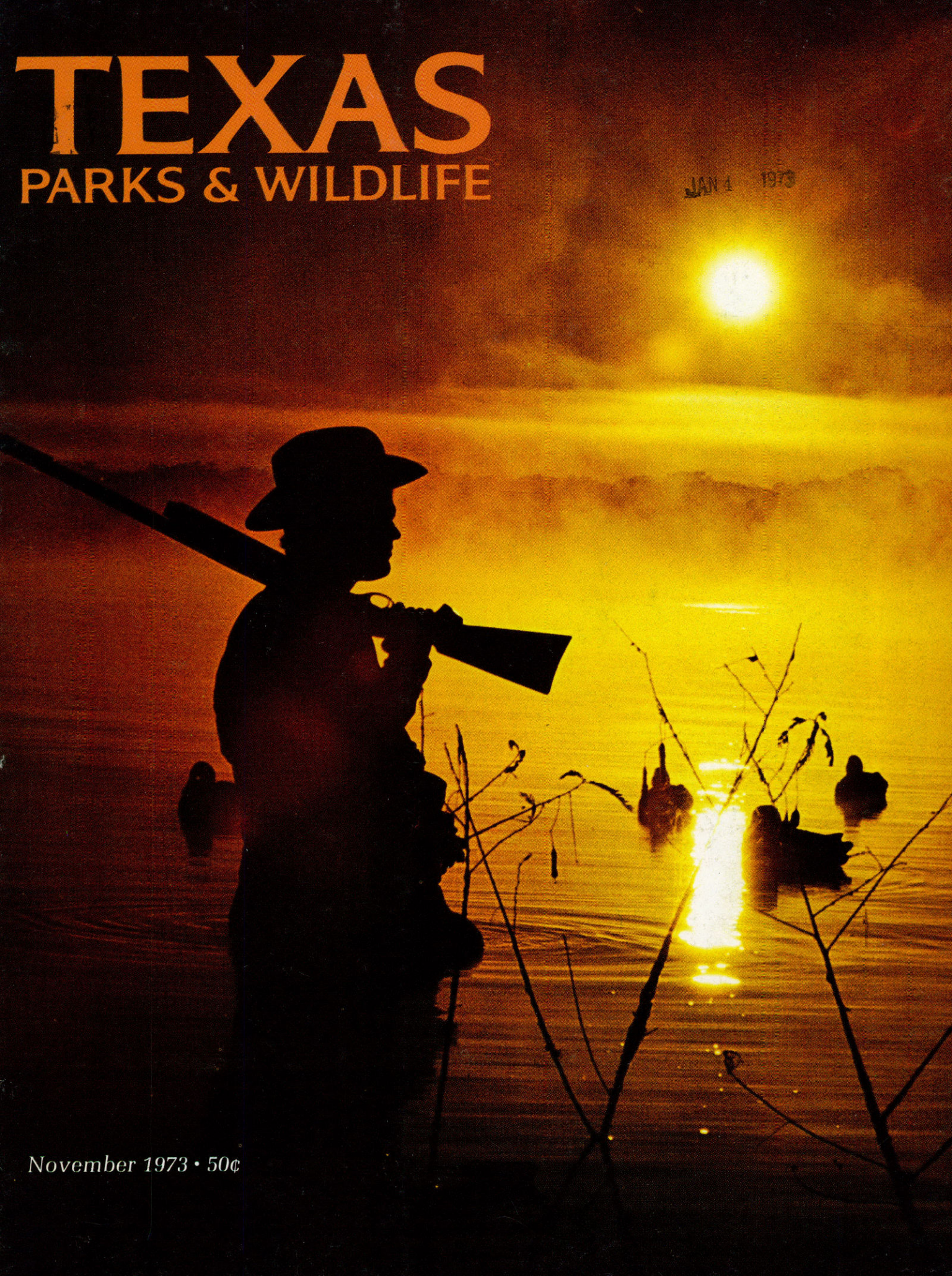


TEXAS

PARKS & WILDLIFE

JAN 4 1973



November 1973 • 50¢



DOLPH BRISCOE
Governor of Texas

**PARKS AND WILDLIFE
COMMISSION**

JACK R. STONE, Chairman Wells
PEARCE JOHNSON Austin
JOE K. FULTON Lubbock
BOB BURLESON Temple
JOHN M. GREEN Beaumont
LOUIS H. STUMBERG San Antonio

