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PARKS & WILDLIFE



October 1972 • 50¢



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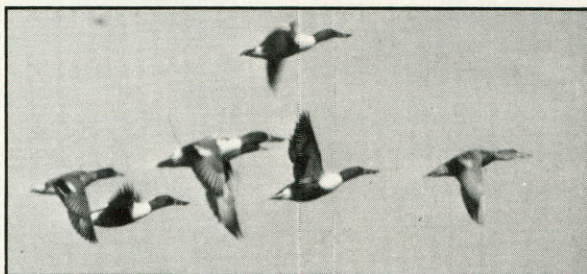
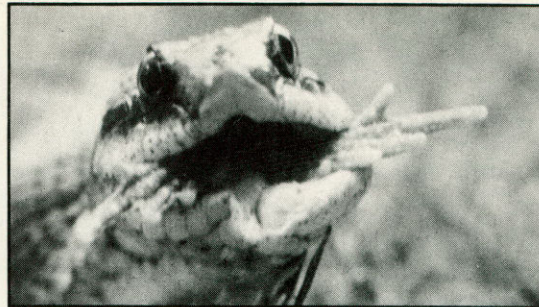
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TEXAS PARKS & WILDLIFE

**TEXAS PARKS & WILDLIFE
magazine**

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

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by Terrie Whitehead
Harvest the profits of wildlife management.
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You will be able to tell the approximate age of the deer you kill this season.

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Front cover: Dinner-time for the black-tailed jackrabbit is usually in the evening and night hours. Photo by Bill Reaves.

Inside front: The small burrowing owl usually nests in the deserted burrows of mammals such as the prairie dog. Photo by Martin T. Fulfer.



Prescription for *Urbanitus consequensis*: Squirrel Hunting

by Bob Alexander, Wildlife Biologist
Federal aid project W-61-R.

Are you tired of the same old everyday hum-drum of big city living? Has your boss been hard to please lately or are you fed up with noise, air, water, and people pollution? Do you need to get out with that boy of yours who's growing up too fast? Your neighbors got you down? Wife been nagging a little more than usual? Financial situation got you in a corner?

At least some of these symptoms may apply to you, but don't give up. Cheer up, because we've got a remedy for your disease which we might diagnose as *Urbanitus consequensis* or the plain old consequences of urban living. Our remedy is simple and pleasant. Go on a squirrel hunting excursion in east Texas.

Each year, thousands of Texans enjoy a sport that is as old as this nation itself. Long before the white man set foot on this continent, the American Indian was making use of squirrel resources as a source of food and fiber.

During the early days of settlement in Texas, squirrel hunting was for the purpose of providing food for the family, or in some cases a necessity to protect crops from depredation. Today, the primary purposes of squirrel hunting are sport and recreation. This does not mean that those squirrels harvested are not utilized for food, however, as many who have tasted squirrel muligan or fried young squirrel with gravy and hot biscuits, will testify.

To be denied the opportunity to enjoy an old fashioned squirrel hunt, complete with an overnight stay in a makeshift riverbottom camp, is a tragedy indeed. Perhaps the greatest enjoyment derived from such an experience is not in the hunt itself but in the fellowship with each other around the campfire, the sounds of the night in a riverbottom camp; the hum of a mosquito, the cry of a great horned owl in the distance, the shrill twittering of a flying squirrel just outside the glow of the campfire, the musty smell of the riverbottom intermingled with smoke from the campfire, or the aroma from a huge pot of boiling coffee on the glowing coals. These are a few of the rewards that cannot be purchased at the local supermarket or derived from the color T.V. These rewards cannot be found amid the

concrete, asphalt and steel of the big city. These are rewards of experience, of communion with nature, all to be reaped during a weekend of squirrel hunting.

Squirrel resources, like other wildlife resources, cannot be stockpiled. In many areas of eastern Texas where squirrel hunting is the most popular hunting sport, squirrels are generally underharvested in proportion to the overall populations present. The average squirrel hunter in East Texas harvests 15 squirrels per season with an average daily bag of less than three squirrels. Less than 10 percent of all hunters attain their daily bag limit on a given hunt. Total squirrel harvest in Texas during average years has been estimated between 750,000 and 1,000,000 animals. During peak years of production these figures may double.

Squirrel populations fluctuate as conditions of their environment change. The number of squirrels available to the sportsman is relative to food supplies and nesting conditions. Woodland management practices effect these factors and cannot be overemphasized. Landowners who indiscriminately harvest hardwood timber with no regard for den or productive mast trees should not expect to retain squirrel populations which that woodland was previously capable of producing and supporting.

In many woodland areas of eastern Texas where den trees have been destroyed through timber harvest, squirrels construct leaf nests. During mild winters, squirrels can survive fairly well with this type of shelter, but during severe winters, tree "hollows" are necessary for survival. When the food producing trees are removed, the need for den trees or leaf nests is immaterial.

As a general rule in areas where adequate habitat is available, years of good mast production and mild winters will result in moderate to high populations of squirrels. Lower squirrel populations are generally caused by poor mast production.

It is during those periods when squirrel populations reach high levels for short periods that additional hunters are needed to make an adequate harvest of the resource. The "wise use" concept of game management



Martin T. Fuller

demands an adequate harvest as humanly possible to achieve. Without proper harvest, thousands of squirrels will perish with no benefit whatsoever to the sportsmen of this state, simply as a result of declining environmental conditions. To allow a large proportion of any resource to be lost to natural causes is a loss to the sportsman in recreational benefits, not to mention the lost opportunity for some fine meals.

Field personnel of the Parks and Wildlife Department monitor squirrel populations periodically and when populations reach above-average levels, news releases are made advising the sportsmen of general locations of squirrel concentrations where additional hunting effort is required to adequately harvest the resource. By keeping yourself posted on outdoor news during the squirrel season in your area you can be aware of these situations and treat yourself to some good hunting.

Each year, thousands of sportsmen lose opportunities for squirrel hunting simply as a result of not knowing where to go or whom to contact for permission to hunt.

Hundreds of thousands of acres of both public and private lands are available to the sportsman for his choice of sport, whether it be hunting, camping, fishing, or just plain relaxing in the great outdoors. National forest land, national grassland, United States Army Corps of Engineer lands around large reservoirs and lands owned by large lumber companies are some of the areas available to the sportsman if he will take the



Jim Whitcomb

time to inquire about them. A directory featured in this issue will be of help.

The quality of hunting on these lands varies from poor to excellent depending on current land management practices. A good idea, and a good way to spend a weekend, would be to visit some of the areas prior to the hunting season and locate the most suitable areas. By contacting the local representative in charge of the area, you can gain valuable information and often a map of the area—just for the asking.

Now that you know how to cure *Urbanitus consequensis* take advantage of our advice. Good squirrel hunting! **





hognosed snake

Fakes its way to a bad reputation

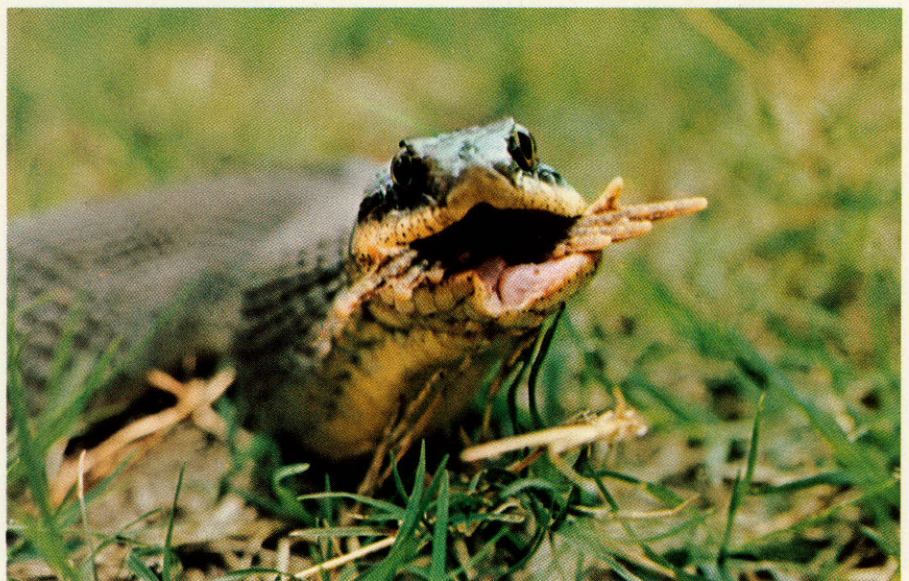
Article and photography by James C. Kroll
Department of Wildlife and Fisheries Sciences, Texas A&M University

Perhaps the most misunderstood and unjustly persecuted snake in Texas is the hognose snake. Its defensive behavior, including spreading of the neck, mock strikes and loud hissing, has earned it a notorious and unfortunate reputation among outdoorsmen even though the snake is docile and inoffensive.

