net, trammel net or gill net it is unlawful to have in possession or on board any boat or in any vehicle, any fish, other than rough fish (and catfish where applicable).

#### **Size, Bag and Possession Limits—Fish**

Largemouth, smallmouth and spotted black bass: minimum size—ten (10) inches; daily bag limit—ten (10) in the aggregate; possession limit is twenty (20) in the aggregate, except that the possession limit shall not include fish processed and stored at the fisherman's permanent residence.

Catfish: no size limit; daily bag limit—twenty-five (25); possession limit fifty (50).

Walleye Perch: no open season.

Other fish or freshwater aquatic animal life: No closed season and no size, bag or possession limits.

### **GROUP II REGULATIONS**

Same as Group I Regulations except:

#### **Legal Means and Methods—Fish and Minnows**

No more than 100 hooks are permitted in any combination of devices.

Two trotlines only with no more than 50 hooks each may be used.

#### **Size, Bag and Possession Limits—Fish**

Striped bass: daily bag and possession limit—One. Walleye perch: daily bag and possession limit—Five.

Rainbow Trout and Brown Trout: daily bag limit of five (5) in the aggregate with no possession limit; minimum size eight (8) inches.

### **GROUP III REGULATIONS**

Same as Group I Regulations except:

#### **Legal Means and Methods—Fish and Minnows**

No more than 20 hooks are permitted in any combination of devices.

No more than one trotline may be used.

Bullheads may be taken with a legal minnow seine.

#### **Size, Bag and Possession Limits—Fish**

Catfish: daily bag—25; possession limit—50.

Walleye perch: daily bag and possession limit—Five.

Northern pike: daily bag and possession limit—Three.

### **GROUP IV REGULATIONS**

Same as Group I Regulations except:

Set or drag nets or seines (except hoop and barrel nets) with mesh of not less than three inches square may be used for taking rough fish (as defined in Group I Regulations). See Group I Regulations for restrictions on possession of game fish while fishing with or possessing certain nets.

### **GROUP V REGULATIONS**

Same as Group I Regulations except:

#### **Legal Means and Methods—Fish and Minnows**

Hoop nets, trammel nets and gill nets of non-metallic construction with meshes of not less than three inches square may be used for taking rough fish (as specified under Group I Regulations) and catfish only. See Group I Regulations for restrictions on possession of game fish while fishing with or possessing certain nets.

### **GROUP VI REGULATIONS**

#### **Legal Means and Methods—Fish and Minnows**

Pole and line or rod and reel.

Set line, throw line, or trotline.

Artificial or natural baits.

Set or drag nets or seines (of non-metallic material) with at least three-inch square mesh.

Bow and arrow or spear gun and spear for taking

rough fish and no other species of fish may be possessed when using these devices. Rough fish are defined as buffalo, carp, gar, gaspergou (drum) and Rio Grande perch only.

Minnow seines no longer than 20 feet, cast nets, dip nets, and umbrella nets of non-metallic materials for taking minnows, bream, shad, carp, suckers, gar and buffalo only.

Common fruit jar trap or similar metallic device no more than 24 inches in length with throat not over one inch in diameter for taking minnows for bait only.

#### **Size, Bag and Possession Limits—Fish**

Black bass: Minimum size seven inches; daily bag limit 15, of which not more than 10 may exceed 11 inches in length; no possession limit.

White bass: No size limit; daily bag limit—25; no possession limit.

Catfish: No size limit; daily bag limit—25; no possession limit.

Crappie (white perch): No size limit; daily bag limit—25; no possession limit.

Other fish: No size, bag or possession limits.

### **COUNTY LISTING**

**ANDERSON:** Group II Regulations except: three-inch square mesh nets may be used to take rough fish. Such nets may not be used in Lake Palestine at any time or in the Neches River except from February through May of each year. During the time when nets are permitted in the Neches River, all kinds of fish may be taken. In the Trinity River, bordering Freestone County, all fish except bass and crappie may be taken with legal nets. "See Lake Laws—Lake Palestine."

**ANDREWS:** Group II Regulations.

**ANGELINA:** Group II Regulations. Sam Rayburn Reservoir—Group I Regulations.

**ARANSAS:** Group I Regulations except: in the Aransas River where it forms the boundary with Refugio County Group VI Regulations apply and wire loop or gig are prohibited.

**ARCHER:** Group II Regulations except: in the Pease, Big Wichita, and Brazos Rivers and their tributaries, minnow seines not more than 40 feet long may be used when owner is in constant attendance. Also applies to Baylor, Shackelford, Throckmorton, Wichita, Wilbarger, and Young Counties.

**ARMSTRONG:** Group III Regulations.

**ATASCOSA:** Group I Regulations.

**AUSTIN:** Group VI Regulations. M

**BAILEY:** Group III Regulations.

**BANDERA:** Group II Regulations except: in Medina Lake, no limit on number of trotlines.

**BASTROP:** Group I Regulations. M

**BAYLOR:** Group II Regulations except: as in Archer County. M

**BEE:** Group I Regulations except: in Blanco Creek and the Sarco River where it forms the boundary with Goliad County Group VI Regulations apply and wire loop and gig are prohibited.

**BELL:** Group II Regulations. M

**BEXAR:** Group I Regulations except: no more than 30 hooks may be used by any person with no more than 30 hooks on any one trotline and no more than six hooks on any other one device.

**BLANCO:** Group II Regulations. M

**BORDEN:** Group II Regulations.

**BOSQUE:** Group II Regulations. M

**BOWIE:** Group V Regulations except: in the Sulphur River from the Red River County line to the U.S. Highway 67 bridge, fish may be taken from submerged hollow logs by any means except shocking, explosive devices, or poisons.

See Lake Laws—Lake Texarkana.

**BRAZORIA:** Group IV Regulations.

**BRAZOS:** Group II Regulations except: non-metallic net having a mesh at least three inches square may be used for taking rough fish only.

In the Brazos River Group VI Regulations apply.

**BREWSTER:** Group VI Regulations.

**BRISCOE:** Group III Regulations.

**BROOKS:** Group VI Regulations.

**BROWN:** Group II Regulations.

**BURLESON:** Group VI Regulations except: in Somerville Reservoir, Group II Regulations apply. M

**BURNET:** Group II Regulations. See Lake Laws—Lake Buchanan.

**CALDWELL:** Group IV Regulations.

**CALHOUN:** Group IV Regulations except: in the Guadalupe River hook and line, trotline, cast net, and 20-foot, minnow seine for taking bait and flounder gig and light only may be used.

**CALLAHAN:** Group II Regulations. M

**CAMERON:** Group I Regulations.

**CAMP:** Group VI Regulations.

**CARSON:** Group III Regulations.

**CASS:** Group VI Regulations except: no bag limit on crappie (white perch). Seines and nets prohibited except for bait minnows which must be less than two and one-half inches long. Hoop, trammel, or gill nets with at least three-inch square mesh are permitted for taking buffalo, carp, and catfish. See Lake Laws—Lake Texarkana.

**CASTRO:** Group III Regulations.

**CHAMBERS:** Group VI Regulations except: only rough fish and catfish may be taken with legal nets and seines. All nets and seines are prohibited in Trinity Bay, Turtle Bay, and Lake Anahuac. Catfish must be at least 11 inches in length. Wire rope and gig may be used for taking rough fish only.

**CHEROKEE:** Group VI Regulations except: fish of all kinds may be taken with nets or seines from February through May of each year. See Lake Laws—Lake Palestine.

**CHILDRESS:** Group III Regulations. M

**CLAY:** Group II Regulations.

**COCHRAN:** Group II Regulations.

**COKE:** Group II Regulations. M

**COLEMAN:** Group II Regulations.

**COLLIN:** Group VI Regulations except: seines and nets are not permitted except 20-foot minnow seines for taking minnows for bait. Hooks on setlines, throw lines, or trotlines must be at least three feet apart. No bag limit on crappie or white bass. Lake Ray Hubbard—Group II Regulations. M

**COLLINGSWORTH:** Group III Regulations.

**COLORADO:** Group IV Regulations except: legal three-inch nets and seines may be used to take all fish. Wire loop or gig is prohibited.

**COMAL:** Group II Regulations.

**COMANCHE:** Group II Regulations. M

**CONCHO:** Group II Regulations. M

**COOKE:** Group II Regulations. See Lake Laws—Lake Texoma. M

**CORYELL:** Group II Regulations. M

**COTTLE:** Group III Regulations.

**CRANE:** Group VI Regulations.

**CROCKETT:** Group II Regulations except: in the Pecos River no restriction on the total number of hooks.

**CROSBY:** Group II Regulations.

**CULBERSON:** Group VI Regulations.

**DALLAM:** Group III Regulations.

**DALLAS:** Group II Regulations.

**DAWSON:** Group II Regulations.

**DEAF SMITH:** Group III Regulations.

**DELTA:** Group VI Regulations except: catfish, perch, buffalo, and drum may be taken by hand or by seine or net with mesh at least one inch square.

