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**PARKS & WILDLIFE**



October 1973 • 50¢







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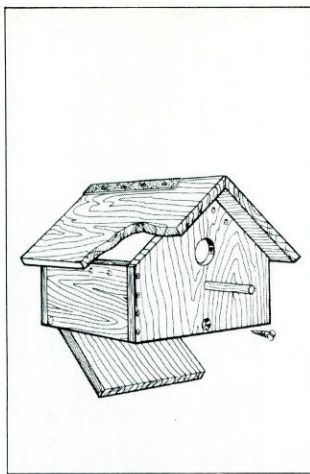
**TEXAS PARKS & WILDLIFE  
magazine**

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

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ED DUTCH . . . . . Associate Editor  
ILO HILLER . . . . . Assistant Editor  
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# TEXAS PARKS & WILDLIFE

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**Front cover:** Since its importation into Texas in the late 1940's, the nutria has increased in numbers until it has become a nuisance. It has excellent reproductive capacity and few natural enemies. Photo by Martin T. Fulfer.

**Inside front:** Most visitors to the Texas coast thrill to antics of the ringed-bill gull as it flies about in search of food. Photo by John Suhrstedt.



Marinas offer...

# Rain or Shine Fishing

Article by Ilo Hiller

Photography by Leroy Williamson

**ARMCHAIR ANGLING** has come a long way since those crude fishing barges of the early 50's which were little more than enclosed platforms floating on a few rusty barrels.

Now, for a small fee, the angler can sit in air-conditioned comfort in the summer or heated luxury in the winter and fill his stringer while enjoying all the conveniences of home. No matter how bad the weather gets outside, conditions are great inside.

If the fisherman needs bait, tackle, food, cold drinks or hot coffee, the modern fishing marina has either around-the-clock attendants to sell these items or vending machines within easy reach. And, if the fisherman's favorite team is playing ball, he can probably watch the game on the marina's television set while waiting for the big ones to bite.

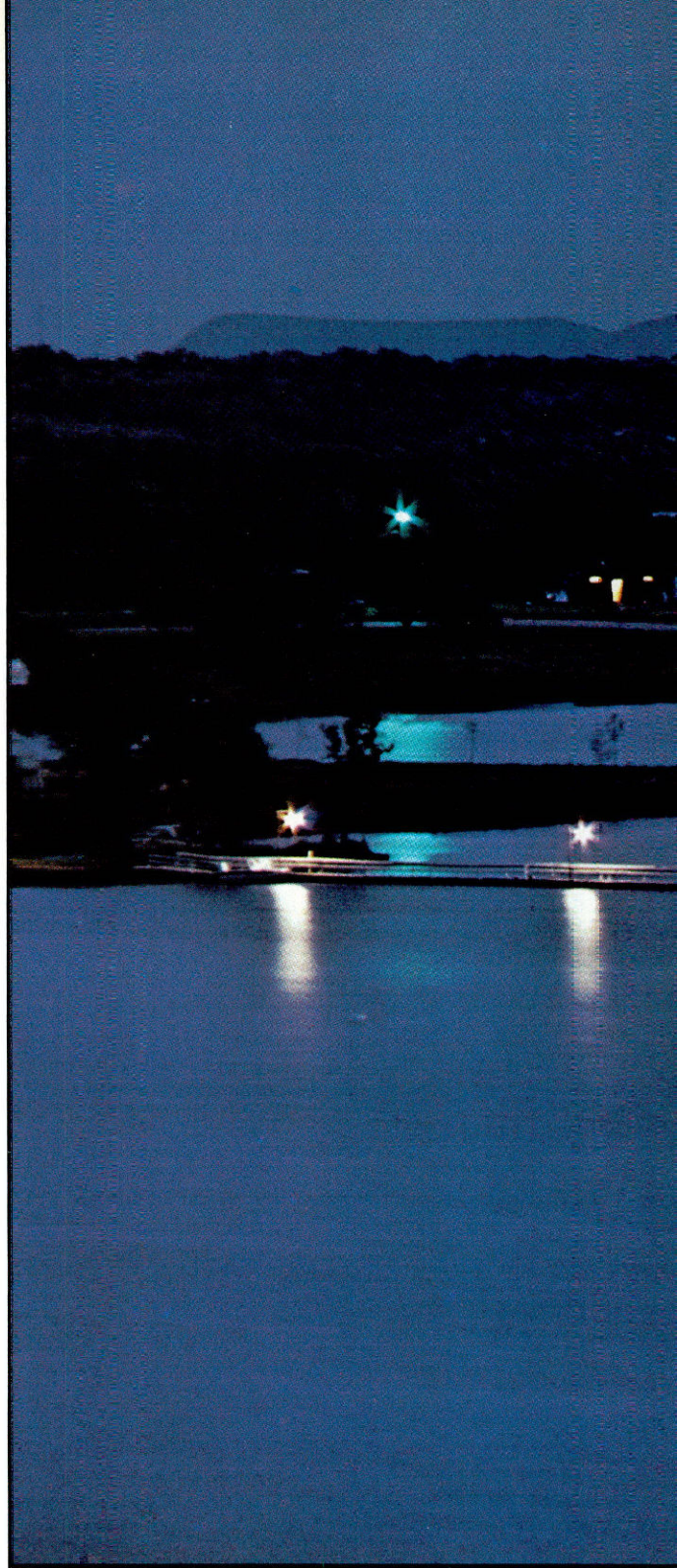
To make sure the big ones are around to bite, most marina operators bait their fishing wells with cottonseed cake, fermented grain, hay, sour mash or a combination of these things. The wise operator makes sure there is no brush or other underwater obstacles in the fishing well to snare tackle. However, brush shelters are sometimes carefully placed around the outside of the fishing area to attract the smaller bait fishes which in turn attract the game fish sought by the angler.

Marina fishing appeals to people for many reasons, but probably the most important one is its availability. Day or night, all year long, no matter what the weather, the facilities are there on almost every lake to be used at the fisherman's convenience.

Another reason for its appeal is the low cost. For a couple of dollars the fisherman can spend all day and night trying to catch his limit, and he doesn't need any fancy, expensive equipment to do it. An ordinary rod and reel or cane pole along with a stringer or wire basket for the catch will do.

Senior citizens, with physical limitations which prevent their launching or loading boats or retirement salaries which do not always stretch to cover the expenses involved in owning and maintaining boats, have found marinas the answer to their needs. Many lonely hours can be converted into pleasurable experiences for these older anglers, and what better place to get together and swap fishing yarns than around a comfortable fishing well.

Fishing success is not guaranteed and may vary greatly with the season, type of bait and skill of the angler, but throughout the year stringers of catfish, crappie, white bass,

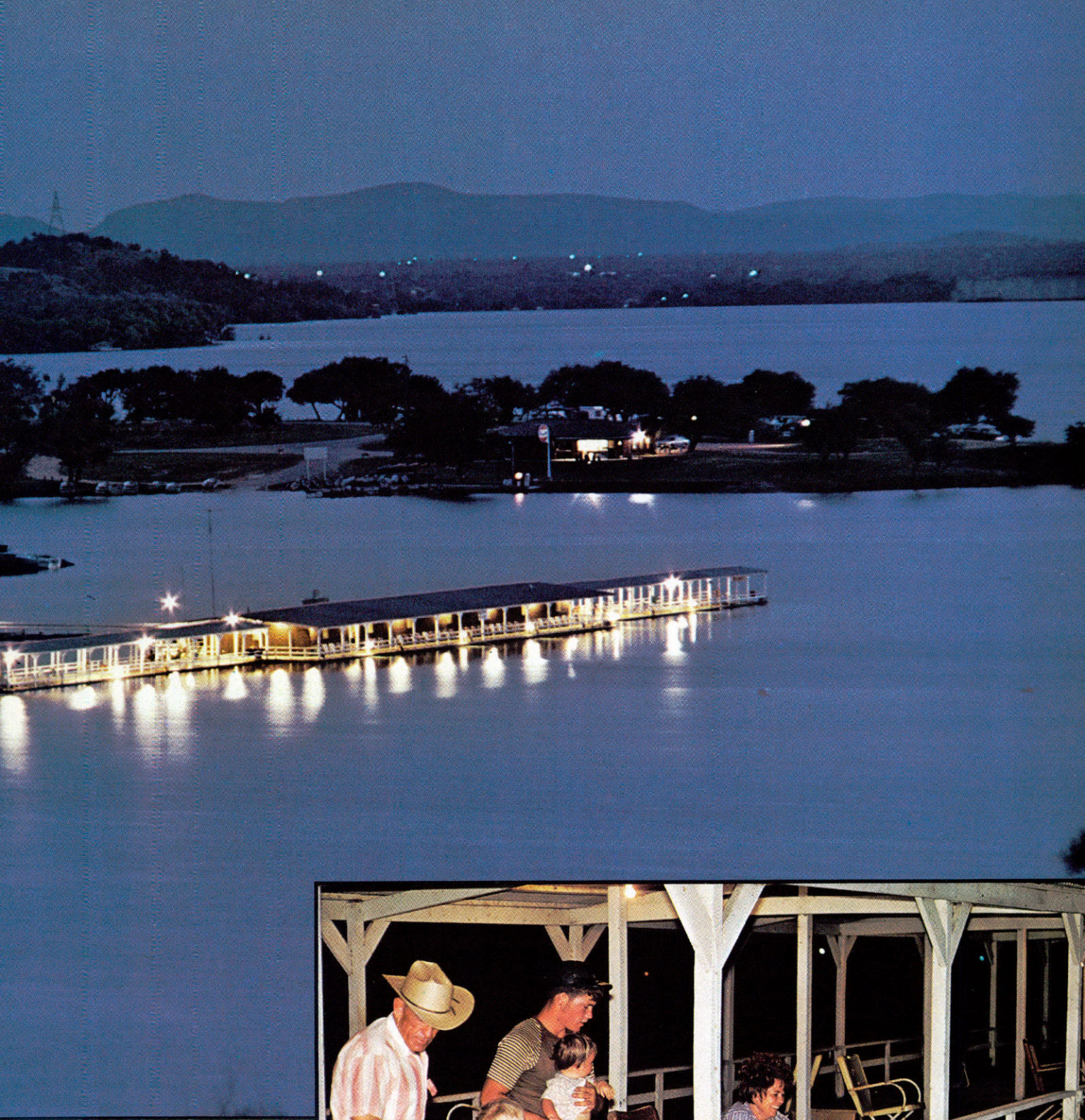


black bass, sunfish and carp are caught from these marinas.

Since carp are easily attracted to the baited wells, carp fishermen, with dough baits concocted from their own secret formulas, are regular visitors to fishing marinas. They know that pound for pound, there's no other freshwater fish that can match the carp's fighting ability; and when properly prepared, the fish is also good to eat. What a shame most anglers consider the carp an undesirable species and miss out on the pleasure of catching these fighters.

Catfish also respond well to the baiting and will bite on blood bait, stink bait, minnows and worms. Sometimes they





*Marinas offer fishing fun for the entire family. For a reasonable fee, fishermen can sit in comfort and enjoy the many facilities that are provided at most marinas. Bait, tackle, food, cold drinks or coffee are usually available as well as a few obliging fish and many fish stories.*



even go for the dough bait intended for carp. The usual size for the marina catfish is three pounds or less, but once in a while a lucky angler will tie into a big one and cause quite a bit of excitement for everyone.

In addition to being baited, the fishing wells are also lighted. These lights, placed just above the water's surface, attract minnows which are soon followed by the larger predator fish. Since the lights may penetrate the water six or eight feet, the fishermen often see bass and crappie as they come in to feed on the minnows.

Perch fishermen are also able to see their quarry swimming around and can drop their hooks, baited with earthworms or mealworms, where they are sure to be hit. Young anglers especially enjoy catching perch in a fishing well because they can watch the fish take the bait and can tell just when to set the hook to catch these little bait stealers.

No matter what type of fish are caught and placed on the stringer, they should be cleaned without too much delay. The well-equipped marina usually has some type of fish-cleaning facility available so the angler can take care of his catch before starting for home. How much nicer it is to arrive at home with an ice chest full of fillets than to have a mess of fish waiting to be cleaned in the kitchen sink.

Give marina fishing a try. It may not be as exciting as easing a boat into a quiet cove and enticing a black bass to hit your favorite lure. But it has its advantages, and it's available rain or shine whenever you get a chance to wet a line. \*\*



Young and old alike can enjoy fishing at marinas since many have enclosed areas that are air-conditioned in the summer and heated in the winter. Regardless of the weather, you can try to catch crappie, carp, catfish, sunfish or bass. Many species of fish are caught because of the baited or brush covered areas under the marinas.







# Evasive Javelina

by Fielding Harwell Wildlife Biologist  
Federal Aid Project W-81-R

**WELL ADAPTED** to the desolate, arid brushlands of the Rio Grande Plains is the elusive collared peccary, *Pecari tajacu*, commonly called javelina.

Its eyesight and hearing appear to be inferior to other big game species, but its preference for dense brush thickets makes stalking this piglike creature a frustrating challenge to the hunter.