**PARKS AND WILDLIFE
DEPARTMENT**

CLAYTON T. GARRISON . . . Executive Director

DIRECTORS

BOB E. BRADLEY Administration
JAMES E. DICKINSON Finance
ROBERT J. KEMP, JR. Fish and Wildlife
TOM BROWNING Law Enforcement
CLAYTON G. RUTTER Engineering
PAUL E. SCHLIMPER Parks
RICHARD A. MCCUNE Information and
Education

**TEXAS PARKS & WILDLIFE
magazine**

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

NEAL COOK Editor
ED DUTCH Associate Editor
ILO HILLER Assistant Editor
JIM WHITCOMB Photo Editor
RUTH PERRY Advertising-Circulation

Published monthly by the Texas Parks and
Wildlife Department, John H. Reagan Bldg.,
Austin, Texas 78701. Republication of mate-
rial is not permitted except by special written
permission. The inclusion of advertising is
considered a service to subscribers and is not
endorsement of products nor concurrence
with advertising claims. Rate schedule avail-
able upon request. Subscription rates: \$3.15
for one year and \$5.25 for two years. Single
copies and all back issues, 53c. Prices include
5 percent sales tax for Texas residents. For-
eign subscription rates: \$4.00 for one year,
\$7.00 for two years.

Postmaster: If undeliverable, please send
notices by form 3579 to Reagan Building,
Austin, Texas 78701. Second class postage
paid at Austin, Texas, with additional entry
at Oklahoma City, Oklahoma.



TEXAS PARKS & WILDLIFE

The World of the Whittail by Ed Dutch 2

A photo story reveals the beauty and grace of our Texas whittails
throughout the changing seasons of the year.

Are You Hunting for a Heart Attack? by Clifford Damstrom 14

The exertion of the hunt can cause a heart attack, but a few
precautions may save your life.

Venison by Ed Dutch 16

Here are some hints on preparation of deer with recipes to suit
just about everyone's taste.

Ownership of Wild Game by George Adams 19

The question of who owns wild game is explained in legal terms.

How To: Build a Portable Blind by Sim Oefinger 20

This "roll it up—take it with you" blind may be just what the
duck hunter has needed.

Marbled Salamander by James C. Kroll and Thomas K. Pauley 22

This interesting amphibian has some unusual characteristics.

Young Naturalist: Autumn Leaves by Ilo Hiller 27

The shortening days of autumn start the processes which cause
leaves to change from green to red, yellow or orange.

Outdoor Books 12 Long Shots, Short Casts 13

Photo and Arts Credits 13 Hunter Safety 25

Letters to the Editor 32

Front Cover: Cold, foggy but memorable mornings such as this will soon be
upon us as the duck hunting season is open November 10—November 25 and
then December 8—January 20 except for the High Plains Mallard Management
Unit in which the season is October 25—November 25 and then December
8—January 20. Photo by Ed Dutch.

Inside Front: Trapping, tagging and release of dove and quail are part of
the biologists' job in determining management practices. Photo by Bill Reaves.