**DENTON:** Group II Regulations.

**DEWITT:** Group IV Regulations.

**DICKENS:** Group VI Regulations.

**DIMMIT:** Group I Regulations except: non-metallic nets of at least three-inch square mesh permitted for taking rough fish only. M

**DONLEY:** Group III Regulations.

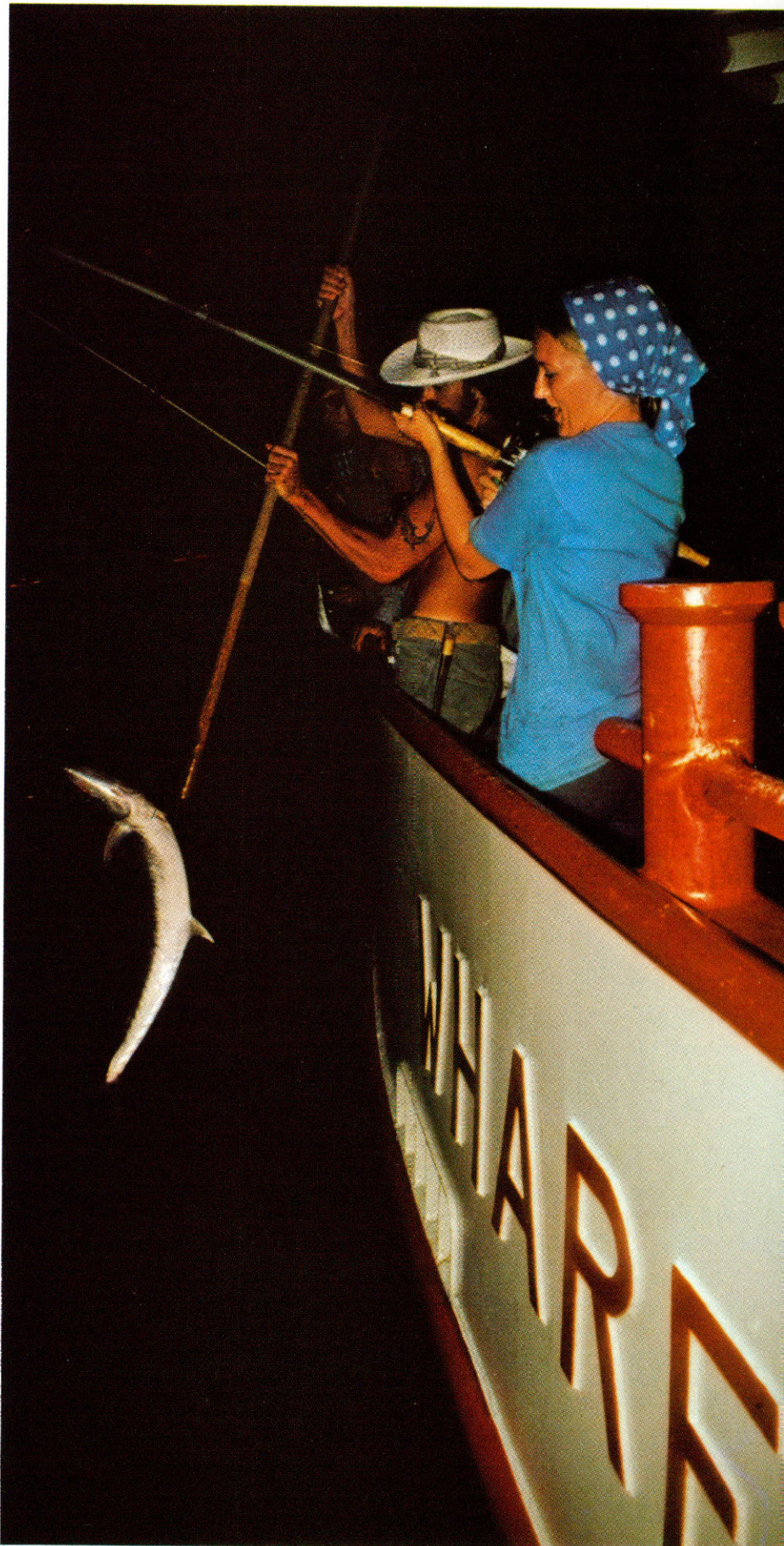
**DUVAL:** Group I Regulations.

**EASTLAND:** Group II Regulations.

**ECTOR:** Group II Regulations.

**EDWARDS:** Group II Regulations.

- ELLIS:** Group II Regulations. M
- EL PASO:** Group VI Regulations except: only the following means and methods may be used: hook and line, pole and line, trotline or setline or minnow seine for taking bait. Such seine must not be more than ten feet long with a mesh not larger than three-eighths inches square.
- ERATH:** Group II Regulations. M
- FALLS:** Group II Regulations except: non-metallic net having mesh at least three inches square may be used for taking rough fish only. M
- FANNIN:** Group I Regulations.
- FAYETTE:** Group IV Regulations except: any fish may be taken with legal nets and seines. M
- FISHER:** Group II Regulations.
- FLOYD:** Group III Regulations.
- FOARD:** Group VI Regulations. M
- FORT BEND:** Group IV Regulations.
- FRANKLIN:** Group I Regulations except: Lake Cypress Springs:  
 Season closed until December 15, 1972, at which time the daily bag limit will be five (5) in the aggregate of largemouth, smallmouth and spotted black bass, with a possession limit of ten (10) in the aggregate, with 10-inch minimum size limit.  
 Catfish: No size limit. Daily bag limit twenty-five (25); possession limit fifty (50).  
 Walleye: no open season.  
 Other fish or freshwater aquatic animal life: no closed season and no size, bag or possession limits.
- FREESTONE:** Group II Regulations except: three-inch square mesh nets may be used to take rough fish. In the Trinity River bordering Anderson County all fish except bass and crappie may be taken with legal nets. It shall be unlawful to use any type of net or seine in Lake Fairfield.
- FRIO:** Group I Regulations. M
- GAINES:** Group II Regulations.
- GALVESTON:** Group VI Regulations.
- GARZA:** Group II Regulations.
- GILLESPIE:** Group II Regulations except: non-metallic nets with at least two-inch square mesh are permitted for taking rough fish only except during March, April and May. M
- GLASSCOCK:** Group II Regulations.
- GOLIAD:** Group VI Regulations.
- GONZALES:** Group I Regulations except: fish may be taken by ordinary hook and line or artificial bait, or trotline not more than 300 feet in length; and 20-foot minnow seines for taking minnows and perch for bait only.
- GRAY:** Group III Regulations.
- GRAYSON:** Group VI Regulations except: only gar, carp, shad, suckers, buffalo and minnows may be taken with nets or seines. Trotlines, setlines or throw lines may have no more than 100 hooks spaced at least three feet apart. Hagerman National Wildlife Refuge closed to fishing Oct. 1 through March 31. See Lake Laws—Lake Texoma. M
- GREGG:** Group VI Regulations.
- GRIMES:** Group II Regulations except: non-metallic net having a mesh at least three inches square may be used for taking rough fish only. In the Brazos River, Group VI Regulations apply.
- GUADALUPE:** Group IV Regulations.
- HALE:** Group III Regulations.
- HALL:** Group III Regulations.
- HAMILTON:** Group II Regulations.
- HANSFORD:** Group III Regulations.
- HARDEMAN:** Group III Regulations. M
- HARDIN:** Group I Regulations including Neches River except: non-metallic net having a mesh at least three inches square may be used for taking rough fish only.
- HARRIS:** Group I Regulations.
- HARRISON:** Group V Regulations.
- HARTLEY:** Group III Regulations. M
- HASKELL:** Group II Regulations. M
- HAYS:** Group II Regulations. M
- HEMPHILL:** Group III Regulations.
- HENDERSON:** Group II Regulations except:



Jim Whitcomb

three-inch square mesh nets may be used to take all fish. Such nets may not be used in Joe B. Hogsett Reservoir, Flat Creek Reservoir, or Lake Palestine. "See Lake Laws—Lake Palestine."

**HIDALGO:** Group I Regulations.

**HILL:** Group II Regulations. M

**HOCKLEY:** Group II Regulations.

**HOOD:** Group II Regulations. M

**HOPKINS:** Group VI Regulations except: catfish, perch, buffalo and drum may be taken by hand or by seine or net with mesh at least one inch square.

**HOUSTON:** Group I Regulations except: non-metallic net having a mesh at least three inches square may be used for taking rough fish only.

**HOWARD:** Group II Regulations.

**HUDSPETH:** Group VI Regulations.

**HUNT:** Group I Regulations. See Lake Laws—Lake Tawakoni.

**HUTCHINSON:** Group III Regulations except: in Lake Meredith only there is a 40-hook limit on all devices.

**IRION:** Group II Regulations.

**JACK:** Group II Regulations. M

**JACKSON:** Group IV Regulations.

**JASPER:** Group I Regulations including Sam Rayburn Reservoir, Neches River including Dam B Lake and Angelina River below Sam Rayburn Dam except: in other waters non-metallic net having a mesh at least three inches square may be used for taking rough fish only.

**JEFF DAVIS:** Group VI Regulations.

**JEFFERSON:** Group I Regulations including Neches River above State Highway 87 bridge between Bridge City and Groves except: in other waters non-metallic net having a mesh at least three inches square may be used for taking rough fish only.