Although not normally aggressive toward man, the javelina uses its lightning speed and sharp tusks as weapons when challenged, and a hunter pursuing a

herd of these short-tempered brush animals with poorly-trained hounds inevitably winds up with some severely mauled dogs.

Biologists of the Texas Parks and Wildlife Department have taken a keen interest in the welfare of the collared peccary in South Texas because of the gradual decline in habitat and constant increase in hunting pressure. As a result, a research project was initiated to determine the home range, daily activities and habitat preferences of the animal. The data obtained





assists the department in developing game management techniques, setting seasons and bag limits and establishing habitat management practices.

The first phase of the study involved the trapping and marking of javelinas on two ranches in Jim Wells and Bee counties. Each trapped animal was marked with two numerically coded, colored plastic ear tags and fitted with a leather collar with an attached sheep bell. As each animal was marked, information regarding the date and location of capture, sex and approximate age class was recorded.

Field observations of the marked animals were designated as the second phase of the project. The sheep bells enabled the observers to quickly locate the evasive animals. Once located, they were identified and followed for periods of two to 24 hours. During these observation periods, information concerning habitat and behavior was recorded. These observations were later transferred to permanent record cards and the animals' movements plotted on aerial photo maps. Home range and mobility information was based on 1,333 observations of 66 marked animals.

Biologists used observations of herd movement to determine the average home range for each herd and found that javelina, unlike some other game species,

tend to remain in family groups. Occasionally a male peccary left the herd to join another herd or just wandered around and eventually returned to the original herd.

Average home range area for javelina herds on the study site in Bee County was 311 acres as compared to 548 acres in Jim Wells County. The difference in home range area between the sites is attributed mainly to population densities. Bee County had a javelina population density approximately twice as great as that of the other location, and the larger number of javelinas tended to restrict herd movements because herds are not compatible.

The vegetation type and peccary population on the study site in Jim Wells County is typical of a greater portion of the Rio Grande Plains. Therefore, an average home range of approximately 550 acres would be common for javelina herds over much of the Rio Grande Plains.

Herds of javelinas established definite territories with overlapping edges of about 200 yards, but no herds were observed simultaneously in the area common to both territories.

Male peccaries frequently had a greater range of movement than females. Only seven percent of the females exceeded 1½ miles in linear distance as



Walter Elling

Although javelinas remain in family groups or herds (left) and get along with other animals in the group except for small squabbles (above), there are distinct territorial boundaries between separate herds.





*Trapping, tagging, release and visual observations of these animals provided interesting information.*

opposed to 22 percent of the males.

Daily cruising range was about one-half mile except during a drought period in Jim Wells County when the animals ranged as far as one mile in order to satisfy food requirements. Good range conditions tended to decrease the distance traveled on daily rounds.

Javelinas generally preferred the dense, thorny brush thickets for daytime resting and feeding activities. Bedding grounds were usually located in dense stands of desert hackberry, blackbrush or whitebrush. During the daylight hours they remained in the dense brush and ventured into the semi-open or open pasture land at night. Choice feeding areas were prickly pear flats; however, the animals were observed feeding on a variety of browse plants and forbs.

Secretive javelinas are mostly nocturnal feeders on year-round basis, but there was a definite contrast in the timetable of their feeding activities between the summer and winter seasons.

During the summer months, the animals left their bedding grounds about sunset and began feeding. Their nighttime feeding was interrupted with resting periods. They returned to their bedding grounds before sunrise or shortly after sunrise and were never observed feeding during the hot summer daylight hours.

Although the study animals continued to feed primarily at night during the winter, they were still more active during the daylight hours of winter than in those of summer. Feeding began late in the afternoon and continued throughout the night. They bedded down several hours before sunrise and resumed feeding shortly after daylight. Feeding continued until 10 or 11 a.m. when they returned to their bedding

grounds. The daylight resting period was occasionally interrupted with short feeding excursions.

Daily feeding activity varied from approximately four to six hours in the summer and from 13 to 15 hours in the winter. Good range conditions decreased the length of time the javelinas were active.

Marked animals frequently drank at water holes or stock tanks. However, they also obtained water from succulent plants when surface water was not available.

Biologists were interested to note that various weather conditions appeared to be no deterrent to feeding activities. The marked peccaries were observed feeding both night and day in the winter when there was 100 percent overcast as well as when the sky was clear. They were also observed feeding at night during a full moon, when there was no moonlight and, on one occasion, during a light rain.

Young javelinas were seen at any time of the year, but most were born in late spring or early fall. The young are reddish in color with a dark stripe down the back. The hair begins to turn dark when the animal is two months old. Usually, only about 30 percent of the young will survive the rigors of weather and hunger and the jaws of the coyote and bobcat.

Hunting the javelina is definitely a challenge. The animal's secretive habits make him elusive and sometimes a defiant quarry to stalk.

Since he is as difficult to observe as to hunt, his habits present the wildlife biologists with many problems. As these are solved, more successful management techniques are being developed to insure this native species a place in rapidly changing South Texas. \*\*



# Treat Every Gun As If It Were Loaded — At All Times!



Check every firearm by opening action, looking and feeling inside breech or chamber to make certain it's unloaded. The excuse, "I didn't know it was loaded," is never acceptable.



# OUTDOOR BOOKS

**ROUND RIVER, from the Journals of Aldo Leopold, edited by Luna B. Leopold; Oxford University Press, New York, 1972; 173 pages, \$1.75 in paperback.**

Those who enjoy the writings of Aldo Leopold will be delighted with *Round River*, edited by his son Luna B. Leopold.

In the first few pages, Leopold discusses man and his use of leisure time. He expresses his view that "the man who cannot enjoy his leisure is ignorant, though his degrees exhaust the alphabet, and the man who does enjoy his leisure is to some extent educated, though he has never seen the inside of a school."

He advocates hobbies, but suggests that the selection of one should be as personal and individual as the selection of a wife since the hobby of one man will not necessarily meet the needs of another.

The major portion of the book is a collection of entries from Leopold's daily journals which were made during hunting, fishing and exploring trips. Through these entries, the reader is taken along with Leopold and his companions and given an opportunity to see what hunting and fishing were like in Mexico, Canada and the United States during the 1920's.

Leopold's views on conservation, ecology and the value of wildlife are apparent in his writings and the time spent reading this book will be spent in the company of a true conservationist.

At time of his death, fighting a grass fire in 1948, Leopold was an adviser on conservation to the United Nations.—*Ilo Hiller.*

**OPEN DOOR TO PLANTS by J. H. Standen; William B. Eerdmans Publishing Company, Grand Rapids, Michigan, 1969, 247 pages, \$6.95.**

This book reads somewhat like a high school biology book, but is occasionally spiced with the author's personal experiences and a few interesting notations from history. The book also

becomes technical at times as the author attempts to include chemical bonds and carbon chains in his explanations.

*Open Door to Plants* contains more information than the typical field guide, although the information is not quite so easy to locate. Standen attempts to cross-index his information by using footnotes to refer the reader to other chapters with additional information. At the end of each chapter, the author lists other books for additional reading material on that particular subject.

The last chapter discusses careers and hobbies associated with plants. This chapter primarily consists of definitions of the different fields of plant study such as dendrology (study of trees) and phytopathology (study of the diseases of plants).

The book is illustrated with black and white sketches of many different plants and some plant diseases. A few black and white photographs are utilized, adding a break to the reading.—*Terrie Whitehead*

**ECOCIDE . . . AND THOUGHTS TOWARD SURVIVAL edited by Clifton Fadiman and Jean White; Center for the Study of Democratic Institutions, New York, 1971; 192 pages, \$6.95.**

Another euphemism has been contributed to the English language—ecocide—translated as "the environment being murdered by mankind." As stated in the introduction, "Our entire social order faces an eco-system 'depression' that will make 1929 look like a shower at a garden party."

The subject matter of this book is serious, and is handled in a serious and mature manner by the 13 contributing authors. Unlike many ecology-oriented reading materials in distribution, this book covers each phase of destruction in a logical manner, rather than approaching the problem idealistically. The authors acknowledge that to completely eliminate a specific form of pollution would cause drastic changes in different cultures. Instead they propose

to curb certain levels to make them "tolerable."

Even though the book is two years old, it is not out-dated because the problems still exist. In 1971 these environmentalists warned of the energy crisis and food shortage that we are now experiencing, and they project similar crises for the latter part of the decade. The book is frightening, reiterating some of the same thoughts in Alvin Toffler's *Future Shock*.

One author uses the analogy that man is a guinea pig in an experiment with life. A prime example of this was the extended use of DDT and the repercussions we are still having. Now scientists warn that the air pollution may eventually cover the upper layer of atmosphere, acting as a shield to block out the sun's rays, which could lead to another ice age. Practically every phase of life as we know it has been invaded by some form of pollutant, whether it is water, air and noise pollution or pesticides and soil erosion.

This book is very direct and to the point, expounding on the problems and solutions, causes and effects that must eventually be dealt with. The terminology is not easy, but the result is worthwhile. As might be expected with a multiple-authored book, many of the ideas are redundant. However, this repetition merely serves as a reinforcement on important topics. The book definitely achieves its purpose of informing the reader and making him aware of the pit-falls of the future.—*Terrie Whitehead*

**THE WORLD OF BUTTERFLIES by Michael Dickens and Eric Storey; The Macmillan Company, New York, 1972, 127 pages, \$5.95.**

If you are interested in more than a passing acquaintance with butterflies, *The World of Butterflies* will introduce you on a first name, scientific basis.

The book is actually a field guide with color pictures to identify each species. Such information as the scientific name, common name, wingspan, range, habits and habitat are included with each picture. Only the first 20 pages deal with history, classification, parasites and enemies of butterflies.

In some ways the book is not practical for the average person. The authors include butterflies from all over the world, which may not be of interest to some. The book is informative, but the topic is so restricted that it is only for the "butterfly buff."—*Terrie Whitehead.*



## PHOTO AND ART CREDITS

# LONG SHOTS SHORT CASTS

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compiled by Neal Cook

**Retraction:** This is to retract what was stated in the August issue under the article heading of "Anti-guns—Anti-hunting."

Here is the resolution as adopted by the National YWCA Convention delegates that was not available in its entirety as of the August issue: "We support: Federal legislation providing for the licensing of all gun purchasers, users and owners and the registration of all firearms, including ammunition and all other of their component parts; and the banning for production, assembly, sale and possession of all hand guns not used for such purposes as law enforcement, military and licensed guard use, sport shooting and hunting."

It has also been pointed out that local YWCA associations are autonomous organizations which do not necessarily take the same positions on programs that are adopted at the national level.

**Six-Pound Class:** Anyone who has fished offshore and felt the tremendous strikes of the game fish found in the Gulf will be amazed at some of the new records for fish caught with six-pound line. The International Game Fish Association which keeps the records for saltwater species now has a class for this extremely light line, and as the competition has grown, the number of entrees makes an up-to-date list almost impossible. Here are some present as well as pending applications for world records in the six-pound class: red drum (redfish) 30 lbs. 4 oz.; Pacific sailfish 92 lbs.; king mackerel (kingfish) 44 lbs. 1 oz.; spotted sea trout (speckled trout) 8 lbs. 4 oz.; tarpon 71 lbs. 8 oz.; and black drum 52 lbs. To find out all of the present world records and to keep up to date on saltwater fishing around the world, fishermen may be interested in being members of the International Game Fish Association. A \$10 annual membership will get you the annual listing of all world records, the bimonthly newsletter from the association and several other benefits. The IGFA's address is 3000 E. Las Olas Blvd., Ft. Lauderdale, Fla. 33316.

### Bottle Collectors

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# DUCKS Unlimited

by Ilo Hiller

**DURING** the past few years, Ducks Unlimited has enjoyed a spectacular growth in this state, but there are still many Texans who are either unaware of the organization or have questions concerning its purpose. Perhaps the best way to introduce Ducks Unlimited and explain its function is to go back a few years and discover just when the organization was founded and why.

Following the severe drought of the early 1930's, an American sportsmen's organization called "More Game Birds in America" became quite concerned over the fact that waterfowl popula-

tions were seriously depleted and that some species were close to extinction. They conducted a thorough investigation into the plight of the waterfowl and discovered that up to 65 percent or more of all North American waterfowl were totally dependent upon the breeding areas of western Canada for survival. They also discovered that droughts, flood and intensive drainage and cultivation programs in this area were creating an unstable water supply which in turn was limiting waterfowl production.

As a result of their study, "More

Game Birds in America" realized that immediate action needed to be taken to make these prime breeding grounds drought-resistant before waterfowl in North America became a thing of the past.

When the organization tried to get the governments of Canada and the United States to take action to preserve this waterfowl habitat, they met with difficulties. Canada had no legislation providing for the spending of Canadian tax money on waterfowl habitat improvement and the laws in the United States would not permit public





**Over 2,000,000 acres of Canadian wetlands are managed for waterfowl, but many other birds, fish and mammals benefit from the projects.**

funds to be spent in a foreign country even though the benefits from such expenditures would fall to American hunters. The only solution to the problem was to form a private organization, financed by private funds, which could operate in Canada to restore and protect waterfowl habitat. So, on January 29, 1937, Ducks Unlimited Incorporated was founded.