More than 50 names such as "spreading adder," "puff adder,"

"hissing adder," "blow viper" have been applied to the hognose. Its arrowhead-shaped head and neck-spreading behavior have given rise to these names and to many stories about the snake's "venomous" nature.

In reality, the hognose snake refuses to bite even when harassed, with the only recorded account of a hognose biting a man being reported by Dr. A. N. Bragg



of the University of Oklahoma. He picked up a western hognose snake after handling several leopard frogs, and the snake, possibly smelling the frog odor on Bragg's hand, attempted to swallow his thumb.

Amused by the hognose's action, he carried the snake around to show his colleagues. After 10 to 15 minutes, Bragg felt a pricking sensation, and after two or three such prickings, he saw blood. Removing the snake from his thumb, he saw three very small wounds. He treated the wounds with medication and covered them with a bandage.

Later in the day he noticed that his hand was slightly swollen with a tight feeling in the bite area. The swelling never reached further than the wrist, there was no pain and the swelling receded within 24 hours. Bragg suggested that the reaction to the bite could have been caused by the frog secretions on his hand entering the wounds, the mild venomous nature of the snake or some obscure reaction to the bite.

Hognose snakes belong to the family Colubridae, which includes most of our harmless snakes and contains more species than any other snake family. Three species of hognose snakes reside in the United States, and two occur in Texas. The eastern hognose, *Heterodon platyrhinos*, ranges from New Hampshire, south to Florida and west to South Dakota and Texas. It occurs in several color phases including melanistic (black) and erythristic (red). The western hognose, *H. nasicus*, occurs from Illinois to Alberta and south to southeastern Arizona and central Mexico. The southern hognose, *H. simus*, is found only in southeastern North Carolina to south-central Florida and southern Mississippi.

Hognose snakes may be recognized by their sharply upturned snout and keeled body scales. One researcher suggested that the upturned snout acts as a double-sheared plow that forces soil to each side of the head. The snout is used in burrowing and in "rooting out" toads and frogs which comprise the bulk of the snake's diet. Tadpoles, lizards, birds and small mammals are also consumed.



If an enemy isn't impressed with the fierce act of the hognose and proceeds to hit, kick or make any other advance, the snake abandons all pretense of fierceness. Squirring and rolling tortuously, dragging his tongue in the dirt and quivering spasmodically, he rolls

over on his back and goes completely limp. Hit again or even picked up and carried away, the snake still remains limp. But try to turn him right side up onto his belly and the fakery is revealed. He quickly curls up and twists back over.

Few predators are able to eat toads since their skin secretes a poisonous substance which is often toxic to other animals, but the hognose is immune. Upon capture, toads often inflate themselves to make swallowing more difficult, if not impossible, but the hognose's enlarged teeth at the rear of the upper jaw puncture the toad. These teeth are also used to maintain a hold on larger prey such as lizards and large frogs.

When threatened, a hognose spreads its neck and head, hisses loudly and strikes, but with its mouth closed. If this behavior fails to frighten the intruder, the snake may coil, elevate its tail and hide its head beneath its body. This reaction draws the attention of the predator away from the vulnerable head.

Further attacks will cause the snake to roll its eyes backward,

open its mouth, go into convulsions and roll over on its back as though dead. If turned right side up, it will immediately roll back over, giving the act away. The strategy behind such behavior is uncertain and has intrigued biologists for many years.

It was first thought to give a potential predator the impression that the snake was dead, however, such a tactic only aids the predator in capturing the hognose. Pretending to be dead may be unusual enough to frighten the attacker away, or it may be a virtual nervous breakdown of the snake's system. The physiology of the hognose during death feigns is currently being studied.

Regardless of the scientific reasons for its playing dead, the action is unmistakable. If fortunate enough to catch its act, enjoy the bluff and allow the snake to live to perform another day. **

Announcing McCulloch's new Mini Mac Electric.



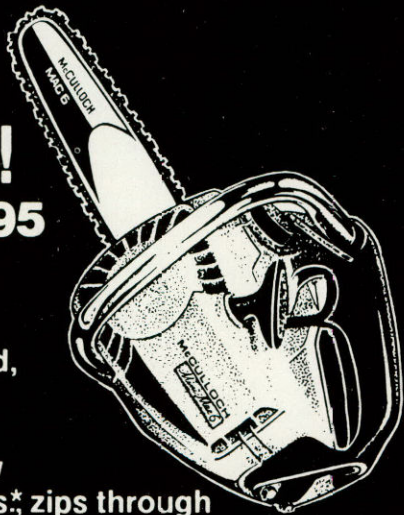
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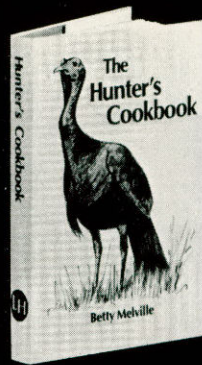
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Special sections on field dressing, meat processing, and carcass charts inform the hunter of the best ways to prepare wild game meat before it even reaches the kitchen. Canning methods are discussed as well as sauces, stuffings, herbs, spices, and wines, and the old style recipes for jerky and Indian pemmican are provided.

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OUTDOOR BOOKS

ANCHORAGE NORTHEAST by Howard T. Walden II; William Morrow and Company, Inc., New York, 1971; 254 pages, \$8.95.

Nova Scotia—repeat the word aloud several times and listen to the mystic sound that the name implies. Perhaps it alludes to a secret wilderness, or maybe privacy and tranquility away from a busy world.

At any rate, *Anchorage Northeast* is a story of a man who sought refuge from the “rat race” of the city in his own way. From May until late October for the last 15 years, Howard T. Walden escaped his city home in New Jersey and retreated to Jordan Bay, Nova Scotia.

Commenting on basic attitudes, Walden states, “People in the large, the socially numerous and hence politically powerful, do not love the wilderness.

It is a place where they will be uncomfortable, be stung by mosquitoes, bitten by snakes, perhaps killed by bears or become hopelessly lost.”

Walden begins his story when he became dissatisfied with urban living. He then describes how he looked at various homesteads and finally decided on the right one for his needs.

Although his stamina for such an undertaking is admirable, the reading becomes tedious. Walden takes a single word like “fog” and expounds it explicitly. Describing a reef in flowery detail he includes all the little sea animals. Even the runners of a strawberry plant are dramatized.

Walden breaks the monotony by revealing personal acquaintances and some of their experiences. Also, the last half of the book is partially devoted to his observations and confrontations

with a cougar, porcupine and hawk. This variety adds interest.

The author is not tied to the land; he ventures to the water's edge and beyond. However, for the reader not familiar with the sea, a dictionary may be required to clarify the terms.

The book seems long, with few important ideas to remember until the next to the last chapter when Walden speculates on the future of Nova Scotia as an American tourist spot: “For unfortunately tourists are synonymous with automobiles, and what follows the automobile is too well experienced to be elaborated: the despoliation of landscape, the shattering of rural quiet, the pollution of air and the invasion of privacy.”

At the end, the author packs and goes back to the city for six months with the hope of yet another chance to escape to Jordan Bay the following May.

Anchorage Northeast is a challenge to the person who enjoys descriptive writing. Primarily written for an outdoorsman or naturalist, the book portrays the existence of a foreign wilderness never to be seen by most.—Terrie Whitehead

Department Booklets Now on Sale

The Parks and Wildlife Department publishes the following fish and wildlife booklets. The prices include postage. Send check, cash, or money order to the Texas Parks and Wildlife Department, John H. Reagan Building, Austin, Texas 78701 and specify which booklets you want. **

General Interest Bulletins

Comprehensive bulletins of interest to the serious student and sportsman

FRESHWATER FISHES OF TEXAS – Bulletin #5-A

Full-color illustrations of most of the fish caught in Texas' inland waters; includes information on life histories, range, characteristics and importance. Price – 60¢ plus 3¢ tax.

THE MAMMALS OF TEXAS – Bulletin #41
Comprehensive descriptions of the characteristics and habitat for each Texas mammal; includes range maps and black and white photographs. Price – \$1.07 plus 5¢ tax.

FOOD AND GAME FISHES OF THE TEXAS COAST – Bulletin #33

Black and white illustrations of fishes commonly caught in Texas' coastal waters; includes information on range, appearance and habits. Price – 55¢ plus 3¢ tax.

POISONOUS SNAKES OF TEXAS AND

FIRST AID TREATMENT OF THEIR BITES – Bulletin #31

Full-color photographs of each of the poisonous snakes of Texas; includes descriptions of habitat and characteristics, plus first-aid treatment for bite victims. Price – 60¢ plus 3¢ tax.