**JIM HOGG:** Group VI Regulations.

**JIM WELLS:** Group I Regulations.

**JOHNSON:** Group II Regulations. M

**JONES:** Group II Regulations. M

**KARNES:** Group I Regulations except: in Medio Creek bordering Bee County Group VI Regulations apply except there is no bag or possession limits on catfish. M

**KAUFMAN:** Group II Regulations. See Lake Laws—Lake Tawakoni.

**KENDALL:** Group II Regulations. M

**KENEDY:** Group VI Regulations.

**KENT:** Group II Regulations.

**KERR:** Group II Regulations except: there is an 11-inch size limit on catfish.

**KIMBLE:** Group II Regulations. M

**KING:** Group VI Regulations. M

**KINNEY:** Group I Regulations.

**KLEBERG:** Group VI Regulations.

**KNOX:** Group I Regulations except: in the Wichita and Brazos Rivers and their tributaries, 40-foot minnow seines are permitted. M

**LAMAR:** Group I Regulations.

**LAMB:** Group III Regulations.

**LAMPASAS:** Group II Regulations. See Lake Laws—Lake Buchanan.

**LA SALLE:** Group VI Regulations.

**LAVACA:** Group IV Regulations.

**LEE:** Group IV Regulations except: any fish may be taken with legal nets and seines. In Somerville Reservoir—Group II Regulations.

**LEON:** Group VI Regulations except: there is no bag or possession limit on crappie.

**LIBERTY:** Group I Regulations except: non-metallic net having a mesh at least three inches square may be used for taking rough fish only.

**LIMESTONE:** Group II Regulations.

**LIPSCOMB:** Group III Regulations.

**LIVE OAK:** Group I Regulations.

**LLANO:** Group II Regulations. See Lake Laws—Lake Buchanan.

**LOVING:** Group VI Regulations except: seines and nets prohibited except 20-foot minnow seines for taking minnows for bait only. When seining for bait all fish and minnows more than three inches long must be returned at once to the water

alive.

**LUBBOCK:** Group II Regulations.

**LYNN:** Group II Regulations.

**MADISON:** Group II Regulations except: non-metallic nets having a mesh at least three inches square may be used for taking rough fish only.

**MARION:** Group VI Regulations except: 20-foot minnow seines may be used for taking minnows and perch for bait only. Hoop nets, set nets or trammel nets with at least three and one-half inch square mesh permitted for taking buffalo, gar, catfish, shad and bowfin (grindle) only. Possession limit on white bass—25. In Caddo Lake, the daily bag limit on catfish—25. Minimum size limit on catfish—eight inches.

**MARTIN:** Group II Regulations.

**MASON:** Group II Regulations. M

**MATAGORDA:** Group IV Regulations.

**MAVRICK:** Group I Regulations.

**MEDINA:** Group I Regulations except: no more than 30 hooks may be used by any person with no more than 30 hooks on any one trotline and no more than six hooks on any other device. In Lake Medina no more than 100 hooks may be used on any combination of devices. M

**MENARD:** Group II Regulations. M

**MIDLAND:** Group II Regulations.

**MILAM:** Group II Regulations except: non-metallic net having a mesh at least three inches square may be used for taking rough fish only.

**MILLS:** Group II Regulations.

**MITCHELL:** Group II Regulations.

**MONTAGUE:** Group II Regulations.

**MONTGOMERY:** Group I Regulations. M

**MOORE:** Group III Regulations except: in Lake Meredith only there is a 40-hook limit on all devices.

**MORRIS:** Group VI Regulations except: three-inch square mesh nets or seines are not permitted for taking bass or crappie. In Daingerfield State Park Lake and in Ellison Creek Reservoir seines and nets are prohibited.

**MOTLEY:** Group III Regulations.

**McCULLOCH:** Group II Regulations. M.

**McLENNAN:** Group II Regulations. M.

**McMULLEN:** Group VI Regulations.

**NACOGDOCHES:** Group VI Regulations. Sam Rayburn Reservoir—Group I Regulations.

**NAVARRO:** Group II Regulations.

**NEWTON:** Group I Regulations except: non-metallic net having a mesh at least three inches square may be used to take rough fish only. See Lake Laws—Toledo Bend Reservoir.

**NOLAN:** Group II Regulations.

**NUECES:** Group VI Regulations.

**OCHILTREE:** Group III Regulations.

**OLDHAM:** Group III Regulations.

**ORANGE:** Group I Regulations including Neches River except: in other waters non-metallic net having a mesh at least three inches square may be used for taking rough fish only.

**PALO PINTO:** Group II Regulations. M

**PANOLA:** Group V Regulations except: on Lake Murvaul nets, seines and trotlines are regulated by the Water District.

**PARKER:** Group II Regulations. M

**PARMER:** Group III Regulations.

**PECOS:** Group VI Regulations except: only ordinary hook and line, trotline, artificial bait and 20-foot minnow seines for taking minnows for bait are permitted. When seining for bait all fish and minnows more than three inches long must be returned at once to the water alive (also applies to Reeves County.)

**POLK:** Group I Regulations including Lake Livingston except: in other waters non-metallic net having a mesh at least three inches square may be used for taking rough fish only.

**POTTER:** Group III Regulations except: in Lake Meredith there is a 40-hook limit on all devices.

**PRESIDIO:** Group VI Regulations.

**RAINS:** Group VI Regulations. See Lake Laws—Lake Tawakoni.

**RANDALL:** Group III Regulations except: on Buf-

falo National Wildlife Refuge season is closed from Nov. 1 to March 1 except a marked area near the dam.

**REAGAN:** Group II Regulations.

**REAL:** Group II Regulations.

**RED RIVER:** Group I Regulations.

**REEVES:** Group VI Regulations except: same as PECOS.

**REFUGIO:** Group VI Regulations except: in the Guadalupe River hook and line, trotline, cast net, 20-foot minnow seine for taking bait and flounder gig and light only may be used.

**ROBERTS:** Group III Regulations.

**ROBERTSON:** Group II Regulations except: in the Brazos River between Robertson and Burleson, Group VI Regulations apply. M

**ROCKWALL:** Group VI Regulations except: only pole and line, rod and reel, setline or trotline, artificial bait or 20-foot minnow seine for taking minnows for bait are permitted, and hooks on setlines, throw lines or trotlines must be at least three feet apart. Lake Ray Hubbard—Group II Regulations. M

**RUNNELS:** Group II Regulations. M

**RUSK:** Group I Regulations.

**SABINE:** Group VI Regulations. Sam Rayburn Reservoir—Group I Regulations. See Lake Laws—Toledo Bend Reservoir.

**SAN AUGUSTINE:** Group VI Regulations. Sam Rayburn Reservoir—Group I Regulations.

**SAN JACINTO:** Group I Regulations. Lake Livingston—Group I Regulations.

**SAN PATRICIO:** Group I Regulations except: in the Nueces River where it forms the boundary with Nueces County and in the Aransas River where it forms the boundary with Refugio County Group VI Regulations apply and wire loop and gig are prohibited.

**SAN SABA:** Group II Regulations. See Lake Laws—Lake Buchanan.

**SCHLEICHER:** Group II Regulations.

**SCURRY:** Group II Regulations.

**SHACKLEFORD:** Group II Regulations except: in the Pease, Big Wichita, and Brazos Rivers and their tributaries, minnow seines not more than 40 feet long may be used when owner is in constant attendance. M

**SHELBY:** Group VI Regulations. See Lake Laws—Toledo Bend Reservoir.

**SHERMAN:** Group III Regulations.

**SMITH:** Group VI Regulations. See Lake Laws—Lake Palestine.

**SOMERVILLE:** Group II Regulations. M

**STARR:** Group I Regulations.

**STEPHENS:** Group II Regulations. M

**STERLING:** Group II Regulations.

**STONEWALL:** Group II Regulations.

**SUTTON:** Group II Regulations.

**SWISHER:** Group III Regulations.

**TARRANT:** Group II Regulations.

**TAYLOR:** Group II Regulations. M

**TERRELL:** Group VI Regulations.

**TERRY:** Group II Regulations.

**THROCKMORTON:** Group II Regulations except: in the Pease, Big Wichita, and Brazos Rivers and their tributaries, minnow seines not more than 40 feet long may be used when owner is in constant attendance.

**TITUS:** Group I Regulations.

**TOM GREEN:** Group II Regulations. M

**TRAVIS:** Group II Regulations. M

**TRINITY:** Group I Regulations including Lake Livingston except: in other waters non-metallic net having a mesh at least three inches square may be used to take rough fish.

**TYLER:** Group I Regulations including the Neches River and Dam B Lake except: in other waters non-metallic net having a mesh at least three inches square may be used to take rough fish only.

**UPSHUR:** Group VI Regulations except: in Gin and Glade Creeks, trammel nets are permitted for taking suckers.

**UPTON:** Group II Regulations.

**UVALDE:** Group I Regulations except: no more than 30 hooks may be used by any person with no more than 30 hooks on any one trotline and no more than 6 hooks on any other one device. Bow and arrow or spear gun and spear are prohibited. M

**VAL VERDE:** Group II Regulations. M

**VAN ZANDT:** Group VI Regulations. See Lake Laws—Lake Tawakoni.

**VICTORIA:** Group IV Regulations except: in the Guadalupe River, hook and line, trotline, cast net, 20-foot minnow seine for taking bait and flounder gig and light only may be used.