Since the time of its foundation, Ducks Unlimited has had but one purpose—to raise money for developing, preserving, restoring and maintaining the waterfowl breeding grounds in

Canada. To accomplish this purpose, the organization has utilized several methods for acquiring funds.

One method is membership dues, and approximately one-fourth of its funds come from this source. Anyone interested in waterfowl conservation may join Ducks Unlimited by making a minimum contribution of \$10. For this tax-deductible donation, the member receives a membership card, an automobile decal and a year's subscription to the quarterly Ducks Unlimited magazine. For a contribution of \$20 or more, the member will also receive

special news releases direct from Canada reporting the up-to-date habitat conditions. At the present time there are about 4,000 Texas members.

A special Sponsor Program is available for those individuals who contribute \$200 or more annually. These sponsors receive a special, hand-lettered certificate which is suitable for framing, a special Sponsor automobile decal, a membership card, the magazine, news releases and individual listing in the colorful "Annual Report to Sponsors."

Area fund-raising dinners provide





*Sandhill cranes (above) and beavers (preceding page) utilize the same habitat which is managed primarily for waterfowl by Ducks Unlimited.*

another source of income for the organization. There are 35 active Ducks Unlimited chapters located in Texas, and it is the responsibility of each of these chapters, as well as chapters in other states, to organize annual dinners in their areas to raise money. Tickets for these barbecues, fish fries, wild game dinners or banquets are sold and the proceeds sent to Ducks Unlimited.

The remaining funds come from bequeaths in wills and donations from foundations and state agencies. Although Texas does not earmark any of its state funds for use in Canada, several states do have special funds which are used for this purpose. In fact, a small portion of the Louisiana hunting license fee is actually designated as a donation to Ducks Unlimited.

Total contributions to Ducks Unlimited by Texans during 1972 amounted to almost \$220,000 as compared to the \$4,053,000 total for the entire United States.

Just what does Ducks Unlimited do with all this donated money. The Board of Directors and National Trustees who budget Ducks Unlimited funds require that 80 cents of every dollar received

be spent in Canada to develop and manage the most productive waterfowl habitat available.

Since Ducks Unlimited owns no land and pays no fee for almost 2,000,000 acres of prime wetlands now held by long-term lease (most held in perpetuity), money is used for water control structures to create drought-proof nesting and rearing sites, hundreds of miles of fencing erected to protect nesting areas, the maintenance of fire lanes to prevent devastating marsh fires, aquatic food plantings, waterfowl banding projects and numerous wildfowl research studies.

During the 3½ decades of its existence, Ducks Unlimited spent nearly \$23,000,000 to plan, build and develop over 1,200 water control structures (dams, dikes and levees) to produce well over 1,100 "duck factories," as its projects are called by sportsmen and wildlife officials. These projects range from small, but valuable, units of less than 50 acres to tremendous marshland complexes of over a half million acres.

Ducks Unlimited is justly proud of its accomplishments, but even more ambitious goals have been set for the

future. With your help, Ducks Unlimited hopes to acquire by no-fee lease, another 4½ million acres of Canadian waterfowl habitat.

Waterfowl hunters who enjoy their sport will have no trouble recognizing the need to support Ducks Unlimited to ensure that there will be waterfowl to hunt in the future. But non-hunters should also support the organization because wherever Ducks Unlimited develops, improves or manages a pothole, lake, reservoir or marsh for waterfowl, other game and non-game species also benefit.

Some 251 species of birds, 60 different mammals and 10 species of fish regard these water-marsh developments as home too. Shore birds, marsh birds, field birds, song birds, furbearers, fish and aquatic life as well as big game such as antelope, bear, deer, elk and moose all utilize these Ducks Unlimited projects. Where would this wildlife find suitable habitat if these projects were not maintained?

All of North America benefits today from the efforts of a group of sportsmen who laid the foundations some 35 years ago. If you want to be a part of this effort, become a member of Ducks Unlimited. Send your contribution to Ducks Unlimited, National Headquarters, P.O. Box 66300, Chicago, Illinois 60666. Remember that all contributions to Ducks Unlimited are deductible for Federal Income Tax purposes.

If you wish to have a more active part in the organization, join the chapter in your area and help to raise additional funds for the organization's work. Active chapters in Texas are located in Amarillo, Athens, Austin, Bay City, Baytown, Beaumont-Orange-Port Arthur, Bell-Coryell counties, Bryan-College Station, Conroe, Corpus Christi, Dallas, El Campo-Eagle Lake, Fort Worth, Freeport, Galveston, Greenville, Houston, Liberty-Chambers counties, Longview, Lubbock, Lufkin, Marshall, Nacogdoches, Palestine, Paris, Port Lavaca, Rio Grande Valley, Rockport, San Antonio, Sulphur Springs, Texarkana, Tyler, Victoria, Waco and Wichita Falls. If there is no active chapter in your area and you would like to help organize one, contact the Texas State Chairman, Bob Jamison, Dayton State Bank, P.O. Box 338, Dayton, Texas 77535.

Through your generous contribution of time, service and money, you will be doing your part to increase your own enjoyment of a day in your favorite marsh, while at the same time helping to preserve our priceless waterfowl heritage for the future. \*\*

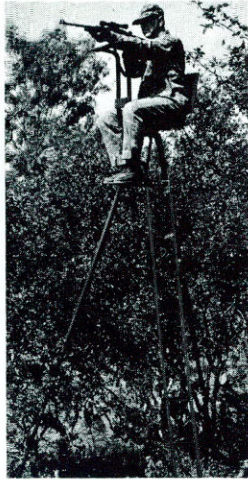




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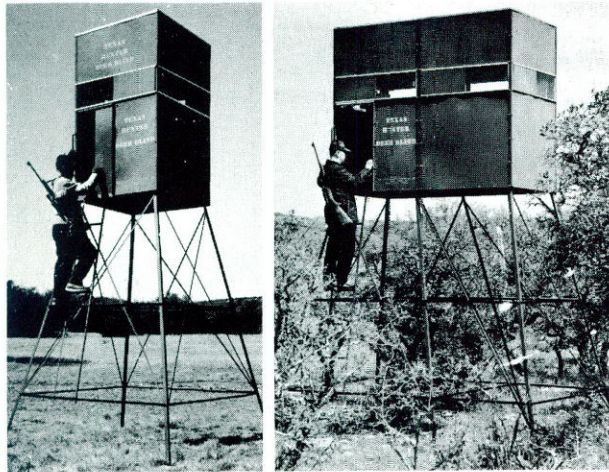
THE RIGID LIGHTWEIGHT TRIPOD STAND, allows the hunter to move from one location to another with ease. The stand is fabricated of aluminum with handle for easy carrying. The seat is fabricated of aluminum and wood with gun rest and silent 360 degree swivel. Stand is shipped assembled, the seat knocked down. Complete on 10' stand 44 lbs. \$89.00.

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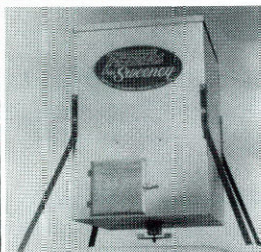
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feature rigid steel frame construction, galvanized metal roof, 1/4" tempered masonite sides and 3/4" plywood floor. Steel ladder to free-sliding door and safety hand-bar at left side allows easy entrance and exit. Improved shooting ports on all four sides provide complete visibility. Bypassing glass sections and panels are in divided channels of non-warp, extruded aluminum. Inside height of both blinds 6'3". Blinds may be used on ground or on Texas Hunter's portable, rugged all-steel towers. Shipped knocked down.

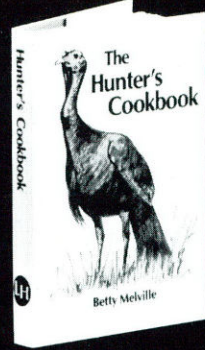
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# FORT RICHARDSON

## State Historic Park

by Howard Barnett and Ed Dutch

**“THE INJUNS** are coming—the injuns are coming!”

It may not have been as colorful as television would have us believe when we see the little boy running and shouting into the wagon train circle, but the situation on the western frontier just after the Civil War was critical. The withdrawal of military forces from the frontier during the war years had given the Plains Indians an advantage which they were quick to seize.

Mobile, well armed, skilled and crafty in the art of sudden attack and retreat, they were more than a match for settlers who were foolhardy enough to dispute their supremacy over the isolated and unprotected territory of northwest Texas. Between 1865 and 1867, more than 120 persons on the western frontier had been killed, wounded or taken prisoner by Indians.

Attempts to confine the Kiowas and Comanches inside reservations on Indian Territory (now the State of Oklahoma) had been largely futile, and the entire westward progress of civilization was seriously threatened by increasingly ferocious Indian raids. Finally, the Reconstruction Government was forced to deal with the situation, and by May 1866, Federal troops were beginning to re-occupy old forts and build new ones on a line from Jacksboro to Eagle Pass.

Of the new posts, Fort Richardson, named for General Israel B. Richardson, was the farthest north, being only 70 miles from Indian Territory. It was situated on the south bank of Lost Creek, a small tributary of the West Fork of the Trinity River, near the village of Jacksboro in what is now Jack County.

Tents and picket houses were hastily set up, but in April 1867, before much could be accomplished in establishing a permanent camp, orders came to abandon Fort Richardson and move to Buffalo Springs, about 20 miles north of Jacksboro. This command decision proved to be a grave mistake.

The Buffalo Springs site was inadequate in several respects: it was too remote from supply depots, there was no timber available for building purposes, and

the men began to suffer from a lack of water and an over-abundance of Louisiana rum. Drinking became an obsession, deterioration of morale was rapid, and on November 19, 1867, the post was condemned as a military establishment. The troops were ordered to establish a permanent post at the original location near Jacksboro.

The fort brought prosperity to Jacksboro and the surrounding area, providing employment for 150 civilians and extra pay for off-duty soldiers. Sawmills were established, and contractors and freighters made a good profit.

A military road connected Fort Richardson with Forts Griffin and Concho to the southwest. Because of Indian attacks, the mail coach, scheduled to arrive twice a week from Waco, seldom made its run with any degree of regularity. Letters from Fort Richardson took six days to reach Austin and from 12 to 24 days to arrive in Washington.

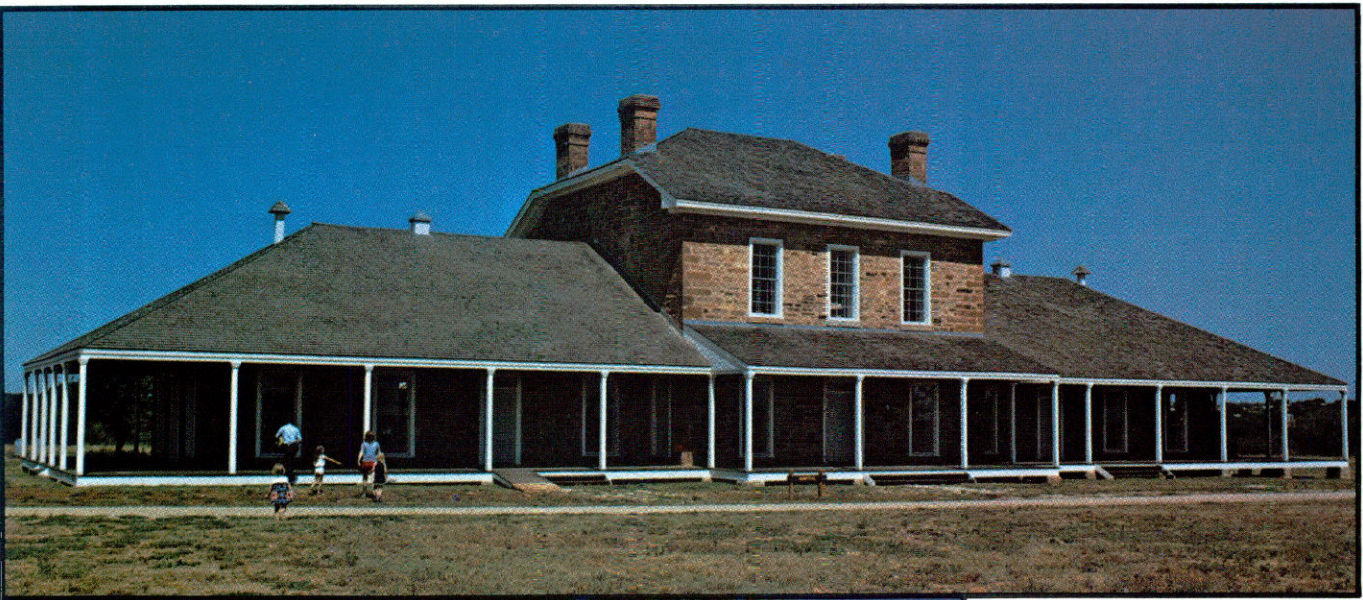
Comanches and Kiowas, the “horse Indians of America,” were the chief offenders in the area. Horses had become a sign of wealth and status among the Indians, but since scalps were an additional status symbol, their horse-stealing raids were frequently accompanied by atrocities.