CATFISH AND HOW TO KNOW THEM – Bulletin #39

How to recognize catfish; includes their characteristics and information on where to find them. Price – 30¢ plus 2¢ tax.

Management Bulletins

Technical publications of specialized interest for advanced students and landowners to assist them in scientific projects.

QUAIL MANAGEMENT HANDBOOK FOR EAST TEXAS – Bulletin #34

Requirements for quail production in East Texas. Price – 50¢ plus 3¢ tax.

QUAIL MANAGEMENT HANDBOOK FOR WEST TEXAS ROLLING PLAINS – Bulletin #48

Comprehensive study of quail management in West Texas; includes information on the quail's needs, hazards and population structures. Price – 35¢ plus 2¢ tax.

TEXOTICS – Bulletin #49

Presentation of exotic game animals in Texas; includes their legal, ecological and

economic importance. Price – 35¢ plus 2¢ tax.

WATERFOWL HABITAT MANAGEMENT IN TEXAS – Bulletin #47

Information for maximum waterfowl production. Price – 77¢ plus 4¢ tax.

GRAY SQUIRREL IN TEXAS – Bulletin #42

Fundamental needs for encouraging gray squirrel, with special emphasis on East Texas populations. Price – 45¢ plus 2¢ tax.

TEXAS DEER-HERD MANAGEMENT PROBLEMS AND PRINCIPALS – Bulletin #44

Requirements for production of healthy deer herds in Texas. Price – 55¢ plus 3¢ tax.

BRUSH CONTROL ON THE RIO GRANDE PLAIN – Bulletin #46

Brush control methods in the Rio Grande Plain and their impact on wildlife management. Price – 35¢ plus 2¢ tax.

THE SHRIMP FISHERY – Bulletin #50

Introduction to the biology of commercial species of Texas shrimp. Price – 55¢ plus 3¢ tax.

THE CRABS OF TEXAS – Bulletin #43

Introduction to the biology of Texas crabs. Price – 50¢ plus 3¢ tax.

TEXAS OYSTER FISHERY – Bulletin #40

Introduction to the biology of Texas oysters. Price – 45¢ plus 2¢ tax.

THE TEXAS MENHADEN FISHERY – #45-A

Introduction to the biology of Texas menhaden. Price – 50¢ plus 3¢ tax.

PHOTO AND ART CREDITS

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Inside Front—Martin T. Fufer; Nikon-F, 400mm; Kodachrome X.

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Page 4 (top)—Fulfer; Nikon-F, 50mm; Kodachrome X. (bottom)—Jim Whitcomb; Nikon-F, 400mm; Kodachrome X.

Page 5—Fulfer; Nikon-F, 50mm; Kodachrome X.

Pages 6-8—James Kroll; technical information not available.

Page 12-13—Leroy Williamson; Nikon-F, 300mm; Ektachrome.

Page 13 (top)—Reaves; Nikon-F, 400mm; Kodachrome II. (bottom)—Rex Schmidt; Bureau of Sports Fisheries and Wildlife.

Pages 14-15—Reagan Bradshaw; Nikon-F, 500mm; Kodachrome X.

Pages 14-15 (bottom left to right)—Luther Goldman; Bureau of Sport Fisheries and Wildlife.—Bradshaw; Nikon-F 500mm; Kodachrome X.—Jim Whitcomb; 400mm; Kodachrome X.

Page 15 (top right)—Bradshaw; Nikon-F, 300mm; Ektachrome.

Page 16 (top to bottom)—Whitcomb; Nikon-F, 400mm; Kodachrome X.—Williamson; Nikon-F, 300mm; Ektacolor CPS.—Reaves; Nikon-F, 400mm; Kodachrome II.—Bradshaw; Hasselblad 500C, 250mm; Ektachrome.

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Pages 24-25—Illustrations by Annette Morris Neel.

Inside Back—Henry Compton; colored ink, pencil and gouache on illustration board.

Back Cover—Fulfer; Nikon-F, 400mm; Kodachrome X.

LONG SHOTS SHORT CASTS

compiled by Neal Cook

Public Nuisances: A Cleveland, Ohio metal plating company has been stopped from polluting a river with some 40,000 gallons of cyanide and chromic acid daily. The law under which they were stopped is over 100 years old and had been passed to stop public nuisances.

Tax on Trash: In the last few hours of the 1972 Vermont congressional session, lawmakers passed a bill which places a tax of 0.4 cents on all malt beverages and soft drink bottles and cans. The proceeds from this tax will go for construction of land fills and recycling plants.

Using Deer Calls: Texas law states that any person who at any time of the year in hunting deer uses a deer-call, whistle, decoy, call pipe, reed, or other device, mechanical or natural, for the purpose of calling or attracting any deer, except by rattling deer horns, shall be fined not less than one hundred nor more than five hundred dollars, or be imprisoned in jail not less than 20 nor more than 90 days or both.

Wolves vs. the U.S. Army: The Army has cancelled contract negotiations for the purchase of fur from 25,000 wolves for use on flight jackets. The move saved not only an estimated one-half of the total wolf population of the U.S. but also about \$1 million. Synthetic material will cost that much less than the real furs.

Protect Your Firearms: To defeat burglars and recover stolen firearms, list all guns by serial number and keep at least two copies of the list. Police collect many stolen firearms, but the owner has to make positive identification before the firearms will be returned.

Shoot with Both Eyes: Keep both eyes open when shotgunning. This affords binocular vision and depth of focus. The master eye will always take over aiming but the other eye fills in details and eases the task of finding the target.

Assure the Race: A 12-pound striped bass may lay 2,000,000 eggs. If two or three of these survive to become adults, the species is assured continuation.

YOU'RE THE SOLUTION
TO WATER POLLUTION

TWO TO TEN

Know your ducks,
and the choice is yours

by Neal Cook



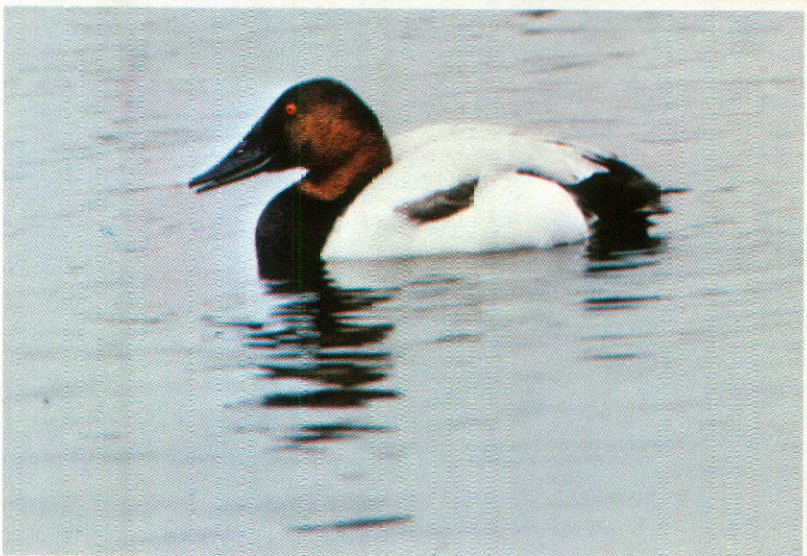
Mallards by Leroy Williamson



Green-winged teal and shovelers by Bill Reaves



Redheads by Rex Schmidt



Canvasback by Lutrer Coldma



Mottled ducks by Reagan Bradshaw

Black duck by Reagan Bradshaw



Wood duck by Reagan Bradshaw



If you can't identify all of the birds shown in this story, you had better do some birdwatching before duck season opens.

With the point system being used for regulating the numbers of ducks to be shot and the closed seasons on some of the endangered species, waterfowl hunters must be able to identify all of the major species before setting a decoy, blowing a call or pulling a trigger.

The point system gives the hunter 100 points per day as a limit, and the various species count from 10 to 90 points. Unlike last year, there are no 100-point ducks. The season is closed on canvasbacks and red-heads along with the black-bellied and fulvous tree ducks. The 90-point ducks are mallard hens, wood ducks, hooded mergansers and New Mexican ducks. Ducks counting 20 points include black ducks, mallard drakes, mottled ducks, pintail hens and ring-necked ducks. All other open duck species count as 10 points.

When the points for the last bird of the day added to the points of the other birds reaches or exceeds 100 points, the daily bag is filled. The hunter who knows how to identify the 10- and 20-point birds will be able to shoot more birds than the hunter who kills a 90 point bird first, thus limiting his bag to only one more duck. Being able to identify the birds has another advantage — the hunter can tell the difference between the tasty, acorn-fed mallard and the fishy-tasting, fish-eating merganser.

Many good identification guides are available from your local book store such as Roger Tory Peterson's



Female gadwall (above) and blue-winged teal by Jim Whitcomb

A Field Guide to the Birds of Texas and Francis H. Kortright's *The Ducks, Geese, and Swans of North America. Ducks at a Distance* is available from the Superintendent of Documents, U. S. Government Printing Office, Washington D.C. for 25 cents a copy.