**WALKER:** Group I Regulations. M

**WALLER:** Group VI Regulations. M

**WARD:** Group II Regulations.

**WASHINGTON:** Group VI Regulations except: in Somerville Reservoir Group II Regulations apply. M

**WEBB:** Group I Regulations.

**WHARTON:** Group IV Regulations.

**WHEELER:** Group III Regulations.

**WICHITA:** Group II Regulations except: in the Pease, Big Wichita, and Brazos Rivers and their tributaries, minnow seines not more than 40 feet long may be used when owner is in constant attendance. M

**WILBARGER:** Group II Regulations except: same as WICHITA County. M

**WILLACY:** Group I Regulations.

**WILLIAMSON:** Group II Regulations except: non-metallic nets of at least one and three-fourths inch square mesh are permitted for taking rough fish only. M

**WILSON:** Group I Regulations.

**WINKLER:** Group VI Regulations.

**WISE:** Group II Regulations. M

**WOOD:** Group VI Regulations except: seine or net of at least two-inch mesh and grabbing with the hands within such nets is permitted for taking rough fish only. In Lakes Quitman, Holbrook, Hawkins and Winnsboro, seines, except 20 foot minnow seines for taking bait, are prohibited.

**YOAKUM:** Group II Regulations.

**YOUNG:** Group II Regulations except: same as WICHITA County. M

**ZAPATA:** Group VI Regulations. Falcon Reservoir—Group I Regulations. M

**ZAVALA:** Group I Regulations except: non-metallic nets of at least three-inch square mesh permitted for taking rough fish only.

## LAKE LAWS

**Lake Buchanan** (in Burnet, Lampasas, Llano and San Saba Counties): Group II Regulations apply, except, no more than 30 hooks on all devices; no more than 6 hooks on one throw line; no more than 30 hooks on one trotline, and no limit on the number of trotlines, provided number of hooks does not exceed 30 on any one line. Minnow seines not longer than 50 feet may be used for taking minnows, perch, or rough fish.

**Lake Palestine** (in Anderson, Cherokee, Henderson and Smith Counties): Group II Regulations except: no limits on striped bass, walleye perch and rainbow trout in Smith County.

**Lake Tawakoni** (in Hunt, Kaufman, Rains and Van Zandt Counties): Group I Regulations except: no more than 100 hooks are permitted in any combination of devices with no more than two (2) non-metallic trotlines with not more than fifty (50) hooks each may be used.

**Lake Texarkana** (in Bowie and Cass Counties): Regulations are the same as County regulations for those portions of the lake within Bowie and Cass Counties.

**Lake Texoma** (in Cooke and Grayson Counties): Group I Regulations apply except: no more than 100 hooks are permitted in any combination of devices and not more than two trotlines (including rubber band lines and sail lines) with no more than 50 hooks each may be used. Largemouth, small-

mouth and spotted black bass: daily bag limit—10 in the aggregate; crappie: daily bag—25; striped bass: daily bag limit—one; walleye perch: bag and possession limit five.

**Toledo Bend Reservoir** (in Newton, Sabine and Shelby Counties): Group I Regulations apply except: in accordance with a reciprocal agreement entered into between Texas and Louisiana in 1969, largemouth, smallmouth and spotted bass, fifteen (15) daily bag limit in the aggregate, no possession or size limit; no possession or size limit on catfish; minnow seines not more than thirty (30) feet in length may be used in taking minnows, sunfish and rough fish.

## MINNOWS-POSSESSION, TRANSPORTATION AND SALE

There are no restrictions on the taking of minnows from the public waters of the State, except as specified in the GROUP REGULATIONS, as to means and methods of taking. Certain counties, however, in order to preserve their minnow resources, have passed laws concerning possession, transportation and sale of such resources from their county waters. The following is a list of such regulations and the counties in which they apply:

A. In the following counties, sale of minnows within the county is permitted, but minnows may not be transported out of the county for sale. Daily bag limits, possession limits and quantities that may be transported out of the county (or district) for personal use are as specified:

Austin (1) and Waller (1) Counties—no bag or possession limit, 250 limit from county for personal use.

Bastrop County—150 possession limit, 150 limit from county for personal use.

Baylor, Concho, Hays, Kimbel (2), Menard (2), Robertson, Tom Greene, Travis, Washington (1) and Wise (1) Counties and a district composed of Cooke and Grayson Counties—no bag or possession limit, 200 limit from county for personal use.

Bell (1) County—no bag or possession limit, 125 limit from county for personal use.

Bosque and McLennan Counties—no bag or possession limit, 100 limit from county for personal use.

Burleson County—no bag or possession limit, 500 limit from county for personal use.

Childress, Ellis, Foard, Hardeman, Hill, King, Knox, Montgomery, McCulloch, Parker and Williamson Counties—500 possession limit, 150 limit from county for personal use.

Comanche County—400 possession limit, 200 limit from county for personal use.

Fayette County—200 possession limit, 200 limit from county for personal use.

Hood County and a district composed of Jack, Palo Pinto, Stephens and Young Counties—no bag or possession limit, no limit from county for personal use.

Runnels County—500 possession limit, 300 limit from county for personal use. No minnows may be taken from New Lake Winters.

Walker County (5)—no bag or possession limit, 2,000 limit from county for personal use.

Wichita County—no bag or possession limit, 50 limit from county for personal use.

Zavala County—500 possession limit.

B. In the following counties, minnows may not be sold within the county or transported out of the county for sale. Daily bag limits, possession limits and quantities that may be transported out of the county for personal use are as specified:

Bandera, Edwards, Kerr, Real and Sutton Counties—200 limit from county for personal use.

Collin and Rockwall Counties—50 daily bag limit, no limit from county for personal use.

Coryell and Johnson Counties—no bag or possession limit, 125 limit from county for personal use.

Dimmit County—no limit from county for personal use.

Erath and Somervell Counties—no bag or possession limit, no limit from county for personal use. In Somervell County, licensed minnow dealers only may take minnows to be sold within the county only.

Karnes (3) and Polk (3) Counties—200 daily bag limit, 200 limit from county for personal use.

Trinity (4) County—no bag or possession limit, 2,000 limit from county for personal use.

Uvalde County—no limit from county for personal use; commercial minnow dealers or their agents may not transport minnows from the county for any purpose.

Wilbarger County—no bag or possession limit, 200 limit from county for personal use. Licensed minnow dealers only may take minnows to be sold within the county only.

C. In the following counties, sale of minnows within the county and transportation out of the county for sale is prohibited. Daily bag limits, possession limits and quantities that may be transported from the county are as specified:

Falls County—no bag or possession limit, 125 limit from county.

Frio and Medina Counties—200 daily bag limit, no transportation limit from county.

D. In the following counties, sale of minnows within the county is permitted but minnows may not be transported out of the county for any purposes. Possession limit is as specified.

Blanco, Gillespie, Haskell, Kendall and Mason Counties—500 possession limit.

Val Verde County—200 possession limit, except minnows taken from the Rio Grande, Pecos River and San Felipe Creek are not regulated.

E. In the following counties there are no county-wide regulations for minnows but local regulations as specified apply:

Callahan County—Lake Baird: sale of minnows is prohibited.

Coke County—Sweetwater Oak Creek Lake: no minnows from this lake may be sold and no more than 200 minnows may be transported out of the county for any purpose.

Jones and Taylor Counties—Ft. Phantom Hill Lake: sale of minnows is prohibited.

Shackelford and Stephens Counties—Hubbard Creek Lake: no more than 200 minnows may be taken or possessed and all such minnows must be used for bait in this lake only.

Zapata County—Falcon Reservoir: daily bag limit for minnows is 200.

(1) Commercial minnow dealers or their agents may not transport minnows from the county for any purpose.

(2) Possession limit for licensed bait dealers—1,000 minnows.

(3) No person may have more than 200 minnows in any vehicle and commercial minnow dealers or their agents may not transport minnows.

(4) Transportation of minnows by commercial minnow dealers or their agents is prohibited and no person may have more than 2,000 minnows in any vehicle.

(5) No person may have more than 2,000 minnows in any vehicle.

## SALT WATER REGULATIONS SPORTFISHING

### Minimum Size Limits:

In all counties: Redfish—14 inches.

In Cameron, Kenedy and Willacy Counties: Flounder and Speckled Trout—12 inches.

All other species—No size limits.

### Legal Means and Methods:

In all counties:





Bob Hall Pier on Padre Island, and within 1,000 feet of the Gulf shore line of Padre Island in Nueces County.

In the Gulf waters of Aransas, Brazoria, Jackson, Jefferson, Matagorda, Orange, and Willacy Counties fish trawls with a webbing size of not less than four-inch stretched mesh are permitted. Fish taken during legal shrimping operations may be retained.

In Nueces and Corpus Christi Bay, excepting the western shore line from Flour Bluff to Dagger Island, a set net, trammel net, or strike net with square mesh not smaller than one and one-half inches is permitted.

In Jackson and Matagorda Counties, and in Mesquite Bay, and Aransas Bay north of a line running from a marker on St. Joseph Island, one mile north of North Pass to the southern end of Mud Island to the north side of Corpus Christi Bayou, drag seines and trammel nets up to 1,800 feet long with a stretched mesh not less than three inches, and with a pocket and battling stretched mesh size not less than two inches are permitted, except no trotline or net except cast net and 20-foot minnow seine for bait is permitted within one-half mile of the north and western shore line of Aransas Bay from Hail Point on the Lamar Peninsula to the eastern end of Talley Island.