The most infamous episode was the massacre of the Warren wagon train on May 17, 1871, when a wagon-master, ten teamsters, and a night watchman were attacked by a large force of Kiowas and Comanches near Salt Creek. The wagon-master, N. S. Long, and six teamsters were killed.

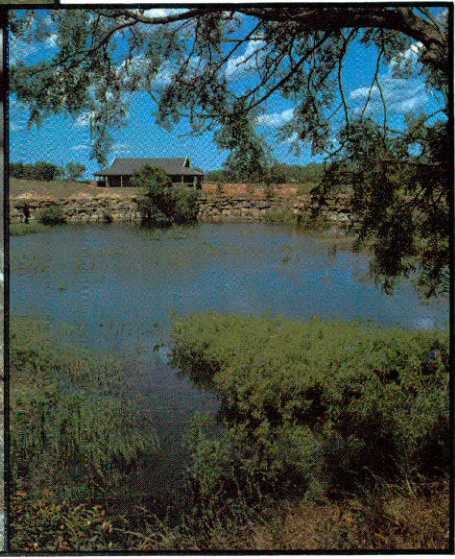
General W. T. Sherman was at Fort Richardson when the tragedy was reported. He had passed over the spot the previous day and, it was later learned, had barely escaped the same fate. The Indians had been there at the time, eager to attack, and were restrained only by the medicine man’s prophecy that the second party would be more easily captured.

General Sherman ordered Colonel Ranald S. Mackenzie to pursue the Indians and bring them back to stand trial. The offenders were caught in Fort Sill





*Restoration of original fort buildings, construction of a recreational area with new modern campsites and other improvements have made Fort Richardson State Historic Park a desirable place to visit. The Old West is brought to life for those with a creative imagination as they walk across the grounds.*





where they had made the mistake of bragging of their exploits to the Indian agent. While on returning to Jacksboro, Satank, a Kiowa chief, attacked his guard and was killed by one of the soldiers in the escort, but Santanta and Big Tree were duly tried, found guilty, and condemned to death. This is said to be the first time Indians were tried in a white man's court.

The widely publicized affair caused a temporary decline in Indian raids, but it had even greater repercussions. It led directly to a permanent solution of Indian troubles on the frontier.

General Sherman, understandably alarmed by his own narrow escape, gave Colonel Mackenzie *carte blanche* to carry out a policy Mackenzie had long advocated: to pursue the Indians to their own reservations or rancherias, destroy their horses, and force them back into Indian Territory without any resources for further attacks.

Life at Fort Richardson in its heyday was typical of other frontier towns of the era. The lawless element

which swarmed into the vicinity after the fort was established combined with the Indian menace to make it a vortex of excitement and danger.

Across the creek from the fort was a section known as "Sudsville." Gamblers, saloon keepers, gunmen, trail drivers and camp followers constituted the residents of this area and created endless disciplinary problems. A colony of "women of ill repute," was established half a mile from the fort.

Malaria, ague, dysentery, smallpox, scurvy, mumps and venereal diseases were endemic.

An additional problem was the large number of desertions and other military offenses: in 1874 alone, 221 men were tried for desertion, neglect of duty, drunkenness, theft, highway robbery, striking an officer, dueling or assorted minor infringements. The punishments dealt out by the court's martial were severe and often very cruel, but seemed to have no deterrent effect.

The faults were characteristic of nearly all the frontier towns, and in contrast was the positive influence

Tom Blackwell



Soldiers of Fort Richardson spent many hours building this rock wall which can be seen throughout the park.



the fort had on the area.

Initially distrusted as "Reconstruction soldiers," the Sixth Cavalry finally won the acceptance and appreciation of the community because they brought protection and prosperity, and contributed to the cultural life of the settlement.

Their four-page newspaper, "The Flea," was immensely popular. The soldiers organized a glee club, which was later expanded to include musical instruments. Their band, called the "Jolly Blues," provided entertainment for the townspeople and was often invited to play at dances in nearby communities. A few of the soldiers even joined a dramatic club formed in Jacksboro.

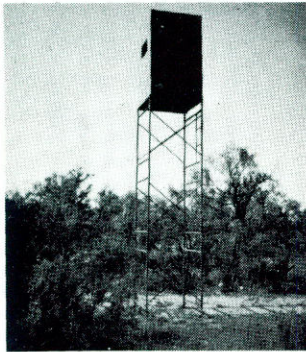
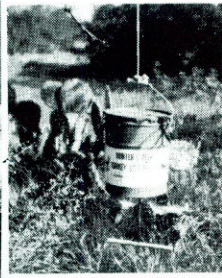
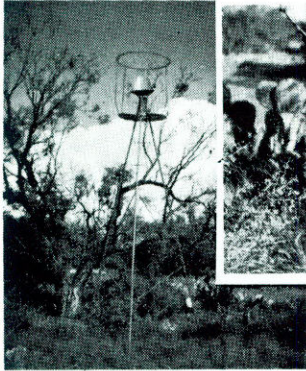
Orders for the abandonment of Fort Richardson were issued on March 29, 1878, and on May 23, the last military occupants, a detachment of Company E of the Tenth Infantry, marched to Fort Griffin to assume duties at their new station. Fort Richardson's colorful and useful life as a military installation had come to an end.

But Fort Richardson did not die. Some of its facilities including the hospital, officers' headquarters and parade grounds have been restored and new recreational facilities have been constructed in an area removed from the fort itself. Modern restrooms, campsites, picnic sites, parking areas and utilities are now available to the park visitor. Fees for the use of these facilities are minimal: \$1.00 for the regular campsites and \$1.50 for the campsites with water and electricity. These fees are in addition to the \$1.00 per vehicle entrance fee.

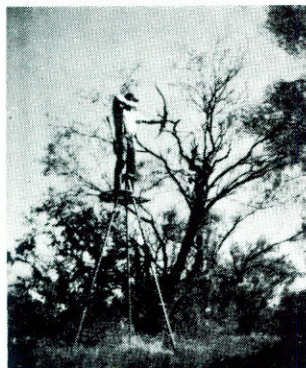
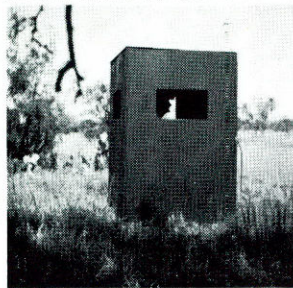
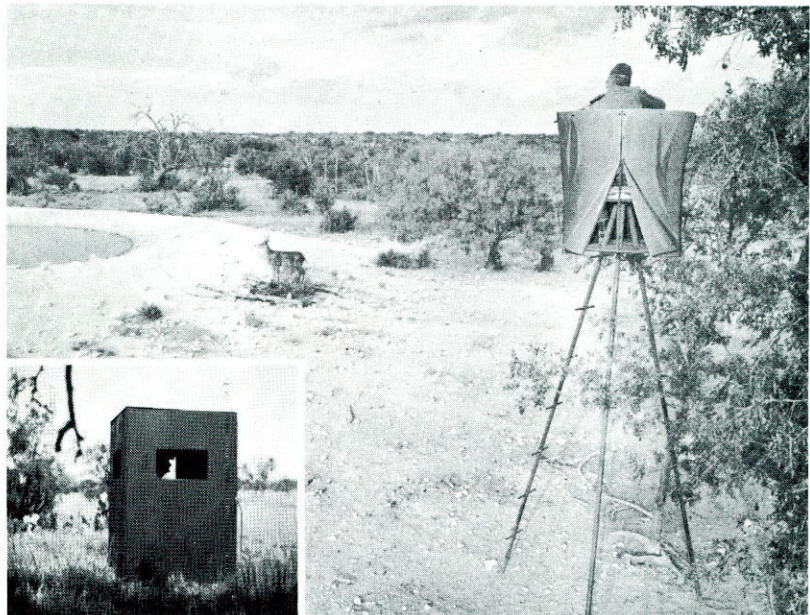
Also included are hiking and nature trails and an eight-acre lake. The old post hospital building has been restored and contains a few relics of the days when the fort was active. Information for the interested historian is also available here.

Fort Richardson is located just off of Highway 281, one mile out of Jacksboro toward Fort Worth. The park is there waiting to remind you of the real West before the "days of cowboy and Indian" shows on television. \*\*

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# Travels of Post Oak Whitetails

by Walton S. Daniel, Wildlife Biologist  
Federal Aid Project W-82-R

“**GREAT** jumpin’ mossy horns—look at the brush pile on that ol’ boy’s head! He’s bound to have moved in here from down in ‘Bigdeer County.’ Can’t be over about 10 miles, and I sure haven’t seen that big ol’ blue buck around here before!”

“Yeah, that’s right Sam, and have you noticed how many more deer we’ve got this year? Reckon they moved in here in droves from somewhere.”

Sound familiar? These, or similar observations, provide ample food for thought and conversation wherever deer hunters gather each autumn. For many years the subject of deer movements has been one of fascination for hunters and the landowners who try to maintain good deer hunting.

Interest in whitetails became apparent in the pre-World War II period when deer populations soared in the Edwards Plateau Region. Personnel of the then Texas Game and Fish Commission began studying the range and spacial requirements of the white-tailed deer.

Reports of thriving deer herds in the plateau rapidly spread throughout the state resulting in unprecedented public demands for restocking other areas.

So, just prior to, and immediately following World War II, hundreds of white-tailed deer were trapped by department personnel from their native haunts in the hills and low brushlands of Central and South Texas and trucked to new homes in what is known as the Post Oak Belt. This area, which stretches from the Red River in northeast Texas, south-southwest to portions of Guadalupe and Gonzales counties in the central part of the state, was judged suitable habitat and became the primary target for early deer restoration efforts by the Game department.

The relocated deer flourished under strict year-round protection, followed by “bucks only” hunting. But soon many of the problems associated with unmanaged herd growth and overpopulation became apparent to some of the more farsighted ranchers and farmers in the area. During the late 1950’s, landowners from several of the “new” deer counties petitioned the Texas Legislature to delegate authority for setting the game and fish harvest regulations to the Texas Game and Fish Commission.

Their petition was acted upon under the provisions of the Wildlife Regulatory Act. Game biologists and wildlife technicians were assigned to the area to gather scientific field data upon which to base recommendations for harvest regulations. Field personnel were faced with the immediate problem of determining deer population estimates reliable enough for management purposes. However, there was one fact which could not be ignored. Any accurate system of deer census would be contingent, among other things, upon a basic knowledge of home range requirements and seasonal movements of the Post Oak whitetails.

In 1960, a study designed to allow investigators to gain



a measure of first-hand information regarding deer movements and their comparative utilization of the various range sites was initiated. The objectives of the study were: (1) to determine seasonal and year-round spacial requirements (home range) of the animals; (2) to map use of the principal range sites; (3) to define normal and abnormal deer movements; and (4) to determine the apparent effects of cultivation and other land-use practices on deer movements in the area.

The study area was comprised of four large ranches, located in Robertson, Brazos, Freestone, and Grimes counties. These locations were selected because they had the combinations of vegetation, range sites and land-use practices commonly found in the Post Oak region.

Following selection of the study areas, the problem of how to collect the needed information, within certain resource limits, became of foremost importance. Obviously it would be impossible to maintain constant visual contact with individual deer over a period of three to five years.

Ultimately, the decision was made to capture as many deer as possible on the study areas, mark the adult deer and the larger fawns to facilitate individual identification in the field and then release the animals. All deer handled, including very young fawns, were ear-tagged. Ear-tagging was included as insurance against loss of the more visible markers, and to enable field people to collect birth to death movement data and known-age jaw bones from deer subsequently killed and reported by hunters or found dead.

Overlay maps of the various vegetative patterns were prepared for each study area. These were used to plot capture sites and visual records of individually marked deer. The distance moved between consecutive sightings of individual deer was estimated by measurement of the plotted sight locations on scale maps. Home ranges of individual deer were estimated by connecting the outside plotted sighting points. A planimeter was then used to measure the area of the "home range" within the plotted perimeters.

During a five-year period, a total of 204 deer were captured. Of these, 120 were fawns and 84 were adults. All adult deer were either immobilized for handling by shooting them with drugged charges or were captured in baited aluminum box traps. Fawns were caught mainly at night by personnel using spot lights and long-handled dip nets.

All adult deer captured were fitted with leather collars sheathed in a colored plastic, nylon impregnated material. Each collar was color coded for individual identification. In addition, colored streamers of the plastic material were placed in the ears of nine of the larger, older fawns. Ear streamers were also used on a few of the collared adult deer.

Of the 93 marked deer, 20 were reported killed, or were found dead in the field. During the course of the study, 19 of the 120 deer ear-tagged as very young fawns were verified as having died or been killed. In all, more than 400 useable sight records of 68 deer (46 does and 22 bucks) were collected during the study.

Home ranges were based on year-round deer movements. Considerable variation in distances traveled was exhibited between seasons of the year and by individual deer. Generally speaking, only a relatively small portion of the "home range" was utilized by both bucks and does during the spring and summer months.

On the basis of data collected, does had an average home range of approximately 93 acres. A Freestone County doe had an estimated home range of 690 acres, while two females, one each from Brazos and Robertson Counties, had a measured home range of 502 acres. Although these

extreme variations did occur, they were rare.