When trying to learn the ducks, differences in habitat, flock action, color, shape and voice can all be taken into consideration.

Puddle ducks include the mallard, mottled duck, gadwall, pintail, teal, shoveler, baldpate (widgeon) and wood duck. They are birds of fresh, shallow marshes and rivers rather than large bays and lakes. They can dive for their food, but usually feed by dabbling or tipping over rather than submerging. Their colored wing patches are normally more iridescent and brighter than the diving ducks'. Puddle ducks launch themselves directly into the air whether rising from land or water. Diving ducks run along the water before flying.

Puddle ducks eat primarily vegetation including grain and acorns as well as aquatic vegetation.

Some of the diving ducks are the redhead, ring-necked, canvasback, scaups, goldeneyes and bufflehead. They are generally found in deeper bodies of water. Their wing patches are not as bright as those of puddle ducks, but are still important identification marks.

These ducks generally have short tails, and their large feet, which may be used as rudders in flight, are often visible on the flying birds. They feed underwater, often diving down into relatively deep water to eat mollusks, fish and aquatic plants. When the birds are in danger they use their ability to swim underwater to escape.

Since the diving ducks' wings are small in proportion to the size and weight of their bodies, their wing-beat is more rapid than puddle ducks.

Learning to quickly identify all of the species of ducks may seem an almost impossible task, but by using the available publications and by spending time watching the birds, anyone can learn to spot distinguishing characteristics. **

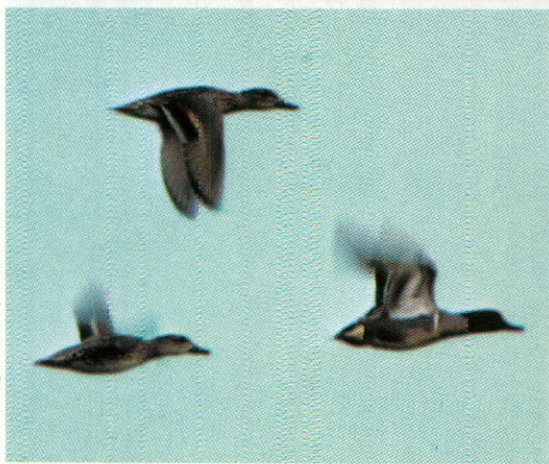
Widgeon by Leroy Williamson



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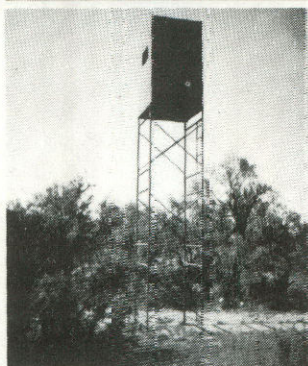


Fulvous tree duck by Reagan Bradshaw

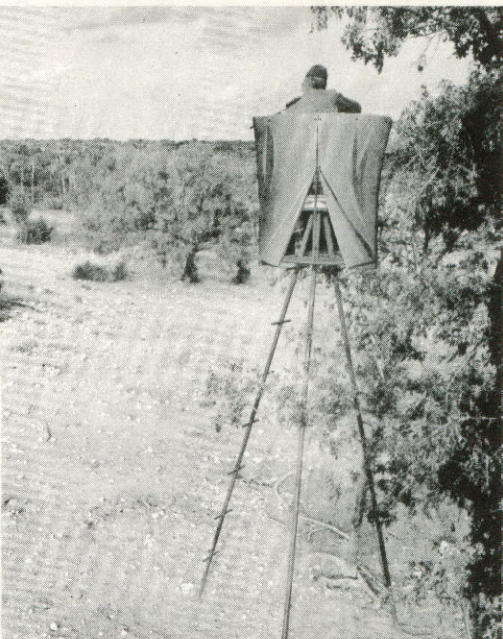
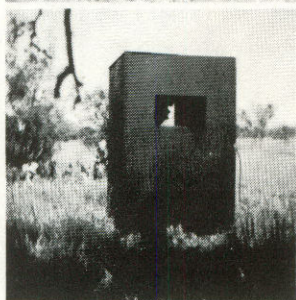




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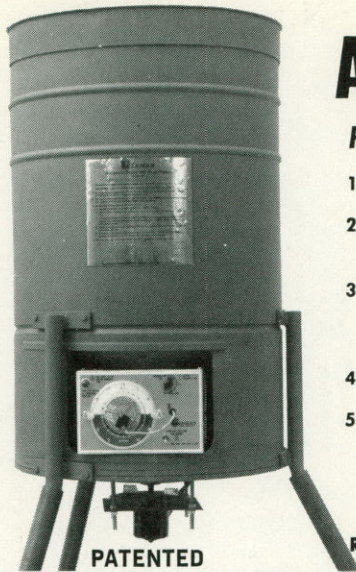
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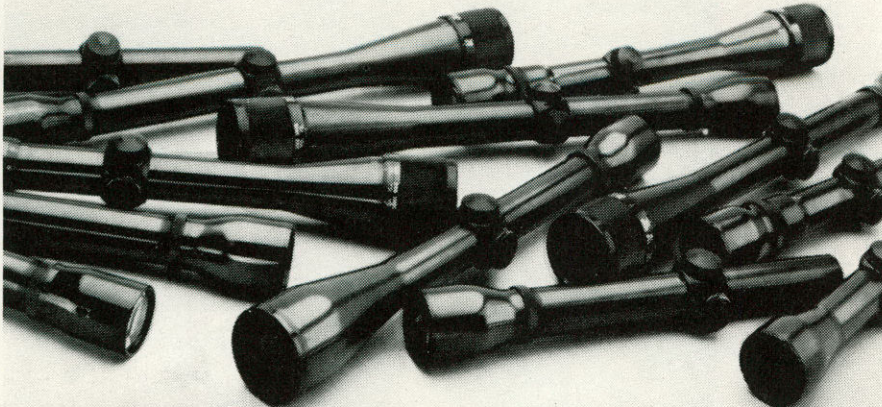
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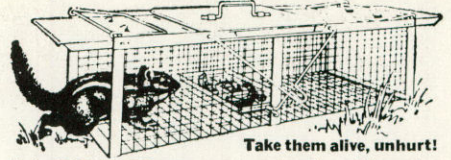
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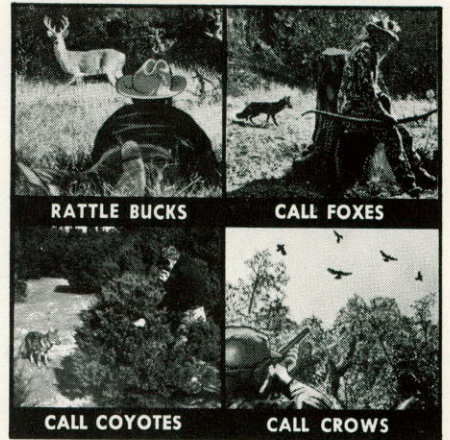
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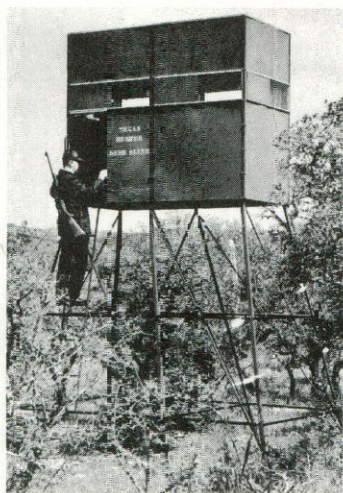
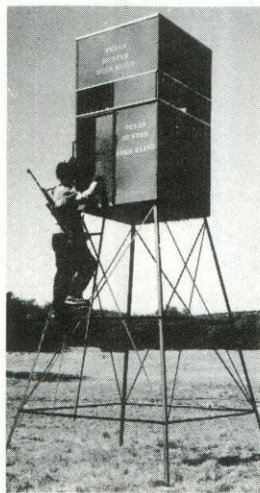
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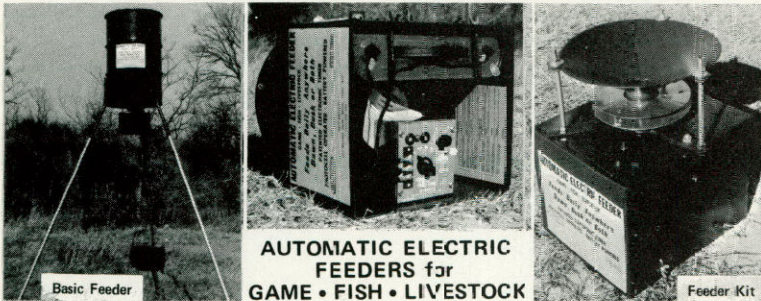
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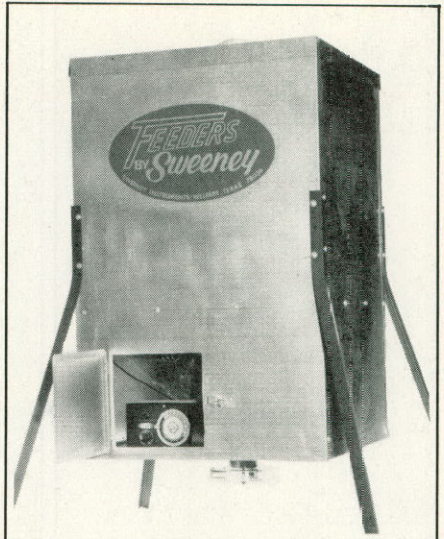
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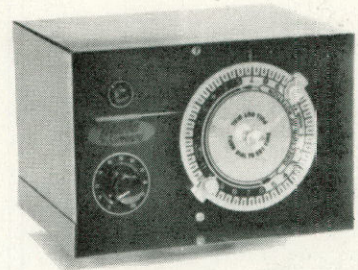
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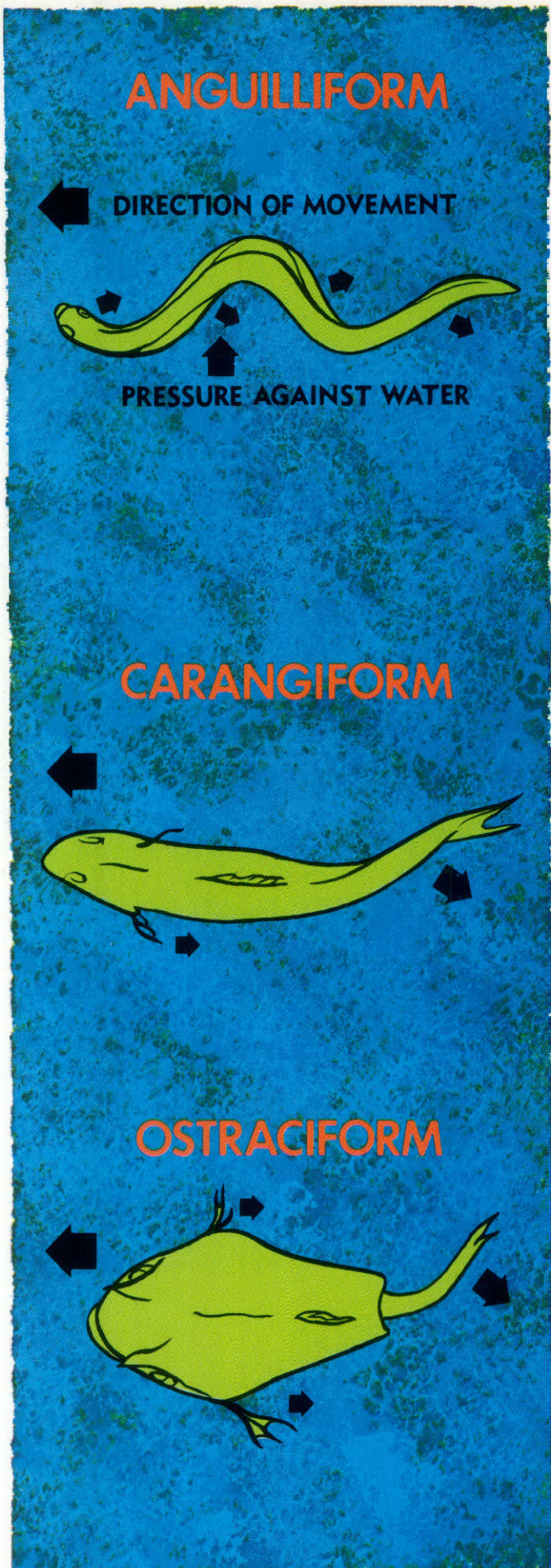
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Young Naturalist