In Calhoun County in Matagorda Bay south of Lavaca and Carancahua Bays except for Powderhorn Lake and in San Antonio Bay northwest of the Gulf Intracoastal Waterway except Hynes Bay, a set net, trammel net or strike net with a square mesh not smaller than one and one-half inches is permitted. A pocket or drag seine up to 1,800 feet long with a mesh not smaller than one and one-fourth inches square except for the bag with a mesh not smaller than one inch square, is permitted in all of the above waters 18 inches or more in depth.

In Galveston and Trinity Bays in Harris and Chambers Counties, a trammel net up to 1,200 feet long with a stretched mesh not smaller than three and one-half inches may be used.

In Laguna Madre in Cameron and Willacy Coun-

- Pole and line, casting rod or rod and reel.
- Trotline or set line, (tag required—See "License Requirements.")
- Artificial or natural bait.
- Cast net or minnow seine not more than 20 feet long for taking bait. All other nets and seines are permitted only as provided under "Nets and Seines."
- Spear gun and spear, bow and arrow, or gig and light for taking flounder.

In Aransas, Brazoria, Cameron (except Gulf waters), Jackson, Jefferson, Matagorda, Orange and Willacy Counties, the following regulations also apply:

- Trotlines include rubber band lines and sail lines.
- Trotlines may not exceed 600 feet in length.
- Trotlines must be at least 50 feet apart.
- Trotlines may not be placed closer than 200 feet from the Gulf Intracoastal Waterways.
- Trotline stakes may not be metallic.
- Trotline end stakes must be flagged and each top water trotline panel marked midway between all stakes with cloth or plastic streamers not less than one inch wide and six inches long that are clearly visible and above the water.
- Spear gun and spear, bow and arrow, or gig may be used for taking all fish.

**Nets and Seines (permitted in the following waters only):**

In the Gulf of Mexico, noncommercial seines and nets not more than 2,000 feet long with mesh not less than one and one-half inches square, mesh in bag and 50 feet on each side of bag not more than one inch square, and commercial nets and seines up to 1,800 feet in length with a mesh not less than one and one-half inches square are permitted except within one mile of a pass, within one mile of Caldwell Pier on Mustang Island or



ties, the Parks and Wildlife Department may issue contract permits to use nets to take drum fish during certain months.

**NOTE:** In the city of Corpus Christi and in other coastal cities statutes provide that certain waters within, and in within one mile of, the city limits may be closed to netting. Such waters must be marked by the city with buoys, stakes or other suitable markers.

## SHRIMP

### Shrimp for personal use:

Shrimp may be taken for personal use from coastal waters except passes by use of a cast net, dip net, bait trap, or minnow seine up to 20 feet long and manually operated; or from open waters with one licensed "Individual Bait-Shrimp Trawl" per boat and trawl not to exceed 20 feet in width or to have a mesh size smaller than five stretched meshes in eight and three-fourths inches and with boards up to 15 by 30 inches or 450 square inches each. License fee for "Individual Bait-Shrimp Trawl" \$3.00. During closed season "Individual Bait-Shrimp Trawl" operator may not have aboard more than two quarts of shrimp per person or more than four quarts per boat.

During the period of Aug. 15 through Dec. 15, individuals may take up to 100 pounds of legal size (65 headless and 39 whole shrimp per pound) whole shrimp per day in major bays only; and during the period May 15 through July 15, he may take up to 15 pounds of any size whole shrimp per day in major bays only (as defined in the "Texas Shrimp Conservation Act"). During Gulf open season he may take up to 100 pounds of legal size whole shrimp per day. During the Gulf open season seines no longer than 400 feet with mesh size no less than one and one-half inches square except for the bag and 50 feet on each side of the bag where mesh shall be no larger than one inch square, may be used to take 100 pounds of legal size whole shrimp per seine per day. Such seines must be manually operated and may not be used within one mile of any natural or man-made pass.

It is unlawful to buy or sell shrimp taken for personal use.

In Jackson County north of State Highway 35 only two quarts of shrimp per person or four quarts per boat are permitted for bait only; and from Aug. 15 to Dec. 15 only, 100 pounds of whole shrimp per day permitted for personal use.

## CRABS

### General Regulations—Crabs

It is unlawful to take egg bearing female crabs.

Crabs may be taken in any number at any time and by any method, except for the following special regulations.

### Special Regulations—Crabs:

In Aransas Bay no crab traps are permitted within one half mile of the north and western shoreline from Hail Point on the Lamar Peninsula to the Eastern end of Talley Island.

In Aransas, Brazoria, Cameron (except Gulf waters), Jackson, Jefferson, Matagorda, Orange and Willacy Counties, crabs may be taken in any number and at any time by dip net, set line, hand line, gig, trotline, crab trap and 20-foot seine. Crabs taken during legal shrimping operations may be retained. Crab traps must be marked with buoys of wood, metal or plastic not less than 10 inches in diameter or width, and such buoys must be ten (10) inches in height above the waterline, or with plastic bottles of not less than one-gallon size. Crab trawls with a webbing size of not less than five-inch stretch mesh are permitted.

## OYSTERS

**Season:** Nov. 1 through April 30, except in Laguna Madre, south of Port Mansfield channel—no closed season.

**Minimum Size Limits:** three inches (greatest length of shell).

**Legal Means and Methods—**Unrestricted except:

Oysters may be taken only from waters approved by the State Health Department.

Oysters may not be taken from marked private leases except by permission of lessee.

Sports oyster dredge may not exceed 14 inches in width.

## TROPICAL FISH—IMPORTATION POSSESSION OR SALE

The importation, possession, sale or release of any tropical fish or fish eggs designated as harmful or potentially harmful by the Parks and Wildlife Department is prohibited except by special permit from the Parks and Wildlife Department.

## OTHER PROTECTED SPECIES

**Saltwater Terrapin—**May be taken only during the months November through February and must be larger than six inches in length of the under shell.

**Sea Turtles—**It shall be unlawful for any person to knowingly take, kill or disturb any sea turtle or turtle eggs in or from the waters of the State of Texas.

**Alligators—**It is illegal to catch, kill, buy, sell or possess live alligators or buy, sell or possess alligator hides except in the form of a manufactured product.

**Porpoises, Dolphins (mammals) and Whales—**No open season in any county under the regulatory responsibility of the Parks and Wildlife Commission.

**Regulations for commercial fishing, shrimping, netting and other commercial activities are included in the "Texas Commercial Fishing Guide" which may be obtained from your local game warden or the Texas Parks and Wildlife Department, John H. Reagan Building, Austin, Texas 78701. \*\***



Bill Reaves



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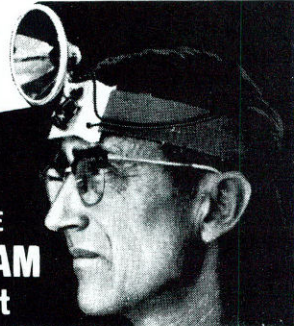
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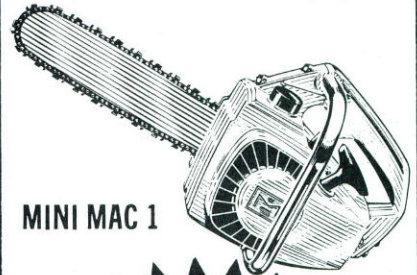
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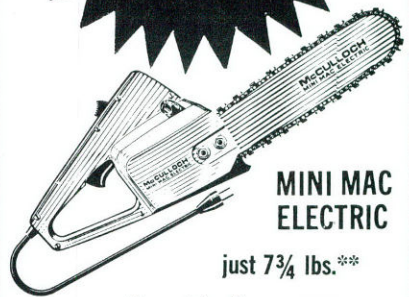
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# Gun Care

## Maintaining a clean firearm prolongs its usefulness

by Neal Cook

Except for skeet, trap and target shooting or rabbit, squirrel and varmint hunting, the season is over for most Texans. The time has come to put those firearms away until next fall.

Is your firearm ready to store? Have you repaired any mechanical problems which might have appeared during the season? Have you cleaned and oiled it? Do you have a safe place to store it?

During the spring and summer most gunsmiths are not as busy as they will be next fall and winter. Have firearms fixed now so the gunsmith will have time to order parts and do the best job possible. Avoid the aggravating experience

of pulling out your firearm two days before the season opens and finding that it needs repairs.

Hopefully you maintained your rifle or shotgun throughout the season and it is not deeply pockmarked with rust and in need of refinishing and rebluing. Modern firearms are made to last for many years with proper care. By following some fast, easy preventive maintenance steps you will never have to worry about completely refinishing your firearm.

1.) Wipe the outside of the firearm with a good gun oil after every use and periodically clean the bore to remove all fouling caused by plastic, lead, copper and power residues. These residues cake in the barrel and will eventually affect the rifle's accuracy and the shotgun's pattern. 2.) Store the firearm in a dry place. 3.) If you put it away for more than a month give the entire firearm a light coat of gun grease.