The average distance moved by does between sightings was around 400 yards. The maximum distance moved by a doe during the study was 2.9 miles. However, bucks were much more mobile than does. Male deer in this study had an average home range of 1,079 acres, more than 10 times the area utilized by females.

The average distance moved by all males, between individual sightings, was found to be less than a mile, but the maximum distance moved by any buck was 4.5 miles during the fall months. This animal had a home range, on the Grimes County study area, in excess of 10,000 acres. Although such mobility was unusual, buck movements of one to two miles during autumn were by no means rare.

Such intrinsic factors as food availability, deer density, range condition, weather and reproduction appeared to be largely responsible for much of the variability exhibited by deer on the four study areas.

During the spring and summer months there was a comparative abundance of available food, and does were giving birth to the annual fawn crop. At the same time bucks were carefully nursing the growth of new antlers. Thus, movements of both sexes became highly restricted during this period. Records indicated that deer confined their range to an average area of 24 acres during the warm period.

The average distance moved by individual does during the spring was about 300 yards. They remained largely on an area of 32 acres. Following the birth of fawns, the females seemed to further restrict their travels to an area of slightly less than 17 acres. The otherwise far-ranging bucks became almost sedentary during the spring and summer, confining their range to an average area of less than 13 acres.

Late summer and early fall is normally a period of considerable stress for deer in the Post Oak region. By this time both the quantity and quality of available food has been reduced to a level which forces the animals to expand their daily foraging trips to satisfy basic energy requirements. It is also doubly important for bucks to maintain fat reserves, at this time, to carry them through the approaching hectic breeding season.

Autumn and cool weather inevitably trigger dramatic deer activity throughout the range. According to sight records of bucks, the average buck range during the autumn period was about 1,262 acres. Several records of adult males moving distances of 2.5 to 4.5 miles during this period were recorded, but approximately 80 percent of the fall buck movements were less than 1.5 miles.

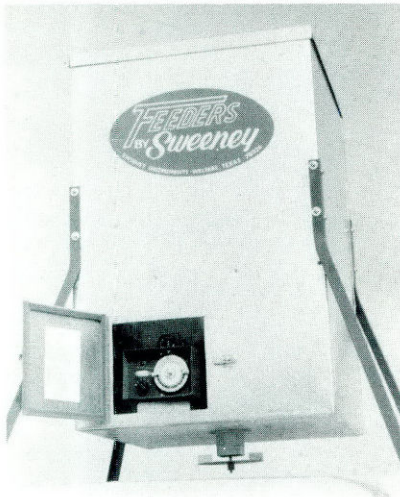
As fall advanced, females also increased the area of their range to include about 98 acres. With the bite of winter, does further expanded their range to encompass some 121 acres. The frenzied rutting activity of bucks in the fall had all but vanished by the onset of winter. This resulted in more restricted movement patterns and an average winter range of 520 acres.

As might be expected, deer showed increased interest in open situations of both upland and bottomland areas during the spring and summer when forbs and grasses were young and tender. Deer appeared to inhabit the bottomlands to a greater extent during the winter and early spring. The study also revealed that population shifts do occur at times, but probably not to the extent of moving great distances.

The development of more sophisticated deer tracking equipment and techniques during recent years will likely insure continued investigations and revisions of some of the results of this study. In the meantime, at least a beginning chapter in the continuing story of the life and travels of the Post Oak white-tailed deer has been recorded. \*\*



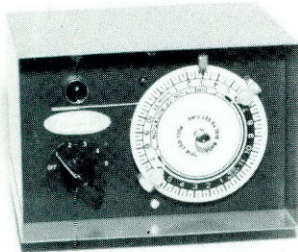
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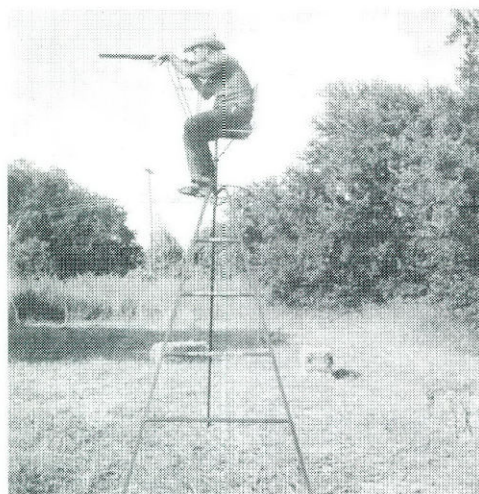


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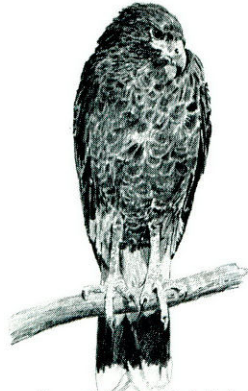


LIMITED EDITION OF PRINTS BY CHARLES BECKENDORF

These lithographs are the third part of a continuing series of highly limited prints. The first 25 drawings were shown in the December 1972 issue of Parks and Wildlife magazine and the second 25 drawings were introduced in the July 1973 issue.

The lithographs are highly limited original prints of only 300 impressions each subject and no more will ever be printed. Each print is given a number and signed by me.

I personally hand color the first thirty impressions individually and number them from 1 to 30.



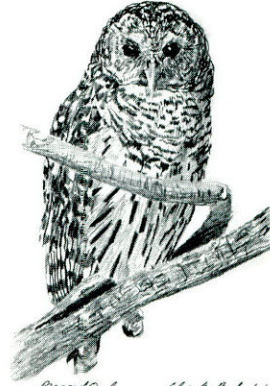
*Harris' Hawk Charles Beckendorf*

**51** HARRIS' HAWK



*Barn Owl Charles Beckendorf*

**52** BARN OWL



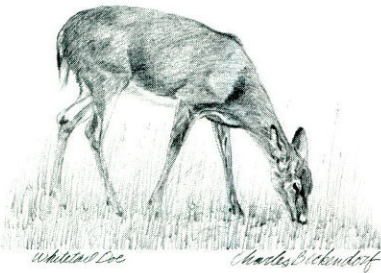
*Barred Owl Charles Beckendorf*

**53** BARRED OWL



*Striped Owl Charles Beckendorf*

**54** STRIPED OWL



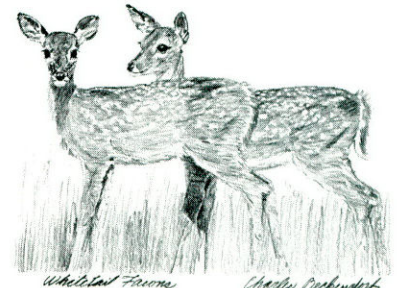
*Whitetail Doe Charles Beckendorf*

**55** WHITETAIL DOE



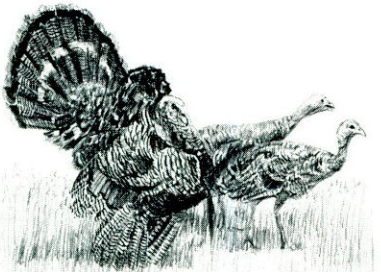
*Whitetail Buck Charles Beckendorf*

**56** WHITETAIL BUCK



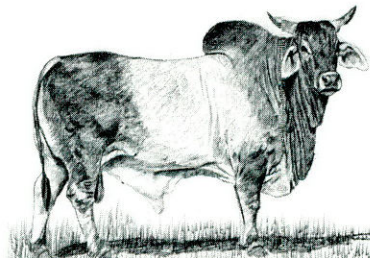
*Whitetail Fawns Charles Beckendorf*

**57** WHITETAIL FAWNS



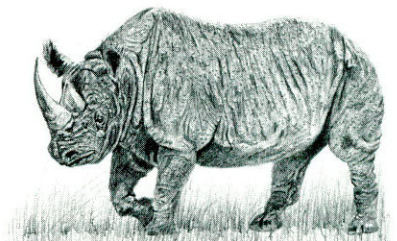
*Two Turkeys Charles Beckendorf*

**58** TURKEYS



*Brahma Bull Charles Beckendorf*

**59** BRAHMA



*Black Rhino Charles Beckendorf*

**60** BLACK RHINO



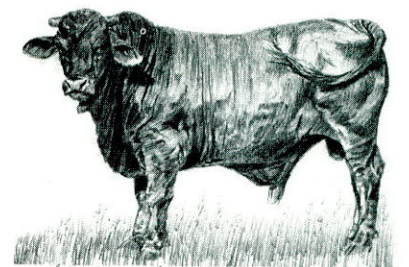
*Charolais Bull Charles Beckendorf*

**61** CHAROLAIS



*Brangus Bull Charles Beckendorf*

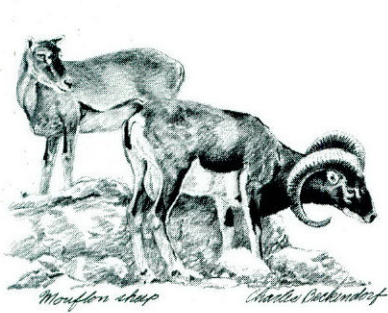
**62** BRANGUS



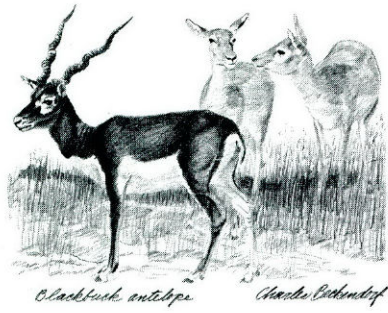
*Santa Gertrudis Bull Charles Beckendorf*

**63** SANTA GERTRUDIS

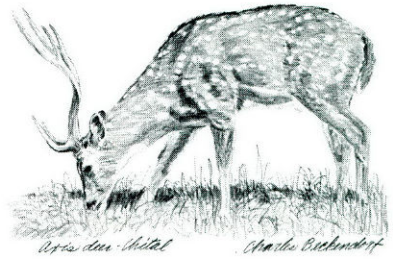




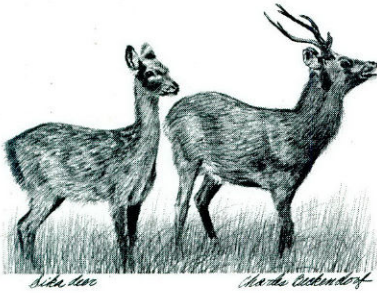
64 MOUFLON



65 BLACK BUCK ANTELOPE



66 AXIS



67 SIKA



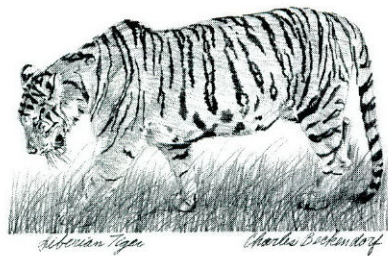
68 FALLOW



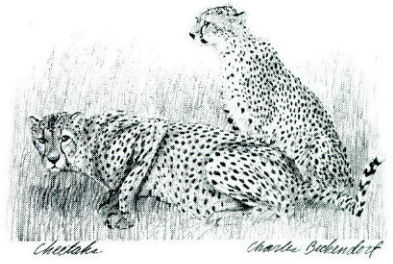
69 AUODAD



70 AFRICAN LION



71 SIBERIAN TIGER



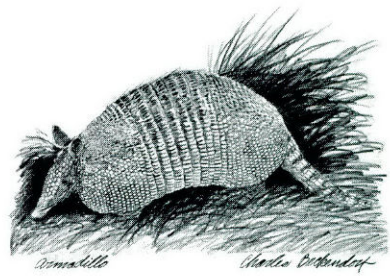
72 CHEETAH



73 BEAVER



74 PRAIRIE DOGS



75 ARMADILLO

The original prints are black & white, 11 x 14 inches, standard size, and cost \$6.00 ea. the first thirty prints of each subject are individually hand colored by me using permanent pigment watercolors, and cost \$30.00 ea. Texans please add 5% sales tax. All prints are mailed the same day of receipt of order in a hard cover folder, postage paid. Satisfaction of print and condition of package is fully guaranteed. Simply put the number corresponding to the print or prints you select on a sheet of paper with your complete return address. Enclose check, cash, or money order and mail to:

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# BE SAFE, NOT SORRY

**HUNTERS** have discussed the pros and cons of wearing brightly colored hats and vests for several years, but as they talk, hunting accidents which could have been avoided are taking place. Last year 6 persons were shot in Texas when a hunter mistook them for game or because they were not easily discernable as humans.