The Way Fishes Swim

by Ilo Hiller



No one will dispute the fact that fish are excellent swimmers. Since they have been using this means of locomotion for a half billion years or so, they should be.

However, all fish do not swim alike. Some rely heavily on back and forth movements of the tail or body while others rely primarily on fin movements.

Swimming methods can be divided into three major divisions which are based on the flexibility and use of the fish's tail: anguilliform, after the eel (*Anguillidae*) which is almost all tail; carangiform, after the jackfish (*Carangidae*) which has a strong, well-formed tail and tail fin; and ostraciform, after the trunkfish (*Ostraciontidae*) which can only wag a flexible tail fin behind a blocky, inflexible body.

In the anguilliform method of swimming, forward motion results as the fish tightens alternate muscles causing the body to bend from side to side. (Snakes use this same method to travel on land.) The whole body is like a tail being wagged back and forth along its length. This continuous movement causes alternate pressures against the water and provides the thrust to move the fish forward.

The fastest, most efficient swimmers use the carangiform method. They move their long tails from side to side and forward motion is caused by the backward thrust of the tail against the water after a sideward sweep. The head is held stiff during the tail sweep to keep the fish straight, and the fins are used for steering and braking.

Since the bodies of the fish using the ostraciform method of swimming are more rigid, the flexible caudal (tail) fin must move back and forth in a paddlelike motion to move the fish forward. Some species of these slower swimmers use their pectoral (side) fins in a paddling or rowing motion and reserve their tail-power for quick bursts of speed.

Since the shapes of the different fishes of the world are so varied, the divisions may blend together a bit in some species but remain quite distinct in others. Regardless of the method of swimming used by any particular fish, it is still more efficient than man's. **

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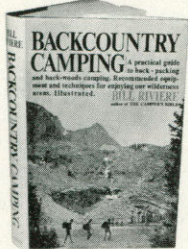
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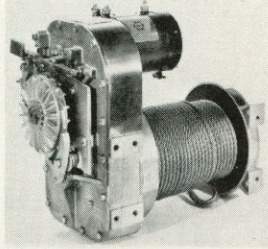
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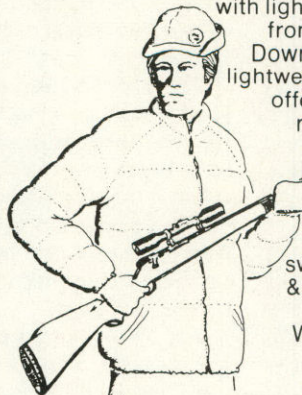
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by Terrie Whitehead

Texas has more than one and one-half million acres available to hunters free of charge—a little more land than the size of Delaware and District of Columbia combined.

Various government agencies and private landowners in compliance with state and federal laws open this land to hunters with valid licenses.

Most agencies have printed maps indicating boundaries and specific information for the hunter's convenience. Sportsmen are advised to contact the agencies for location, type of game available and any restrictions on hunting.

In wooded areas, boundaries are not marked by fences. Instead, trees are marked with red or white paint, depending on the owner. The Corps of Engineers has placed small monuments at various intervals to mark its boundaries. The hunter should be alert and not stray onto adjacent property.

Although hunting on National Forest land is free, a non-commercial vehicle permit of \$1 per day must be purchased.

The Corps of Engineers restricts hunting to the use of bow and arrow or a shotgun loaded with shot. The hunter must also obtain a permit to construct a duck blind on the water and pay a \$25 deposit.

At Ft. Hood, the number of public permits is controlled. Reservations must be made in advance and the hunter is required to join the Rod and

Gun Club. Public drawings are held each hunting day to fill the vacancies caused by canceled reservations. In the past most people that go on "stand-by" have been able to hunt.

Ft. Bliss does not allow deer hunting although dove, quail and rabbit hunting is permitted. The sportsman must obtain a permit from the Provost Marshall prior to hunting.

Sportsmen are urged to use extra caution while hunting on unfamiliar land because other hunters will be out at the same time. To prevent accidents, it would be wise to wear fluorescent orange vests and caps.

Also, the hunter should pay close attention to his location and be watchful for residential areas or houses. Most of the agencies prohibit hunting within 200 yards of the land and water boundaries.

The order of the day is "leave only your tracks behind." To insure clean hunting land for the following year and to show appreciation for the property, leave a tidy area.

The sportsman is not guaranteed a bag. In fact, the nimrod could find himself being led on a "wild goose chase" for game.

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ph. 817 939-2461
7,000 acres available.

NATIONAL FOREST LANDS

658,000 acres total

Game hunted on all national forest lands: squirrel, deer, rabbit, dove, ducks and quail.