Proper cleaning materials are not expensive when compared to the initial cost of the firearm. Don't risk several hundred dollars worth of firearm repairs by trying to save a couple of dollars with second-rate cleaning materials. GI-surplus gun solvents, oils, grease and patches may be cheap, but they are not made for today's noncorrosive powders and primers. The grease and oil is normally too thick for fine sporting firearms.

All that is necessary for most gun cleaning is good gun solvent, oil, grease, patches and of course a cleaning rod and accessories. You might want to use additional cleaning compounds such as J-B brand to remove stubborn fouling and anhydrous graphite on a firearm's moving parts.

Gun solvent is made for removing fouling from the barrel and for cleaning the outside of the firearm. Solvent makers often claim that they prevent or protect against rust, but that is not the specific purpose for which they should be used. Clean with the solvents and then use oil or grease to protect the metal against rust.

Use GUN OIL for your gun. Don't use just any household oil you might have tucked away in your

workshop. Gun oils are made to protect the finish of your firearm. They protect against moisture and will not dry into a thick gum which might retard the action. Household oils are made to lubricate small appliances and machinery, not firearms.

Aerosol sprays such as WD-40, Browning and Hoppe's are easy to use and generally do a good job of protecting the firearm for a short time until more care can be given it. A drawback to aerosol sprays is that their propellents sometimes leave spots on the firearm where rust can form. Never spray with the can upside down. When the can is about three-fourths empty use the spray where you can rub with a gun patch to fully cover and protect the metal.

Cleaning rods are made from brass, steel, aluminum or wood. Wooden rods have been used traditionally for cleaning shotguns, but the wood can pick up abrasive particles which might cause wear on the bore. Aluminum also may have this problem. All rods should be carefully wiped with a clean patch to remove these particles. More and more firearm owners are using plastic-coated steel rods. These are more expensive than others but will cause fewer problems such as wear on the barrel or rifling. For in-the-field cleaning, use one of the handy, jointed rods which are convenient for carrying, but for home-use a one-piece rod is preferable. One-piece, "shop rods" will last longer and give more control as you push the rod through the barrel.

Cleaning pads are an inexpensive but important part of firearm maintenance. Use cotton flannel patches, preferably pre-cut for the size of rifle or shotgun you are cleaning. You can cut your own but the added trouble is not worthwhile for most purposes.

Now to clean your firearm. First make sure that it is unloaded. Remove the barrel from the stock if possible or remove the bolt from bolt action guns. Always clean from the breech end.

Heavy buildups of fouling will necessitate the use of a cleaning compound and wire brush, but the

person who cleans his firearms regularly will probably only need to run a solvent-soaked patch through the barrel and work it back and forth five to 10 times. An extra few rubs near the chamber will loosen the fouling that occurs in that one-third of the barrel.

Clean all of the fouling and excess solvent from the barrel with two or three dry, clean patches. If dark, dirty looking material continues to appear on the third dry patch, repeat the above operations using solvent or bore cleaning compound.

Using another clean patch, put a light coat of gun oil or gun grease on the inside of the barrel. A thin, rust inhibiting grease such as RIG will protect the gun for many months and should be used if you plan to store the gun until next fall.

Use the same solvent to clean the action and outside of the firearm. Remember that these are solvents and not for protection of a firearm that is going to be stored for six months. Many people may now want to clean the inside of the action, but unless you know that you can reassemble the parts, leave this cleaning to a gunsmith. This is usually not too expensive and a gunsmith might see some worn parts which should be replaced before the next hunting season.

Use gun oil or grease to protect the outside of the firearm and accessible parts of the action. A little grease will go a long way and an extremely light coat is all that is necessary to protect the gun from moisture and rust. Too much grease will collect dust and grit and eventually cause problems. At this point, some people like to add a small amount of graphite to the firearm's moving parts to make the action work more effortlessly.

Wipe all excess oil or grease from the wooden parts of the firearm and treat these parts with either a special stock wax or regular household furniture polish.

The firearm is ready for storage. Never leave one in a leather or plastic gun case. These cases are made for transporting the gun and protecting it during transportation, not for storage. Moisture may be

trapped in the case and rust will be working on the firearm while you think that it is safely stored for the year.

A gun case which hold the firearms upright is the best place to store them, but for most of us just standing the firearm in the corner of the closet is the only available way. Be sure that the firearms are secure and will not fall over. Lean scoped-rifles sideways so the rifle will not rest on the scope.

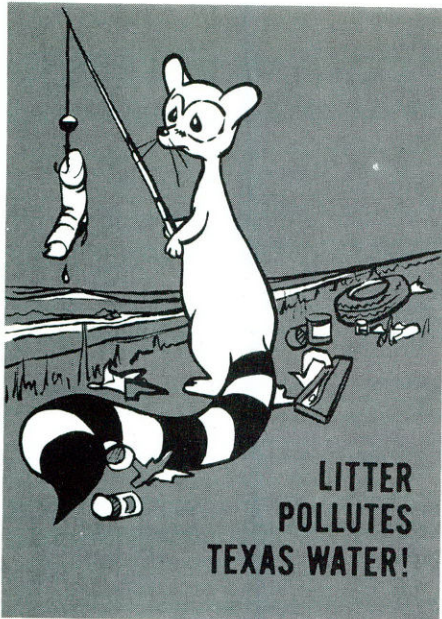
Today there is a brisk trade in stolen firearms and before you put yours away for the year take a few simple precautions to avoid losing your prized guns. List the manufacturer, model and serial number of all of your firearms. Put down the type (pump, auto or bolt action), a description of engraving and anything special about the stock or action. A photograph of delicately engraved firearms might help.

With this information you may stand a chance of recovering a stolen firearm. This information helps the police because it is relayed to the National Crime Information Center for the use of all major police forces. The center computerizes the information about your firearm and you would recover the gun should it turn up anywhere in the country.

Another important reason for having this information is homeowner's insurance claims if the firearms are stolen from your house. It also helps when you collect on insurance to have a bill of sale or other proof of ownership.

Most of us only have a few firearms, but we have special attachments to these guns which make them irreplaceable. Don't leave them where they will be the first thing a thief sees when he enters your home. Put them in one of your closets, preferably not the master bedroom as it is a prime target for thieves, or if you have a large attic, put them up there.

Take care of your firearms and they will last a lifetime or be worth more when you decide to trade them. Let them rust and the barrels foul to the point where the firearm is worthless and you have wasted a lot of money. The choice is yours. \*\*



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# Young Naturalist

## Bird Feeders

by Ilo Hiller

Winter's coldest days are here and food for wildlife is scarce. While you are snug and warm indoors, many hungry birds are busy searching for food to give them enough energy to withstand the cold. Would you like to help these hungry creatures and at the same time provide yourself with hours of bird watching pleasure? If so, consider maintaining a winter feeding station.

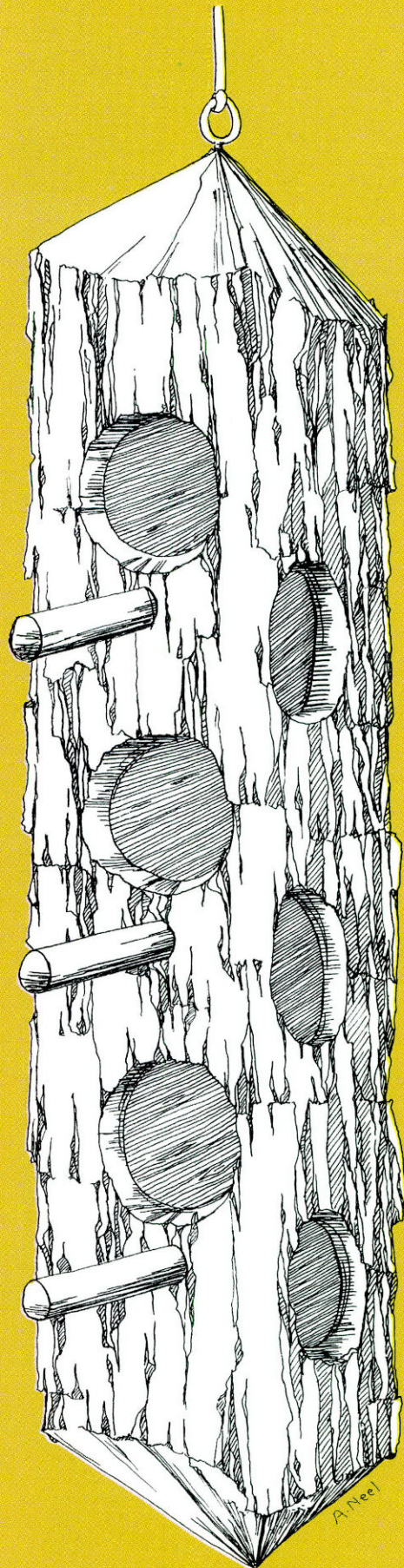
The winter feeder, properly attended, will attract a variety of hungry birds and provide food during this hard time of year. "Properly attended" are key words because once a feeding program is started, it must be continued. The birds using the feeder become dependent upon man for their food and will starve if the supply is stopped. Food must be provided until spring when birds will again have natural seeds, berries and insects to eat.