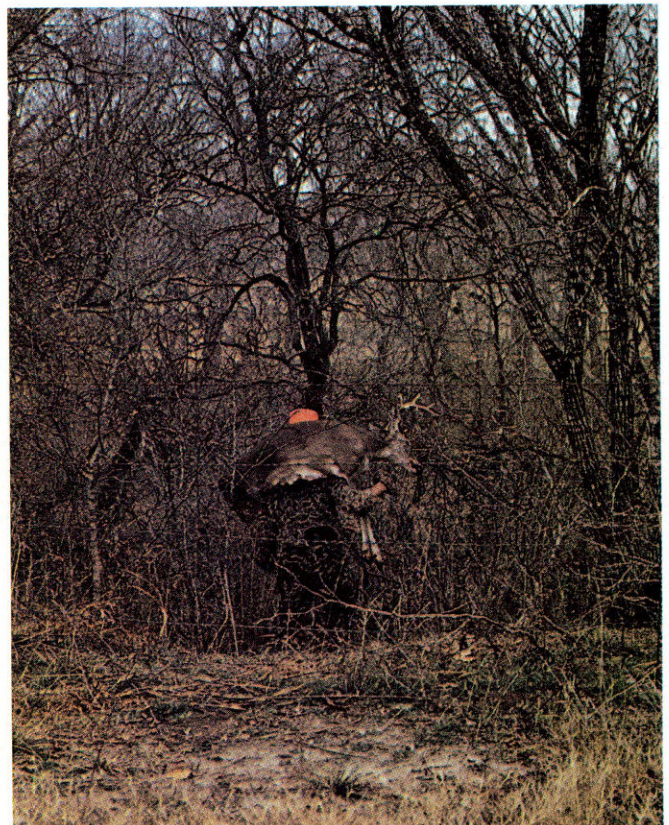
It should be the responsibility of every hunter to not only be sure of his target but to make it very easy for other hunters to see him. Many states require the wearing of a certain number of square inches of red or bright orange, but Texas does not. Flourescent orange was found to be the most easily seen under all conditions and since it does not appear in nature

in any form, it is the most obvious. Although it is quite obvious to humans, it does not seem to "spook" deer as various tests have shown that deer do not distinguish colors and harvests are not hampered.

As the pictures show, the wearing of a flourescent orange hat or vest makes this hunter unmistakable. Without the orange, the hunter in the lower left picture could easily be shot by another hunter who sees a movement, the color of the deer and the antlers.

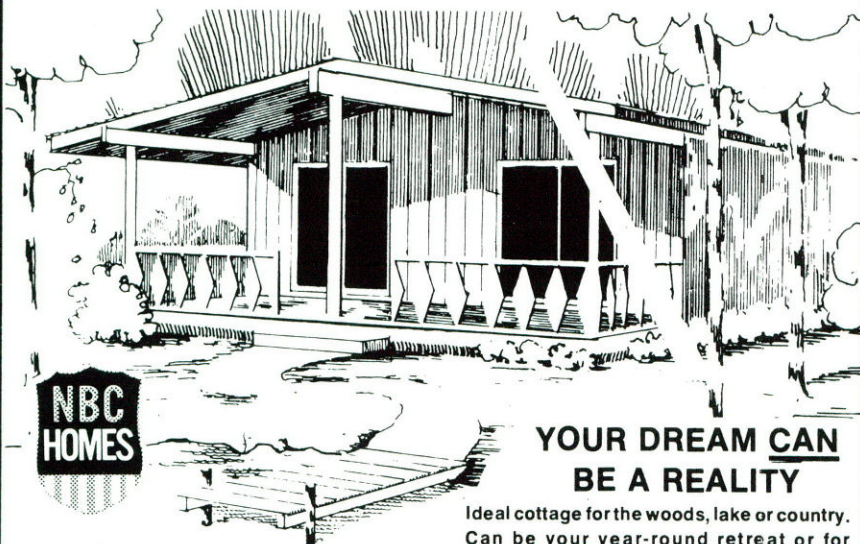
Maybe hunters with common sense will take heed and wear some safety clothing. It's much better to protect yourself and be safe instead of being a figure in a fatalities column headed "Mistaken for Game Category."

\*\*





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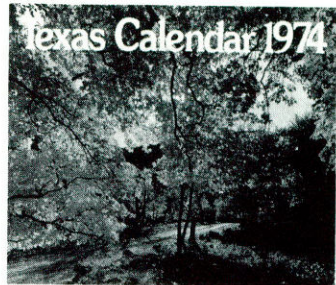
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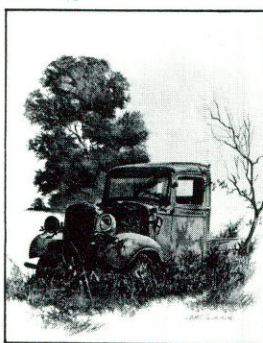
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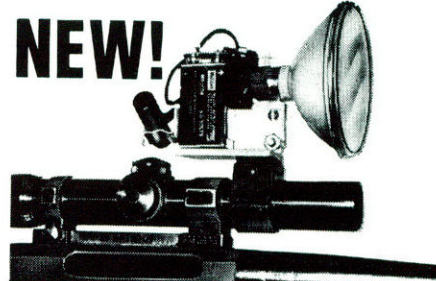
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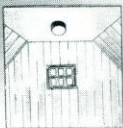
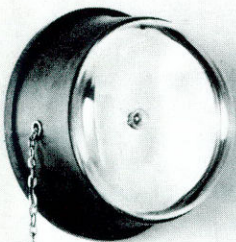
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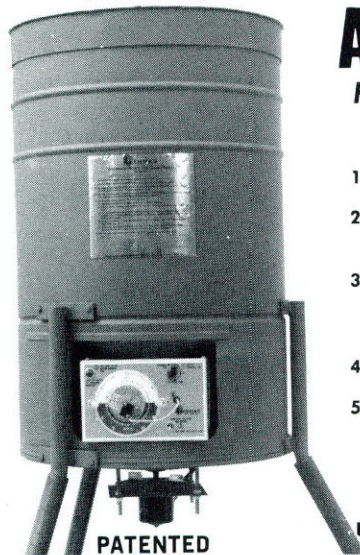
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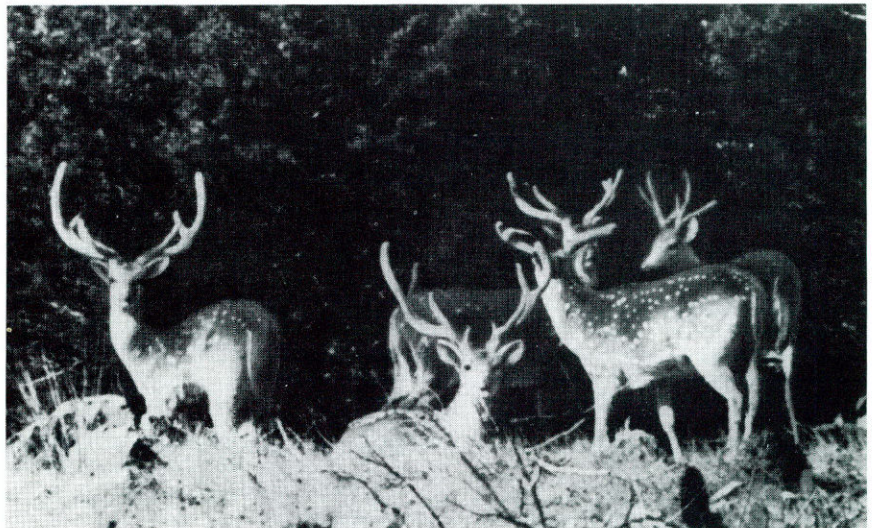
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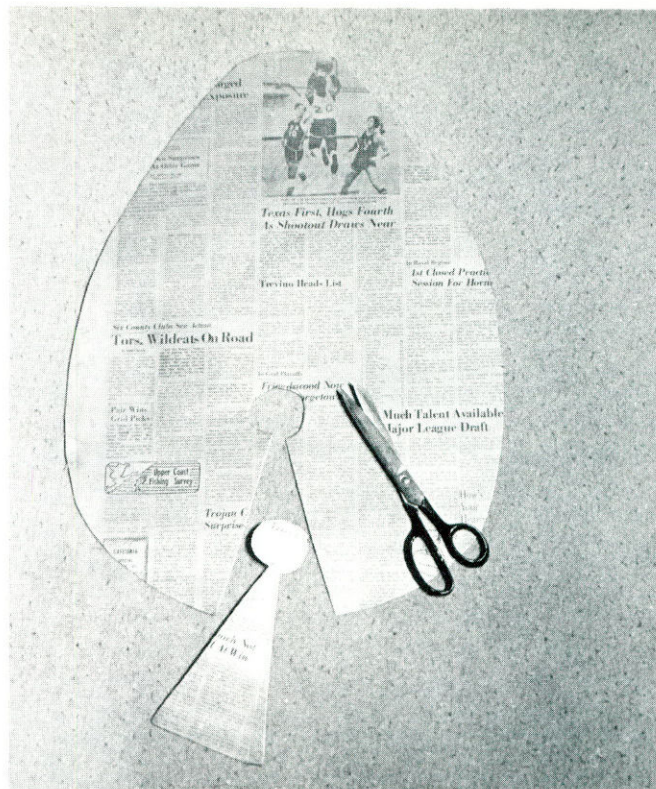
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# How To: Build Goose Decoys



Article and photographs by A. C. Becker, Jr.

**GOOSE** hunters have tried just about everything imaginable to make light and inexpensive decoys that can easily be set out and taken up for transportation in a hurry. Crumpled newspapers, white rags and styrofoam blocks have all been used effectively, but here is a different idea.

Aluminum sheets used in newspaper offset printing are ideal for making snow goose decoys that fit all of these needs.

These sheets, 23 by 33 inches in size, can be used only once by a newspaper. Some papers throw them away; most, however, sell the used sheets for a fraction of the original cost. If your local newspaper is not printed on an offset press, call some of the local printing companies and ask them for their plates.

Make a pear-shaped template (pattern), 22 inches by 16 inches, out of posterboard and outline two of the patterns on one of the sheets of aluminum. The metal is .009 thick, which is thin and light enough to be cut easily with household scissors.

Cut out the pear-shaped plate and then cut out a triangle, four inches at the base by five inches deep, at the wide end of the plate. Cut a one-inch-diameter circle at the apex of the triangle.

Overlap the edges of the V-cutout and fasten in three places with metal

eyelets, the type used for making belt buckle holes, or with pop rivets. You can get a pop riveter at most hardware stores or discount centers. Ordinary staples can also be used, but they are less secure than the eyelets or rivets and will break under rough usage.

The aluminum pear is no longer flat after the edges of the cutout are overlapped and fastened. The metal is tent-shaped and in effect becomes three dimensional. The inch-diameter hole at the apex serves three purposes. It permits inserting the eyelet crimping tool or pop riveter to fasten the top, it provides a hole for inserting the neck-head dowel and later it serves as a hole through which a rope or belt can be looped for carrying a stack of completed bodies.

Each plate should be cleaned of printing ink with a cleaning solvent before starting to make the decoys. It will still bear engraved matter and be dull in finish. Make this the outside of the decoy since it provides a better base for the paint than does the untreated side with its high shine.

Paint both inside and outside with a coat of flat white exterior paint. Latex-based paints are recommended since they are easiest to clean. The inside of each decoy should be painted so that if flipped by the wind there won't be an unnatural shine that could spook the birds.

Cut out painting masks from cardboard or heavy paper for applying wing slashes in flat black paint. You should make a couple of painting masks so a completed decoy spread won't have a stereotyped look. Bodies can also be used without the wing tip markings.