DISTRICT RANGER

P.O. Box 756
1907 Atkinson Dr.
Lufkin, Tex. 75901
ph. 713 634-7111

DISTRICT RANGER

P.O. Box 817
Cleveland, Tex. 77327
ph. 713 492-3563

DISTRICT RANGER

Buttry Bldg.
701-A S. 4th St.
Crockett, Tex. 75835
ph. 713 544-2562

DISTRICT RANGER

P.O. Box 393
New Waverly, Tex. 77358
ph. 713 344-6205

DISTRICT RANGER

Sparks Bldg.
101 S. Bolivar
San Augustine, Tex. 75972
ph. 713 275-2632

DISTRICT RANGER

Rice Bldg.
P.O. Box 428
Groveton, Tex. 75845
ph. 713 642-3591

DISTRICT RANGER

Toole Bldg.
P.O. Box F
Hemphill, Tex. 75948
ph. 713 787-3870

RITA BLANCA NATIONAL GRASSLAND

U.S. Forest Service
Don Bilbrey
P.O. Box 38
Texline, Tex. 79087
ph. 806 362-3712
78,290 acres available.

BLACK KETTLE NATIONAL GRASSLAND

(Lake Marvin near Canadian, Tex.)
P.O. Box 266
Cheyenne, Okla. 73628
ph. 405 497-2943
38,052 acres available.

LAKE FANNIN, DAVY CROCKETT LAKE AND LADONIA

John Courtenay
Forest Supervisor
National Forests in Texas
P.O. Box 969
Lufkin, Tex. 75901
ph. 713 632-4446

NATIONAL WILDLIFE REFUGES

53,265 acres.

LAGUNA ATASCOSA

Jerry D. French
Refuge manager
San Benito, Tex. 78586
ph. 713 423-8328
Game hunted: deer only on weekends during October with bow and arrow.
19,240 acres available.

ARANSAS

Refuge Manager
Aransas Pass, Tex. 78336
Game hunted: one deer (either sex), javelina and wild hog with bow and arrow only during special archery season.
32,000 acres available.

BRAZORIA

Rattlesnake Island
Raymond J. Fleetwood
P.O. Box 476
Angleton, Tex. 77515
ph. 713 849-6062
Game hunted: ducks, geese and coots.
2,025 acres available.

RECREATION AREAS

Approximately 39, 500 acres

AMISTAD RECREATION AREA

Coleman Newman
P.O. Box 1463
Del Rio, Tex. 78840
ph. 512 775-5971
Game hunted: dove, quail, waterfowl and deer by bow and arrow.
4,500 acres available.

SANFORD RECREATION AREA

Superintendent
P.O. Box 325
Sanford, Tex. 79078
ph. 806 865-3322
Game hunted: mule and white-tailed deer, quail, turkey and doves.
25,000 acres hunting land.
Game hunted: assorted waterfowl.
7 to 10,000 acres by water.

ARMY POSTS

248,920 acres available.

FISH AND WILDLIFE CONSERVATION ACTIVITIES

Ft. Hood, Tex. 76544
Controlled public access.
Must pay membership to join Rod and Gun Club.
199,000 acres available.

FT. BLISS

Provost Marshal
Ft. Bliss, Tex. 79906
ph. 915 568-4505
Game hunted: dove, quail and rabbit.
Must obtain a permit.
49,920 acres available.

HAPPY HUNTING!

HUNTING ON DEPARTMENT MANAGEMENT AREAS

by Terrie Whitehead

Attention Hunters: If you are interested in some fine hunting while at the same time helping in game research and management, you should make application for a public hunt sponsored by the Texas Parks and Wildlife Department.

Ten hunting areas are available with a wide variety of game, such as ducks, turkey, quail, mourning dove, deer, javelina and squirrel. The hunter can choose an area to suit his hunting preferences.

The purpose of the hunts is to aid wildlife research and demonstrate correct management practices to landowners. Management techniques often produce excess numbers of wildlife species which can be reduced by these hunts. More than 330,000 acres of land tracts are designated in these management areas.

The first public hunt was conducted on the Kerr Wildlife Management Area in 1954. Out of 75 names drawn, 70 hunters scored 37 bucks. The following year hunts were held on three more areas. With 885 permits issued, 583 hunters reported 198 kills.

In 1971, the Kerr Wildlife Management Area hunt provided 715 permits. Of 563 hunters reporting, 23.98 percent were successful in killing 71 antlered

and 64 antlerless deer.

Since the state is not trying to compete with private landowners or conduct shooting preserves, the ratio of permits is proportionate to the number of animals which need to be harvested for proper game management.

Hunter luxuries are not permitted. No transportation is allowed on the area except in emergencies. No deer blinds are set up. Even if a deer is killed in mountainous terrain filled with low underbrush, the hunter is responsible for bringing out the deer by himself.

Hunter safety and accident prevention are of utmost importance. Deer hunters are restricted to designated areas and advised to wear bright clothing.

Applications are essential because there are some 30,000 interested hunters each year. Winners are determined by a public drawing. To obtain an application, write Texas Parks and Wildlife Department, John H. Reagan Building, Austin, Texas 78701. These forms must be returned by October 23 and the drawings will be held October 26.

Applicants from 12 to 17 years old must apply as a member of a party and be accompanied while hunting by a person 21 years of age or older. At no time is the minor allowed to hunt alone. Improper supervision will result in loss of permits for both sponsor and minor.

Other requirements include a valid hunting license for big game or for smaller game if hunting outside county residence. All waterfowl hunters must have a valid federal waterfowl stamp. Social security numbers must be mailed with application for proof of identification at the hunt.

For hunting squirrel, duck, teal and mourning dove, application is more simple. The hunter need only report to the area of his choice on the dates of the hunts.

One person may submit only one application, but he may apply for as many as four persons in his hunting party. In the event that a person should submit more than one form or have his name as a member of more than one party, the first application will be processed and his name deleted on all others. Each application is carefully screened to make sure that there is only one application for deer and one for quail.

House Bill Number 130, Section 3, states that no one may attend a public hunt for two consecutive years unless all applicants from the preceding year that did not receive a permit have received a special permit. **

Area Name	Location	Size	Game	Number of Permits	Method of Application	Dates of Hunts	1971 Hunter Success
GENE HOWE	6 miles east of Canadian in Hemphill County	5,821 acres	Deer & Turkey	30	Public Drawing	Nov. 18-19, 25-26 Dec. 2-3	25.93 percent 2 killed
			Quail	128	Public Drawing	Nov. 1-12 Dec. 9-10, 16-17 Jan. 6-7	7.14 per hunter
KERR	28 miles west of Kerrville in Kerr county	6,493 acres	Deer	500	Public Drawing	Nov. 18-29 Dec. 4-15	25.98 percent
MATADOR	11 miles north of Paducah in Cottle County	28,133 acres	Quail	770	Public Drawing	Nov. 4-5, 11-12, 18-19 Dec. 2-3, 9-10, 16-17 Jan. 6-7	1.50 per hunter
			Dove	no restrictions	Check in at area headquarters	Sept. 1-24	
BLACK GAP Black Gap Unit	55 miles south of Marathon in Brewster County	101,000 acres	Quail	50 per day	Check in at area headquarters	Nov. 15-22	
Sierra Diablo Unit	32 miles northwest of Van Horn in Culberson County	7,751 acres	Mule Buck	32	Public Drawing	Nov. 25-Dec. 2	22.22 percent
STEPHEN F. AUSTIN	10 miles southwest of Nacogdoches on Highway 259	3,000 acres	Squirrel	no restrictions	Check in at area headquarters	Oct. 19-21 Dec. 14-16	.86 per hunter
			Deer	100		Dec. 1-9	9.20 percent
ENGELING	20 miles northwest of Palestine on Highway 287 in Anderson County	10,941 acres	Deer	600	Public Drawing	Nov. 3-27 Dec. 8-17	51.12 percent
			Squirrel	no restrictions	Check in at area headquarters	Oct. 23-28 May 14-19	1.34 per hunter
MURPHREE	Adjacent to southwest city limits of Port Arthur	8,407 acres	Waterfowl	no restrictions	Check in at area headquarters	29 — half-day-hunts	3.0 per hunter
CHAPARRAL	8 miles west of Artesia Wells on Highway 133 in Dimmit and La Salle Counties	15,200 acres	Deer & Javelina	200	Public Drawing	Nov. 25-26 Dec. 9-10, 16-17, 30-31	49.09 percent 13 killed
			Quail	no restrictions	Check in at area headquarters	Nov. 18-19 Dec. 2-3, 6-7 Jan. 27-28	3.80 per hunter
			Mourning Dove	no restrictions	Check in at area headquarters	Oct. 14-29 Jan. 13-21	3.94 per hunter
			Special Javelina Hunt	200	Public Drawing	Feb. 3-4, 10-11	28.81 percent
PAT MAYSE	9 miles north of Paris	8,317 acres	Deer	65 per day	Check in at area headquarters	Nov. 3-30	
			Squirrel	no restrictions	none	Oct. 1-Dec. 31 May 1-31	
			Quail	no restrictions	none	Dec. 1-Feb. 15	
			Dove	no restrictions	none	Sept. 1-Oct. 14 Jan. 6-21	
			Waterfowl Ducks	no restrictions	none	Nov. 4-26 Dec. 9-Jan. 24	
			Geese	no restrictions	none	Nov. 4-28 Dec. 9-Jan. 24	



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” decal 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**

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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.)