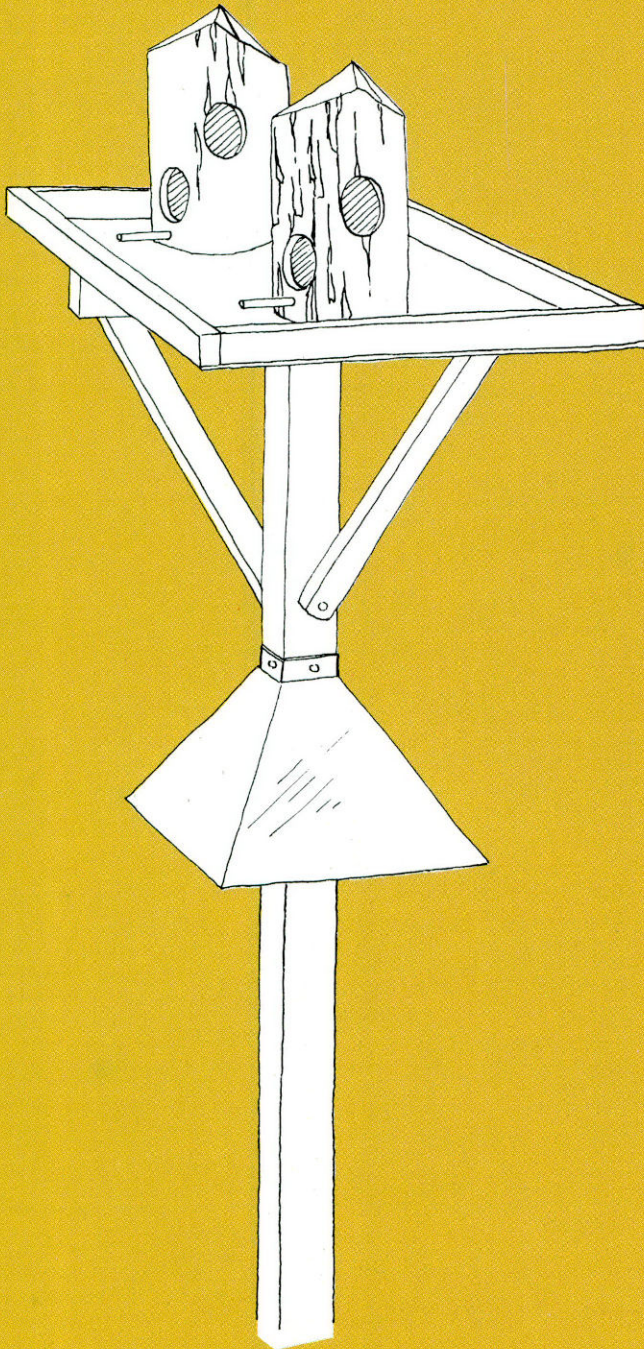
Your winter feeding station should include a feeder for dispensing seeds, a container for suet or bird cake mixtures and a water source. To make this a more personal project, try your hand at building your own feeder and suet container.

A platform feeder, two or three feet square, is the simplest to make, but it needs frequent cleaning so the food will not become contaminated with bird droppings and transmit disease. Raised edges will prevent the food from blowing off, but a space should be left open to allow for water drainage and cleaning. Do not paint your feeder. Instead, give it a coating of weatherproof stain and put it outdoors to air a few days before using.

The simple platform feeder can be improved by adding a roof to keep the food dry; glass on three sides to protect the birds and food from wind and weather (wooden sides also offer protection, but you won't be able to see the feeding birds); a hopper device to dispense food as needed to prevent waste and contamination; a container for suet or bird cake mixtures and whatever else your imagination can come up with.

Another easy-to-make feeder is the hopper type which can be mounted on trees, posts, the house, or used to dispense food on your platform feeder. It resembles a flip-top mailbox except the front is glass





and slants inward at the bottom. A space between the glass and the feeding tray allows the seeds to pour out as needed. The design protects the food and the flip top makes it easy to fill. Several hoppers placed around the yard will attract many birds to your area.

For those of you with carpentry skill, books are available at the local library which contain plans for the construction of other types of feeders. One such book is *How to Attract, House & Feed Birds* by Walter E. Schutz.

Commercial feeders are available to individuals who are unable to make their own, so don't let a lack of carpentry skill deprive the birds of their winter hand-out.

After you have either made or purchased a feeder of some type, you must decide where to put it. Keep in mind that the south side of the house is most protected from the north wind and the east side is exposed to the warming rays of the morning sun.

The platform-type feeder or its variations can be attached to a windowsill, hung from a tree branch or mounted on a post. Cats and squirrels will not be able to reach the birds and food on your hanging feeder if a long wire is used to suspend it and the feeder does not hang within jumping distance of nearby limbs. A metal shield shaped like a snow cone cup will prevent animals from reaching your post-mounted feeder. The cone should be attached just under the feeder with the large end down.

The basic food to put in your feeder is a combination of seeds, and your hungry birds may consume several pounds each day. Even insect-eating birds eat seeds in the winter when insects are not available.

Commercial wild bird seed mixtures may include all or a few of the following ingredients: millet, milo, cracked corn, buckwheat, wheat, canary grass seed, sorghum, sunflower seeds, barley, hempseed, oats, safflower and peanut hearts. These commercial mixtures are excellent, but are quite expensive over a long period of time.

Economical homemade mixtures may be prepared by selecting a few basic ingredients and purchasing them in large quantities from feed stores or seed wholesalers. Sunflower seeds, hempseed, millet, buckwheat and cracked corn combine to make a balanced mixture and the other ingredients can be omitted. Or select another combination of items for your mixture. Periodically, add rice, coarse oatmeal, dried bread crumbs, shelled nuts (not the cooked, salted type) and cereals to your homemade mixture for variety.

To aid the birds in digesting their food, it will be necessary to add a certain amount of grit to the commercial or homemade seed mixture. A teaspoon of fine sand, crushed eggshells or crushed charcoal added to each quart of seed will meet their requirements. Grit is obtained naturally as the bird feeds on the ground.

Fruits are also quite popular with hungry birds, and small pieces of apples, oranges, grapefruits, bananas,

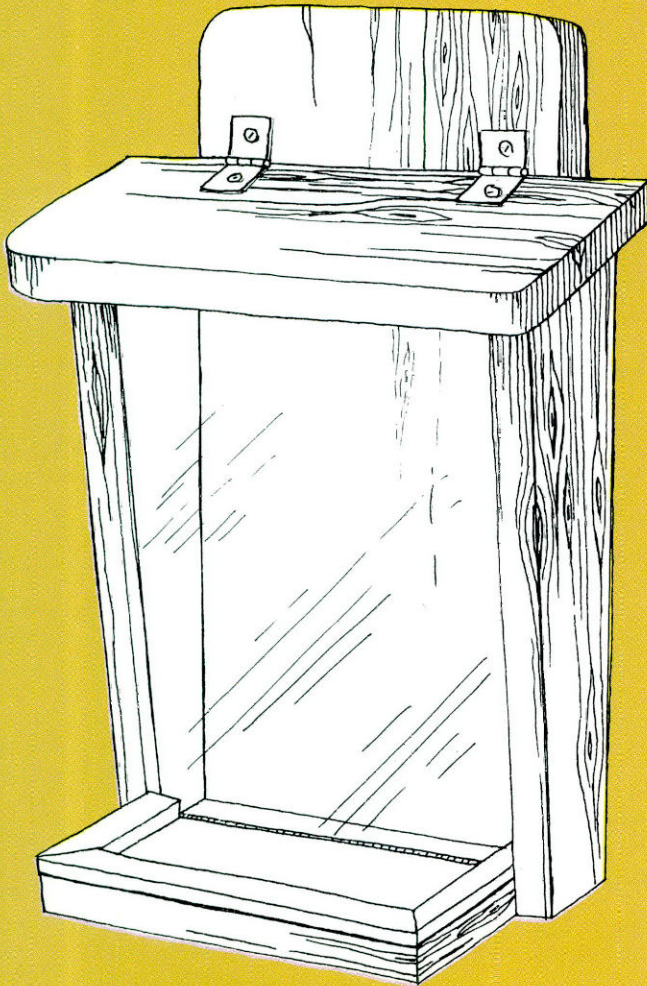


tomatoes and grapes will be appreciated. Overripe fruits are usually available at discounted prices, so check with the produce man at your grocery store.

During cold weather, birds need energy producing foods such as suet to help maintain their high body temperatures. Suet is the hard fat or tallow found around the kidneys and loins of beef and sheep. It can be purchased at the meat counter of your local grocery store, kept without refrigeration and used as needed. Chunks of the raw suet can be tied to a tree limb, enclosed in a wire mesh basket and attached to the feeder or tree, or placed in a hanging, fiber-type onion or potato sack.

The popular bird seed cakes or bird puddings are made with melted suet and you will probably want to try your hand at preparing some. But first, let's discuss some of the serving containers for this mixture.

The log feeder is an easy container to make and it looks quite attractive in your feeding area. Simply



drill a few holes in a small log and leave the bark on it to provide footholds for clinging birds. Insert small wooden dowels or sticks below a few of the holes to form perches for other bird species. Attach an eye bolt at the top and the feeder is ready to fill and hang from a nearby branch. A weight can be attached to the bottom to keep the log from swinging in the breeze.