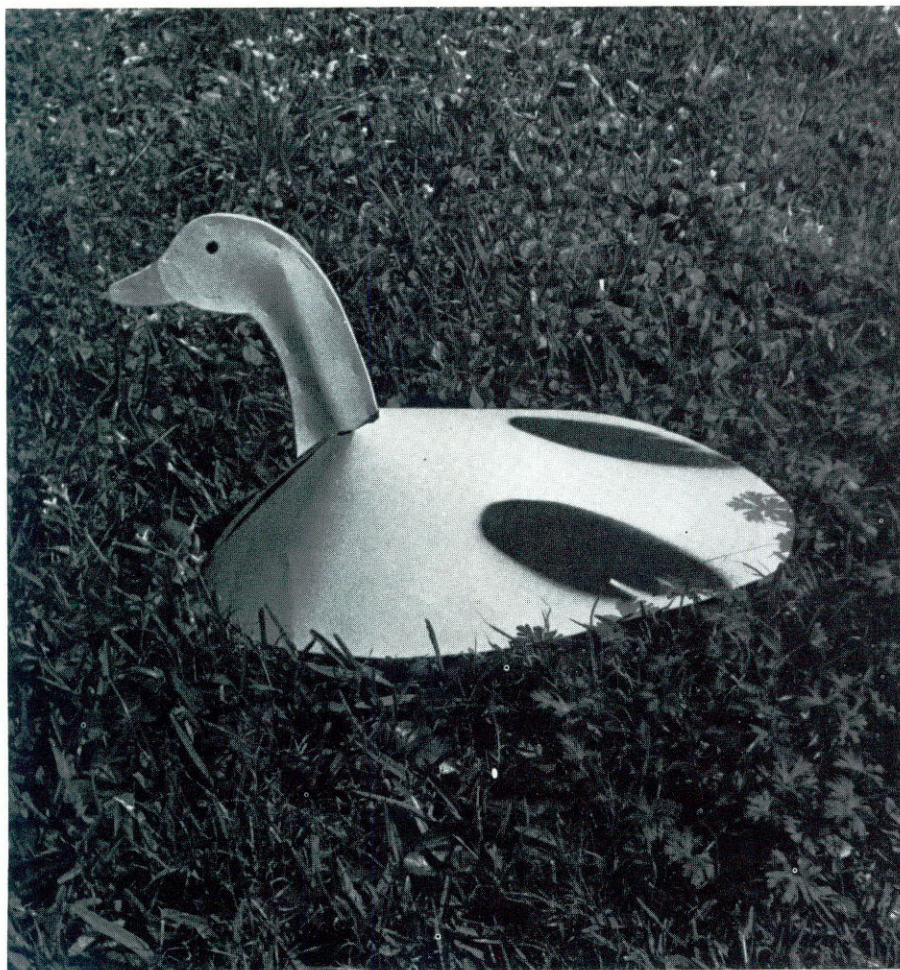
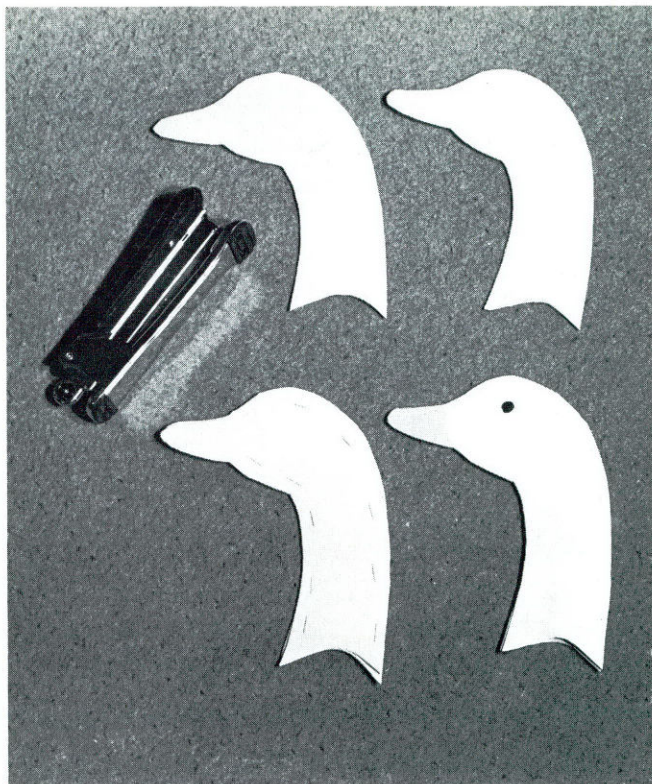
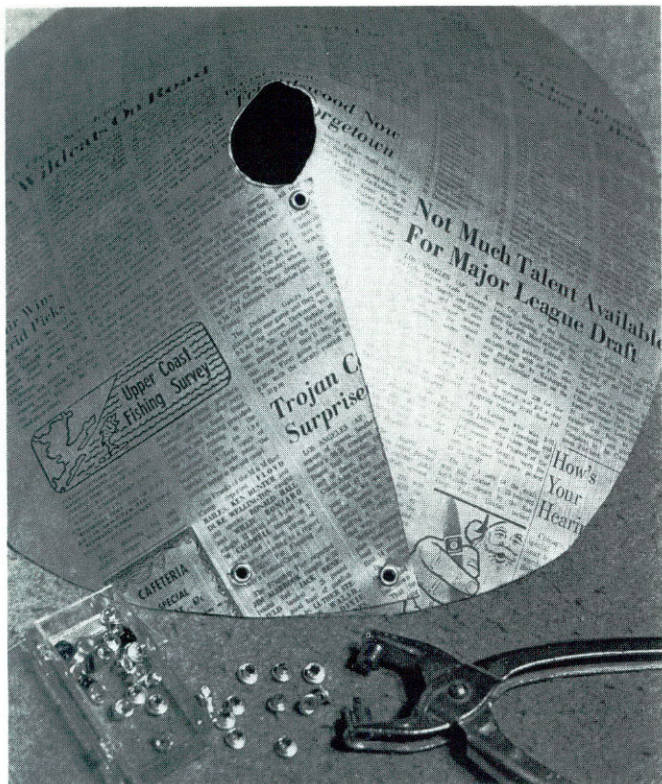
Profile necks and heads are cut from posterboard, and two of them are placed together and stapled along the edges. The paint scheme calls for white head and neck with black eyes and light pink bills.

Quarter-inch wood dowels 18 inches long are shoved into the neck-head profiles and then put through the bodies. Each dowel should be shoved into the ground to hold the decoy in place in strong winds.

The decoys nest one atop the other. They can be tied securely in bundles of 75 and easily carried in backpacks. A pack will hold 75 aluminum bodies complete with dowels and neck-head profiles, and still only weigh approximately 30 pounds.

The decoy bodies stand the weather and will last indefinitely with the only upkeep being occasional paint touchup. The life of neck-head profiles can be extended by using spreads of only bodies in rainy weather or it is easy to replace the heads if necessary. At any rate, you'll have some good, light decoys for only a few hours work when you can't be out hunting. \*\*

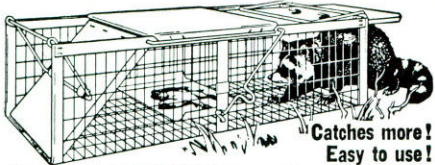




The first step in making decoys from old printing plates is cutting out the shape for the decoy bodies (far left). Then the edges of the plate are overlapped and fastened with eyelets or pop rivets (center above). Heads are cut out of two pieces of illustration board and stapled together (above) with ¼-inch dowel rods inserted. When setting up the finished decoy (left) the rod is pushed through the hole in the body and stuck into the ground to hold the decoy in place.



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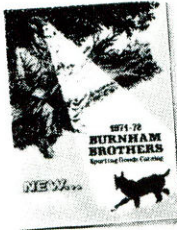
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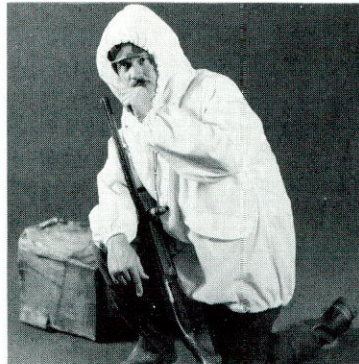
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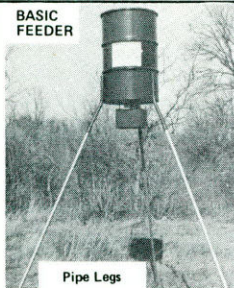
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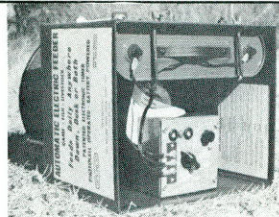
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# Young Naturalist

## Bird Houses

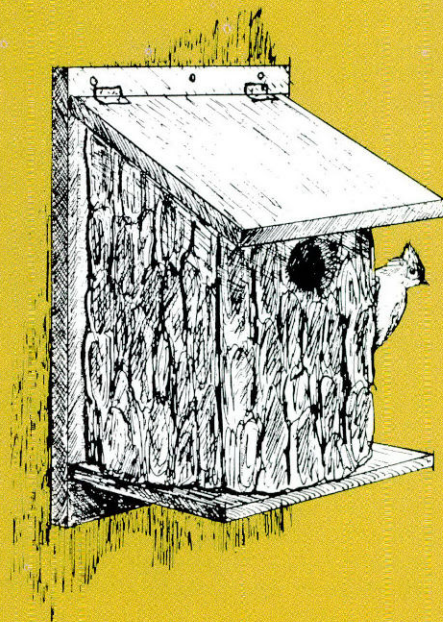
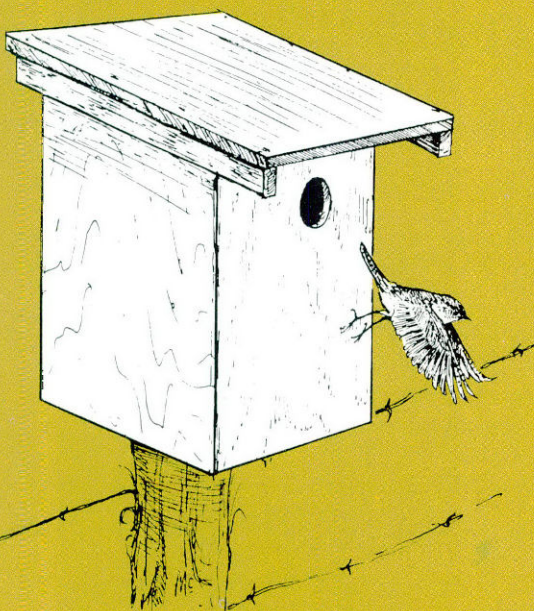
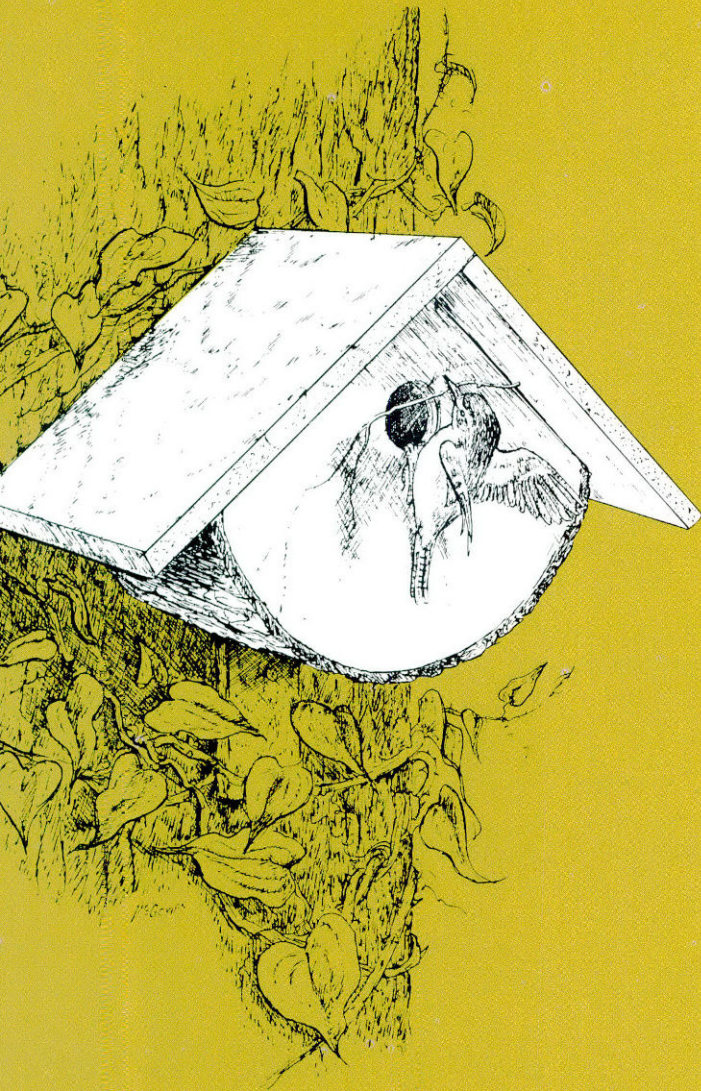
by Ilo Hiller

**AUTUMN** is here and it's a good time of year to try your hand at building a bird house.

Even though the house you build now will not be used by nesting birds until spring, getting it ready early will give it time to lose the odor of paint and newness. It may also serve as a shelter for a bird during the bad weather this winter.

You do not need to be an experienced carpenter to build a satisfactory bird house, but you should know that different types of birds require different size houses and entrance holes. The accompanying chart should help you to select the proper size for the type of bird you hope to attract.

Detailed construction plans can be found in almost any book about bird houses and a trip to the library should provide you with a variety. Select a simple design for your first effort and when your woodworking





# General Construction Ideas

COVER RIDGE WITH TIN OR ROOFING PAPER

VENTS

PROPER SIZE HOLE—DO NOT PAINT EDGE

VENTS

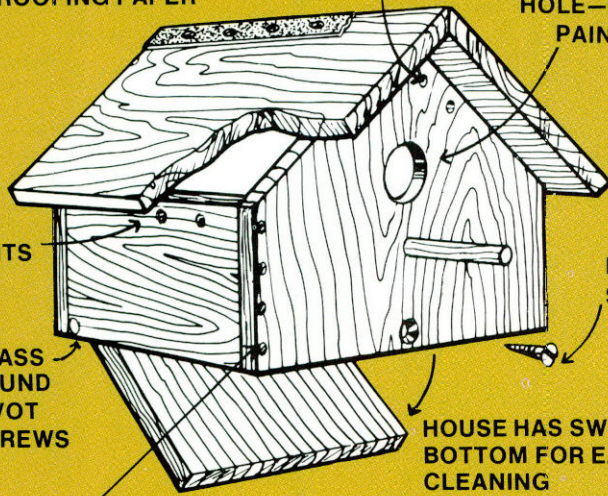
BRASS ROUND PIVOT SCREWS

BRASS SCREW

HOUSE HAS SWINGOUT BOTTOM FOR EASY CLEANING

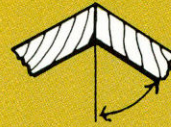
ALUMINUM OR COPPER NAILS

REMOVE SCREW—BOTTOM PIVOTS ON SCREWS AT SIDES



Use 1/2" or 3/4" stock • Rough lumber is best • Do not paint or stain inside of house • Roof should protect entrance • Perch may or may not be added as desired • Mount house in most convenient way—hanging, on post or on side of building or tree • Mount at proper height.