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*In season

How To: Age Deer

by Rodney G. Marburger and
Jack Ward Thomas, Wildlife Biologists
and B. D. Loving, Wildlife Technician

Federal aid project W-62-R.

Curiosity got the better of one of a group of hunters, as the biologist slipped a well-constructed piece of steel inside the mouth of the biggest deer that had been bagged that day. To his question: "What are you doing?" he got the reply: "I'm aging the deer by checking its teeth."

The biologist was making a routine check of deer camps, gathering deer weights and measurements. This is a yearly procedure, to furnish trend information and lend insight into the potential of deer herds.

The verdict on this particular deer—that it was three and a half years old—brought a bombardment of excited protests. It was a magnificent animal that dressed 136 pounds, and had 12 points with an 18-inch spread. Stories of this "old mossback" had flowed freely, with the consensus being that such an animal as this must have been around for at least 10 years.

When the biologist could at last make himself heard, he explained how and why a deer is aged, and why he judged this prized "old granddaddy" to be a mere three and a half years old.

As deer herds over the state began to increase and the range was depleted, it became obvious that more knowledge was needed about the deer herd in general.

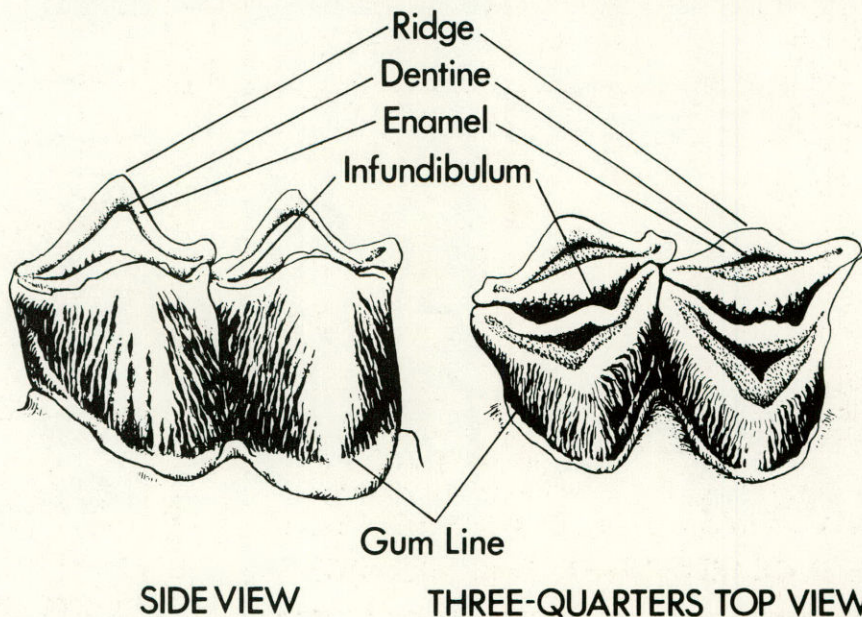
Is it better to kill old deer or young deer? At what age do deer breed better? What is the life expectancy of a deer? All these questions and many more needed to be answered, and a criterion for aging deer had to be established before the questions could be answered effectively.

The method of aging deer employed by biologists in Texas is taken from work done on white-tailed deer in Wisconsin (Dahlberg and Guettinger, 1956), which in turn was abridged from complete description given by Severinghaus in 1949.

In 1954, deer movements were being studied in the Edwards Plateau of Texas in order to establish a home range for white-tailed deer (Thomas, Teer and Walker, 1964). As these deer were trapped and tagged, many fawns were captured and released carrying numbered ear tags. When these fawn deer were collected in later years, they represented known aged deer. Their jawbones were collected, preserved, and compared to the ones described in Wisconsin. All identifying characteristics were the same as those of the white-tailed deer in Wisconsin, which enabled Texas biologists to employ the Wisconsin methods.

Age of a deer is not determined by tooth replacement

GENERAL ANATOMY OF LOWER MOLAR



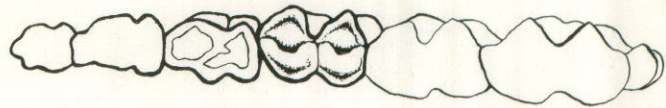


TOP VIEW

1½



SIDE VIEW



2½



as it is in sheep and goats, but by wear on the jaw teeth. As a deer grows older, certain portions of its teeth are worn enough to show definite differences from the teeth of other age classes.

The following explanations are made only as an attempt to inform hunters of possibilities of determining approximate age categories of deer killed. The criteria for determining ages are simplified to be easily used by hunters in the field. Since there are so many other factors not covered here, for determining age classes, this text should not be used for technical purposes.

A deer has only six jaw teeth, although they appear to have many more. The teeth are broken into two distinct categories: the premolars, which are numbered 1, 2, and 3, and the molars, which are numbered 4, 5, and 6.

Deer are aged in fractions because they are born around July and are killed during the hunting season.

1½-year-old: (long yearling): The long yearling deer is the most easily recognized of all age classes. The first

three jaw teeth are milk teeth, which will be replaced around 18 months of age. These are worn smooth as a long yearling, while the last three teeth remain sharp. The number 3 tooth has three cusps in the milk tooth stage, but only two cusps appear on the replaced tooth. Fawns in their first season will show little evidence of wear on their milk teeth.

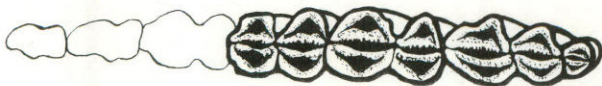
2½-year-old: The first three jaw teeth have been replaced by permanent teeth and all molars are sharp. The dentine of the first molar (tooth 4) is not as wide as the enamel which surrounds it.

3½-year-old: The dentine in the first molar (tooth 4) is now as wide or wider than the enamel which surrounds it, and this is not true of the second molar or tooth 5.

4½-year-old: The dentine of the first and second molars (teeth 4 and 5) is as wide or wider on both teeth, but not in tooth 6.

5½-year-old: The dentine of all molars (teeth 4, 5, and 6) is now as wide or wider than the enamel surrounding it.

6½-year-old: The first molar (tooth 4) is worn smooth,

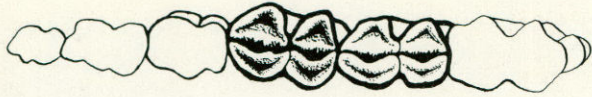


5½



6½

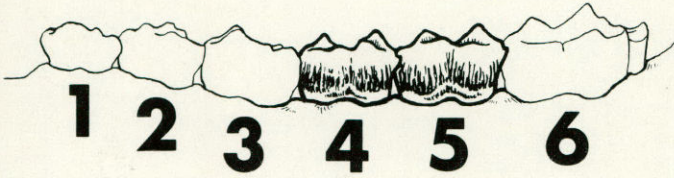




3½



4½



but teeth 5 and 6 are not smooth.

7½-year-old: The first and second molars (teeth 4 and 5) are worn smooth, or tooth 5 may still have a small ridge left.

8½-year-old: All molar teeth are worn smooth (teeth 4, 5, and 6), but tooth 6 may still have a small ridge left.

Older than 8½ years: Unable to determine, because characteristic formations have all been worn smooth.

Trying to adapt this method to deer in the field probably will bring some surprises. Deer that seem young will be old, and deer that seem old will be young. At any rate, using such aging method will make for a better understanding of some of the problems of deer. For example, if all hunters and landowners were to age each deer killed on their ranches, they would find that the "good" bucks killed some years are approximately the same age as the "bad" bucks killed in other years.

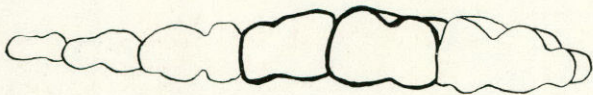
Age is not determined by antler formations or development. The primary factor governing antler formation is food supply and not age. As deer grow older and their teeth wear flatter, food becomes harder and

harder to chew. Body condition will drop and, simultaneously, so will antler development.

The procedure of aging deer by the teeth is just one of many in wildlife management that can prove revealing. As science steps up its quest for knowledge, popular beliefs sometimes become upset in the process. To get at the truth requires careful evaluation of the evidence—and an open mind.