A foot-square, two-inch block of wood makes a tray-type feeder which can be mounted to a post, hung from a tree or placed on the ground. Just drill a pattern of holes halfway through the flat surface, fill them with the suet-seed mixture and your feeder is finished. If you cannot find the materials to make this feeder, an old muffin tin is a good substitute.

Coconut shells, half-grapefruit shells, foil pans and bowls, plastic butter tubs and many other items found around the house make good containers and can be set on your platform feeder or hung nearby.

After you have made or gathered the containers, you are ready to prepare the suet-seed mixture. To do this, first grind the suet into small pieces, place it in a double boiler and let it melt completely. Allow suet to cool and harden, then remelt. After the second melting, the suet will have a harder texture which will hold the bird cake ingredients much firmer.

The ingredients can be a combination of all types of bird food—animal and vegetable. Some suggested items are: dried ground meat, cooked and chopped bacon rind, millet, sunflower seeds, rice, oatmeal, dried bread crumbs, cereal, corn meal, cracked corn, raw nuts and raisins.

To form a spreadable mixture which can be used to stuff the holes in the log and block feeders, stir the selected ingredients into the melted suet just before it hardens. This mixture can also be spread on the bark of trees to lure birds into the area. Molded seed cakes are made by placing the ingredients in the various containers and pouring the slightly cooled suet over them. If a string is molded into the mixture before the suet hardens, and if it is allowed to protrude from the center of the cake like an extremely long candle wick, the solid treat can be removed from the container and hung in a convenient spot.

Peanut butter also provides the food value necessary to maintain high body temperature, but straight from the jar it can be dangerous. If it sticks in the bird's beak, it can prevent feeding and cause starvation. To avoid this problem, mix it with equal parts of corn meal. If seeds and other ingredients are added to the corn meal-peanut butter mixture it can be used as a filling for the suet-seed feeders or it can be spread on tree bark to attract birds.

Feeding wild birds is not restricted to young naturalists, but whoever undertakes the task should remember that once begun, winter feeding is a daily activity. Birds lose weight and water overnight and need the early morning feeding to start their active day. Feathers may insulate birds against the cold, but their bodies cannot function and keep warm without enough food for fuel.

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# LETTERS TO THE EDITOR

## CONGRATULATIONS

I just wanted to say "Congratulations" on an outstanding 30th anniversary edition of the *Texas Parks & Wildlife* magazine. I continue to be amazed by the consistent excellence of your publication, both in writing, editorial content and art. Keep up the good work!

Your magazine serves as a reminder to those of us in the environmental field that the Texas environment which we are charged to protect is magnificent and rightfully commands our best efforts in its defense.

M. Lynn Taylor  
Assistant Attorney General  
Austin

## PARASITES

We found some tubular objects a few inches long and one-eighth inch in diameter in the flesh of a black drum that was caught on the coast near Port Bolivar. Are they parasites of the fish and

if so, does their presence make the flesh unedible?

We also found clusters of black spots in the flesh of some blue crabs that we caught in the same area. Their color and size is similar to ground black pepper. Are these parasites and is the flesh still edible?

Chi-yuan L. Pann  
Houston

Many fish caught along the coast contain parasites. The black drum you caught is one of the species which often has worms in its body. These worms are completely harmless to humans and will not hurt the flesh for human consumption. They are aesthetically displeasing if eaten in broiled fish, however, when fish is fried the parasites are not noticeable.

As to the black spots found within the blue crabs, these are also parasites which our studies indicate are present in 78 percent of the mature female crabs found in the Gulf. They are quite

harmless to humans and should not in any way effect your eating of the crab meat.

## BINDERS

Could you please send me some information on binders for your *Texas Parks & Wildlife* magazine. I have looked through past issues of the magazine and could not find anything pertaining to binders.

Mrs. W. T. Davis  
Abilene

We are very sorry to inform you that we do not have any binders for issues of our magazine. We might suggest that you check with a book binder or bookstore in your area.

## DUCK STAMPS

Do you know of anyone who buys old Duck Stamps? I would appreciate your sending me any information you have.

Mrs. R. D. Youker  
Harlingen

Anyone interested in buying these stamps please write to us and we will contact Mrs. Youker.

## APPRECIATION

I have enjoyed this magazine more than anything I have ever read. It is very educational. I have learned more about Texas wildlife this past year, since subscribing to your magazine, than I had learned in the 22 years we have lived here.

Mrs. Lloyd Koontz  
Pearland

## BACK COVER

Wild geese on the wing seem to float on the wind, but their gracefulness is deceiving as their large and powerful wings enable them to fly much faster than most individuals would imagine. These geese are (top to bottom) a snow, blue, snow and immature blue goose. Photo by Jim Whitcomb.

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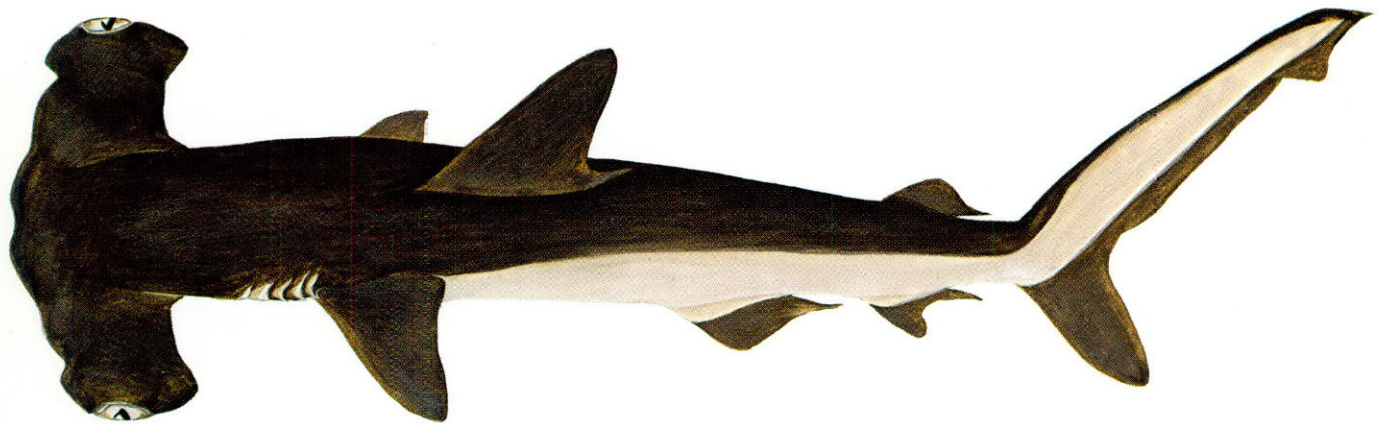
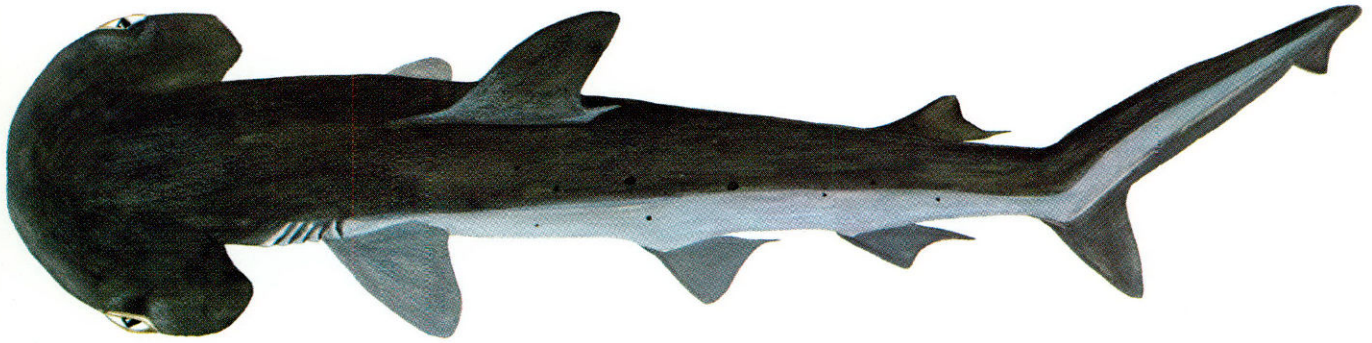
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## TEXAS SALTWATER FISHES

The bonnetnose shark, *Sphyrna tiburo*, (top) is found in all seas, while the hammerhead, *Sphyrna displana*, (bottom) restricts its range to warmer waters. Both species are common to the Texas Coast.

Small bonnetnose sharks are often caught by fishermen because they inhabit the shallow waters and feed on fishes, crabs, shrimp and other crustaceans. Adults occasionally reach four feet but are seldom over two feet in length. Other common names for this species are the bonnethead and shovelhead.

Hammerheads inhabit both deep and shallow water where they feed on fishes, squids, stingrays, crabs and even other sharks. They usually swim near the surface with the dorsal fin showing and adults reach a length of 10 feet or more. Fishermen often catch young specimens near the shore. The record hammerhead was caught out of Port Aransas in 1971 and weighed 510 pounds. It was 10 feet, five inches in length and measured 66 inches in girth.

Artwork by Henry Compton.