EQUAL BEVEL ROOF BOARDS

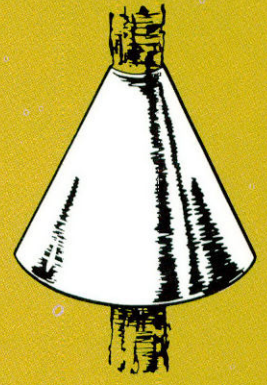
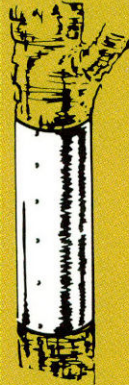


KEEP AT CONVENIENT ANGLE SUCH AS 60°



OVERLAPPING ROOF BOARDS

## Predator Shields



Tubular predator shields (left) are not quite as effective as the cone-shaped shield (right) in deterring cats, squirrels or other predators.

skill grows you can attempt the more elaborate types.

Wood is, of course, the best building material and small pieces can usually be inexpensively acquired from the scrap barrels found at most lumber yards. In fact, many lumber companies do not charge for these miscellaneous scraps. Construction sites are also good locations to acquire small pieces of wood which are of no use to the contractor, but be sure to get permission before removing any wood from a construction site. Hollow limbs and sawmill scraps with the bark still attached make more natural houses, but this type of wood is not always easy to get.

The type of wood used is not of major importance, however, cedar, cypress and redwood will probably withstand the weathering processes much better than the more commonly found fir and pine.

Metal should be avoided as a construction material because it becomes quite hot when exposed to the sun and can actually roast its occupants.

Since overheating is so hazardous to eggs and young birds, even wooden houses should have ventilation holes

drilled in the sides under the roof overhang to allow excess heat to escape. The roof should extend far enough to prevent rain from entering these holes and the entrance. Any water which may come in the entrance hole during a hard rain will drain out if a small hole is drilled through the floor of the house.

Once the house has been built, you are faced with the question of whether to paint it or let it weather naturally. If you decide to paint, choose the more subdued colors, such as brown, gray or dull green, for those houses being mounted on trees or in the shade. Houses placed on poles in exposed areas, such as martin apartments, should be painted white to help reflect the heat of the sun.

Proper location of your bird house is just as important as its construction. Birds seem to prefer their homes firmly mounted to some type of solid support with the entrance facing south. The accompanying chart will give you an idea how high the house should be mounted. Houses which are hung from a wire and allowed to twist and swing in the wind are seldom used. Martins, bluebirds and flycatchers prefer their homes out in the open with no trees

or buildings too near.

Birds are also very territorial and require a certain amount of space around their nesting area. As a result, houses placed too close to each other often cause conflicts and the birds may abandon them altogether.

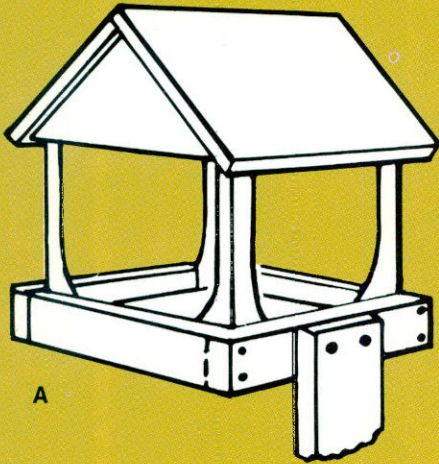
Cats and fox squirrels are always a threat to nesting birds and their young, so it may be necessary to add a predator shield to the post or tree on which you mount your bird house. Probably the most effective type of shield is a sheet-metal, cone-shaped device about 18 inches long. Fasten this shield high enough on the tree or post to prevent the predator from jumping above it to gain a foothold.

After the bird house is mounted and protected, you should not have to do anything else until the middle of March. At that time you should check the house to be sure it is free of mud daubers, bees, mice and flying squirrels which sometimes move into a vacant bird house. If you were wise and built your house with either a hinged or sliding roof, front or bottom, this cleaning chore will be quite simple.

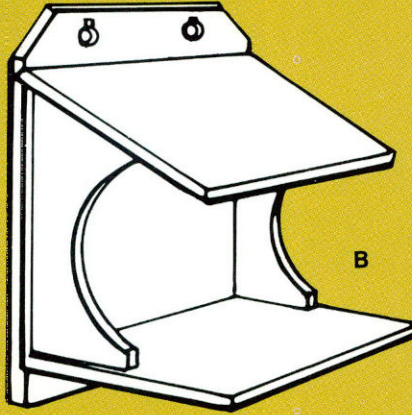
When the birds are through nesting, the bird house should again be cleaned



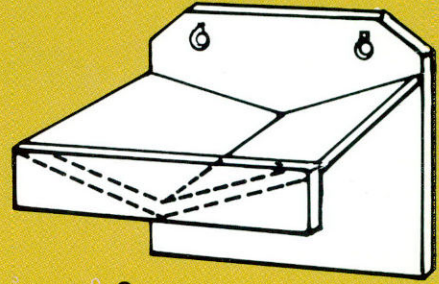
# Nesting Shelves



A



B



C

There are some birds which prefer nesting on shelf-type structures with one or more sides open. Among these species are robins, thrashers, swallows and phoebes.

Nesting shelves similar to "A" and "B" should be made of weathered or rustic lumber and placed along main

branches of trees or in the shelter of an overhanging eave of a barn, shed or porch. Shelves like "C" must be placed where there is protection from above and on at least one side such as under eaves, shelves, rafters or high on the wall just beneath the roof of a barn or similar shelter.

to get rid of any parasites, such as fleas, bird lice and bird flies, which may have moved in with the first occupants. If you do this the next resident will not be infested with the parasites left by the previous nester.

Do not put nesting materials inside your bird house to encourage its use. Most birds are very selective and prefer to gather each piece and arrange it to suit themselves. However, if you build a house meant for a woodpecker or owl, put about an inch of sawdust or wood shavings in the bottom for the eggs because these birds do not gather nesting materials.

Robins, thrashers and phoebes do not nest in houses but will sometimes use man-made nesting platforms. The accompanying chart will give you the dimensions required by these birds in case you want to try your hand at building one of these nesting platforms.

When spring arrives and your bird houses or platforms are occupied by busy nesters which will provide beauty, hours of entertainment and nature study and possible bug exterminating services, you will be glad you took the time to build the houses or platforms this fall. \*\*

## SUGGESTED SPECIFICATIONS FOR BIRD HOUSES

BIRDS USING SINGLE ENTRANCE BOXES	Entrance		Dimensions		Location
	Diam. Inches	Above Fl. Inches	Bottom Inches	Sides Inches	Height Feet
House wren	7/8	1 to 6	4 X 4	6 to 8	6 to 10
Bewick wren	1	1 to 6	4 X 4	6 to 8	6 to 10
Carolina wren	1 1/8	1 to 6	4 X 4	6 to 8	6 to 10
Chickadee	1 1/8	6 to 8	4 X 4	8 to 10	6 to 15
Titmouse	1 1/4	6 to 8	4 X 4	8 to 10	6 to 15
Nuthatch	1 1/4	6 to 8	4 X 4	8 to 10	12 to 20
Downy woodpecker	1 1/4	6 to 8	4 X 4	8 to 10	6 to 20
Bluebird	1 1/2	6	5 X 5	8	5 to 10
Tree swallow	1 1/2	1 to 5	6 X 6	6	10 to 15
Hairy woodpecker	1 1/2	9 to 12	6 X 6	12 to 15	12 to 20
Crested flycatcher	2	6 to 8	6 X 6	8 to 10	8 to 20
Redheaded woodpecker	2	9 to 12	6 X 6	12 to 15	12 to 20
Flicker	2 1/2	14 to 18	7 X 7	16 to 18	6 to 20
Screech owl	3	12	8 X 8	12 to 15	10 to 20
Sparrow hawk	3	9 to 12	8 X 8	12 to 15	10 to 30
Barn owl	6	4	10 X 18	15 to 18	12 to 18

### BIRDS USING APARTMENT or COLONY HOUSES WITH MANY ENTRANCES

Martin: Entrance 2 1/2 inches, 1 inch above floor; rooms 6 x 6 inches and 6 inches deep; located 15 to 20 feet from ground. Should have not less than 10 rooms and be placed in an open area.

### BIRDS REQUIRING ONE OR MORE SIDES OF HOUSE OPEN

Robin: Floor 6 x 8 inches, 8 inches deep; 6 to 15 feet from ground.

Barn Swallow and Phoebe: Floor 6 x 6 inches, 6 inches, 6 inches deep; 5 feet from ground.

### BIRDS THAT REQUIRE A PLATFORM WITH ALL SIDES OPEN

Song sparrow and Brown thrasher: 6 X 6 inches; 5 feet from ground.



# LETTERS TO THE EDITOR

## Parks Personnel Praised

On June 30, my family and I were camping in Huntsville State Park. In the late afternoon hours my small daughter was injured in a bicycle accident. Fortunately, the injury was not extremely serious, but a visit to the emergency ward at Huntsville Memorial Hospital was necessary.

I would like to take this opportunity to express my gratitude for the wonderful concern and attention given to my family during this crisis. Unfortunately I was in no condition to remember the various Rangers' names who were involved as we all were in a highly emotional state. However, they all have our undying gratitude.

The first aid station at camp headquarters quickly ascertained that a physician's attention was required, and called the emergency room at Huntsville. Their personnel were ready for us, and treatment proceeded at once.

One of the rangers on duty was kind enough to inform the remaining

members of my family as to my daughter's condition, and needless to say, his thoughtfulness was deeply appreciated. Several trips to our campsite were required, which were made without hesitation as to inconvenience.

Our Texas State Parks are staffed with understanding and dedicated men. Their professionalism and service is truly outstanding and I highly commend them.

Our citizens in general, and I in particular, will continue to visit the various state parks, secure in the knowledge that highly competent and trained personnel are supervising our visits.

Joe B. Newman  
Houston

This letter is to relate my appreciation for the courtesy and cooperation shown me by two of your park rangers at the Blanco State Park.

While we camped at Blanco State Park the Blanco River began to rise, and it was apparent we would be stranded for some hours. Park rangers Jack Burks and Bud Murrah assisted my family in

closing our camper and then they guided us safely out of the park via a back road. Thanks to these gentlemen my family and I were not inconvenienced by the rising water.

As a taxpayer I'm happy to be able to say "Thank You" for having men like Mr. Burks and Mr. Murrah in your department.

W. C. Gullett, Jr.  
Conroe

On August 4th, I visited Pedernales Falls State Park and enjoyed an afternoon of hiking in the beautiful Hill Country's natural state. I hope that "improvements" in this park are kept to a bare minimum so that the unspoiled beauty of the land will be kept intact.

Upon entering and leaving the park, I encountered two different park attendants at the gate. I do not know their names, but both were extremely courteous, friendly and helpful. Such men are a great asset to your program and contribute much towards an enjoyable outing. Thank you for taking notice of these fine individuals.

James Miertschin

## Saltwater Fishes Booklet

I would like to request an extra copy of this month's (June) issue of TEXAS PARKS & WILDLIFE magazine, as we have misplaced our subscription copy, and I have been saving the past few issues in order to frame your series of "Texas Saltwater Fishes" for our condominium in Port Aransas. Incidentally, I believe if you would offer this series (suitable for framing), it would sell, as both the artwork and the informative captions are excellent.

Marlene Gordon  
San Antonio

Thank you for your suggestion that we reprint Henry Compton's artwork on the saltwater fishes. When we complete the entire series of Texas saltwater fishes, we plan to compile it into booklet form for sale to the public. This may be several years in the future.

## BACK COVER

The broad expanses of country and the rugged mountains of West Texas are fascinating sights. Although Texas is not particularly noted for its mountains, Guadalupe Peak which is in the northern part of West Texas rises to a height of 8,756 feet. It is actually taller than any of the other mountains in 36 of our 50 states. Photo by Ed Dutch.

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## TEXAS SALTWATER FISHES

One of the most magnificently colored fish of the warm oceans of the world is the dorado or dolphin as it is most commonly known. "Dorado" is the preferred name to avoid confusion with the "dolphin," an aquatic mammal. The art above demonstrates the different color phases of the dorado with the yellow phase shown on the male (top) and the blue phase shown on the female (bottom). The color phases have been observed on both sexes and color alone does not

distinguish between male and female. The sex can be determined by the difference in the head with the male having a high, blunt head and the female having a more feminine, rounded head.

Dorados are found in the deeper blue water offshore usually following patches of driftwood or seaweed. They also tend to remain in schools and feed primarily on small fishes. The average weight is about five to six pounds but the Texas record is 53 pounds.

Artwork by Henry Compton.