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- Severinghaus, C. W., 1949. Tooth development and wear as criteria of age in white-tailed deer. Jour. Wildl. Mgt. 13(2): 195-216.
- Thomas, J. W., J. G. Teer and E. A. Walker, 1964. Mobility and Home Range of White-tailed deer on the Edwards Plateau in Texas. Jour. Wildl. Mgt. 28(3): 463-472.



7½



8½



LETTERS TO THE EDITOR

Baffle Squirrels

I have found a method to baffle our neighborhood squirrels and keep them off of our bird feeder. I thought it might work for others.

One needs to find two trees about twelve feet apart. Tie a strong rope or chain between the trees at the height that you want your bird feeder. Hang the feeder on the chain or rope about midway and make sure no branches from either tree come close to the feeder.

Joey Brooks
Marshall

Squirrels may soon learn to walk the rope or chain, so it might be a good idea to hang the bird feeder in the middle of a long clothesline made of smooth wire, if possible.

Frustrated

In the November 1968 issue of TEXAS PARKS & WILDLIFE there is an article about giggering flounder. I quote "With its hazards and temptations, floundering can sometimes be a

very frustrating way to fish, but sitting and watching a cork that never gets pulled under can also be frustrating."

I am "frustrated" as to the way you refer to rod and reel fishing for flounder. I fish for flounder on a pier, using a special rig which is nothing more than just a treble hook and a clamp-on weight about a foot and a half above the hook. My only expenses are hooks, weights, and mud minnows, and my baits can live for a long time. As far as excitement, nothing can top it. There's always the suspense of wondering whether it's small, medium or "saddle-blanket" size. I've had small ones fight like a ten pounder, and big ones fight like a minnow. You just never know what will happen when you are flounder fishing. Also it's easy to string up six lunkers in a couple of hours.

Michael J. Lowery
Houston

Antidote?

I read with considerable interest the article "Young Naturalist" in the June

issue of your magazine pertaining to bee stings. I would like to suggest the use of ordinary regular grade gasoline as an antidote for a bee sting or other insect bites.

A few years ago, I was stung by a bumble bee squarely between the eyes. I was far in the woods and couldn't quit the job, so I took my handkerchief and soaked a corner of it in gasoline from a gallon jug that was handy in my pickup. I bent over to protect my eyes and held the gasoline-soaked handkerchief to the bite. The pain left almost immediately and there was no swelling. In ten minutes I was back on the job with no noticeable after effects.

Since that time, gasoline has had the same immediate effect on at least a dozen other persons that I know. Two of these bite victims claimed to be allergic to insect bites and became excited when they were caught without their pills. In every case, relief was obtained immediately and no swelling occurred.

People with sensitive skin must be careful to keep from getting blistered by the gasoline, and everyone must be extremely conscious about staying away from any spark or flame when using gasoline. I fear gasoline more than dynamite.

Palmer H. Olsen
Clifton

Hook Hobby

I enjoyed reading Neal Cook's article "Turn-of-the-Century Tackle" in the August issue of your magazine.

Being an avid fisherman, the thought occurred to me that collecting fish hooks might be an interesting hobby.

Could you by any chance give me any references which would allow me to investigate this matter further? Any help at all would be appreciated.

Thank you.

Carl Rooth
Dallas

Readers, please contact us if you have any information for Mr. Rooth.

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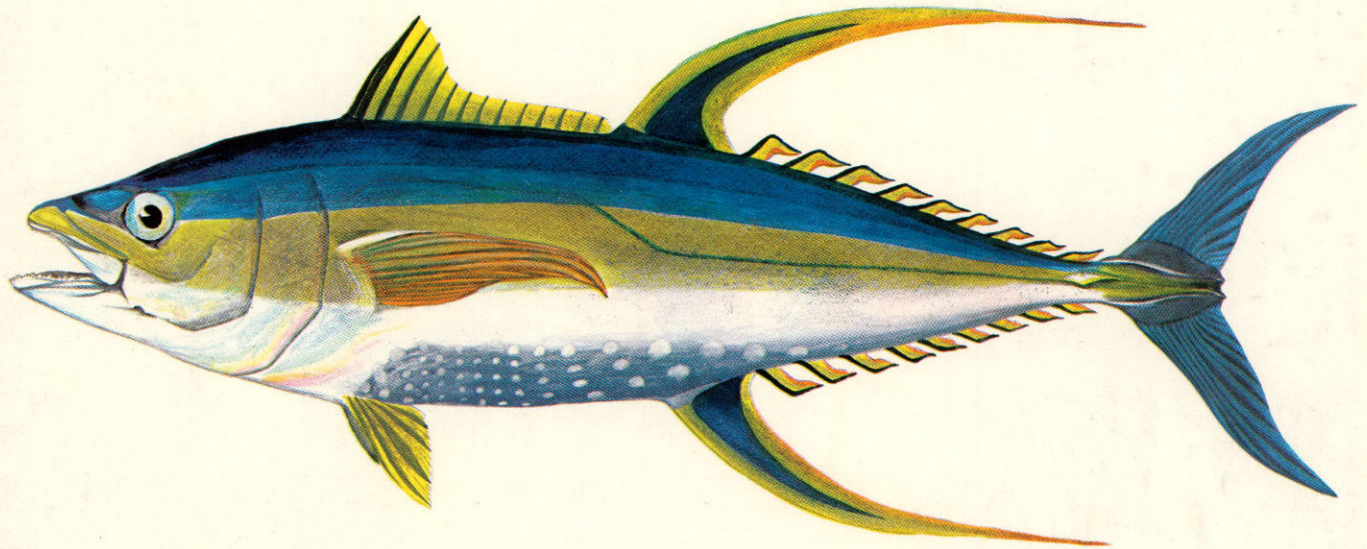
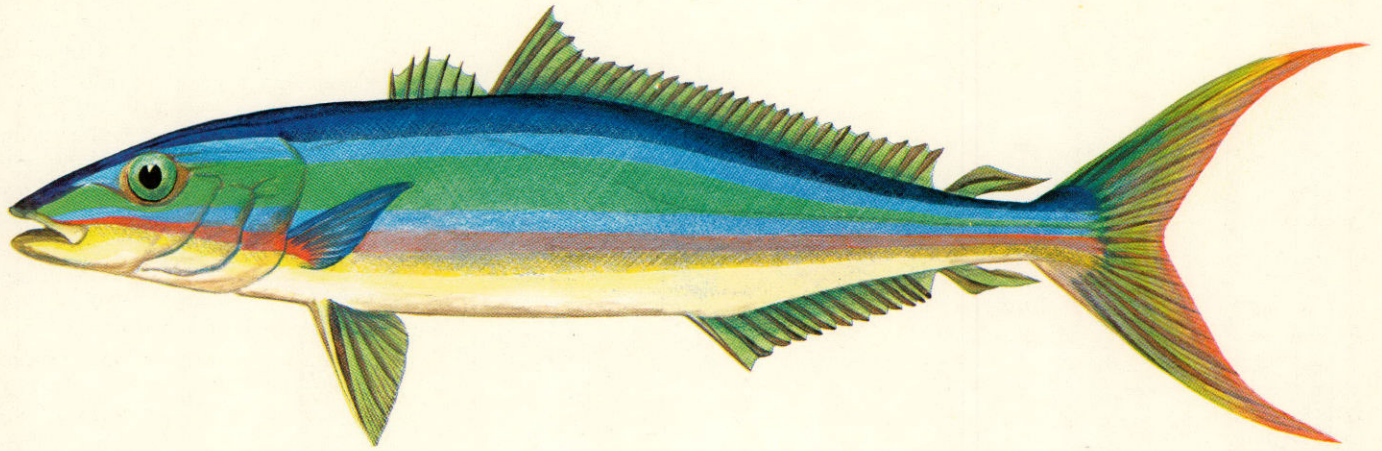
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BACK COVER

A familiar sight in most Texas waters is the slider turtle basking in the sun. Basking serves to raise the body temperature which increases the rate of digestion. It also aids in drying the skin which is thought to kill organisms such as leeches. Photo by Martin T. Fulfer.



TEXAS SALTWATER FISHES

These two unusual inhabitants of the Texas coast, the rainbow runner (top) and the Atlantic yellowfin tuna (bottom), occasionally tug at the end of an angler's line. The rainbow runner is more commonly found in most tropical seas of the world and ranges upwards to 12 pounds. Those that are caught along the Texas coast average one to two pounds but are exceptional fighters.

The Atlantic yellowfin tuna is one of many species of yellowfin tuna and is found in the western Atlantic from the Maryland coast to Port Isabel in Texas. Average fish weigh about 100 pounds with the largest being in excess of 250 pounds. A 115-pound yellowfin caught out of Port Isabel in 1970 has the distinction of being the Texas state record.

Artwork by Henry Compton.