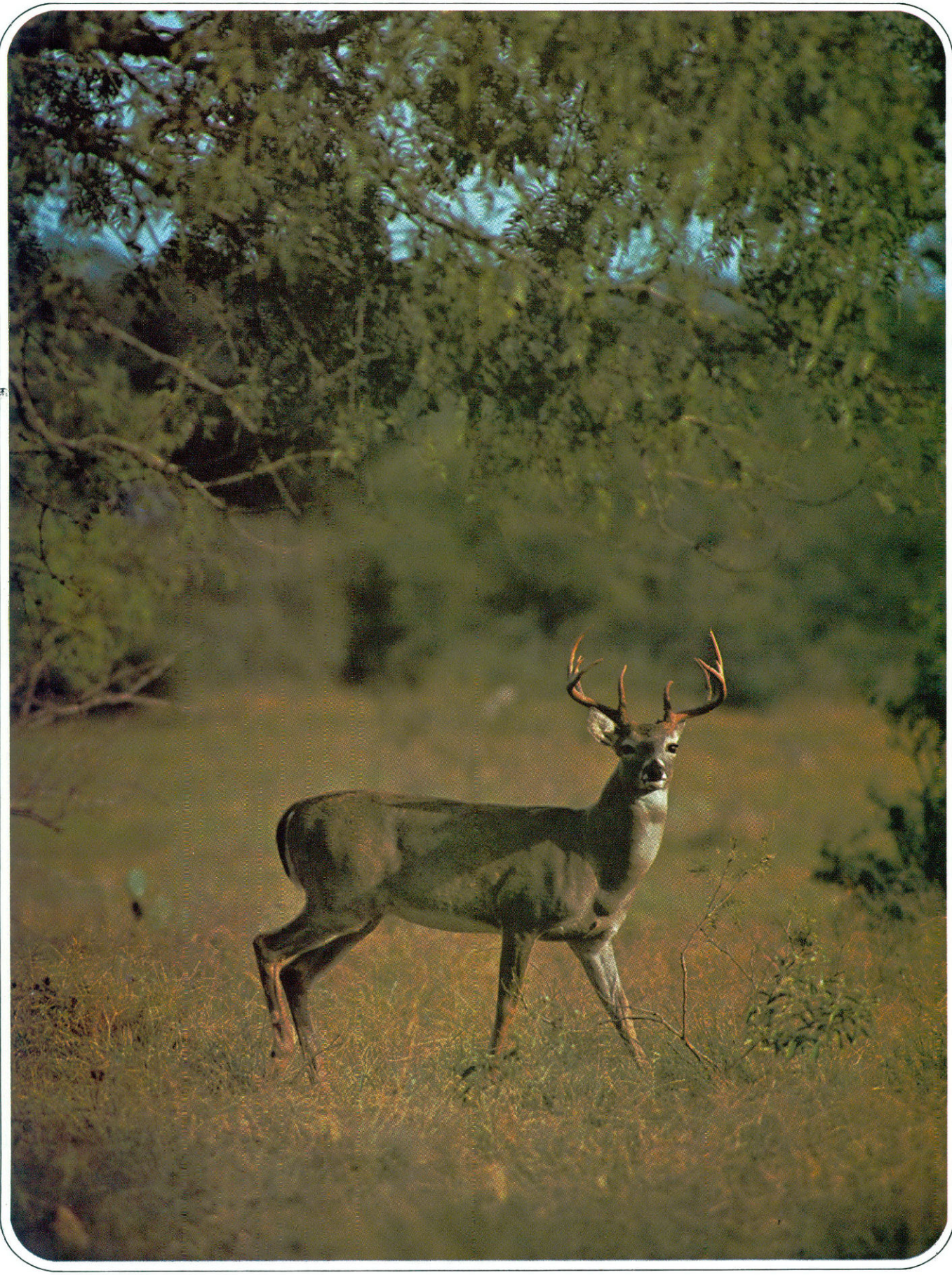
The World of the Whitetail

by Ed Dutch

The whitetail family is definitely at home throughout Texas. With an increased population that is estimated at over 3,000,000 animals, the Texas deer herd has about 20 percent of the total number of whitetails in the United States.

During the pre-World War II period, whitetails were limited to only certain areas in the state. With increasing populations in those areas, such as in the Edwards Plateau region, public demands for restocking were expressed. A restocking program began in earnest after the war to relocate deer where the habitat was suitable.

About 10,000 animals have since been relocated and from these transplants, areas such as East Texas now have sustained deer herds. Last hunting season there were deer reported harvested in 180 of the state's 254 counties.



SPRING AND EARLY SUMMER

The birth of fawns occurs primarily in May and June. It is a reality that although most yearling does produce one fawn and mature does produce two fawns, thousands of these fawns die from predation, abandonment and lack of substantial nourishment or disease within the first 30 days. Then, only a slight majority of those that do survive live to see their first winter. In some counties that have a very high deer population, as many as 80 percent of the fawns die.

Also during this time, antlers begin developing on mature bucks and the need for proper nutrition becomes evident. The antler development is directly related to the nutritive quality of available food. Increased population densities begin to affect the quality of the herd, both for the does feeding young and the growing bucks.



Jim Whitcomb



Bill Reaves



Martin T. Fuller



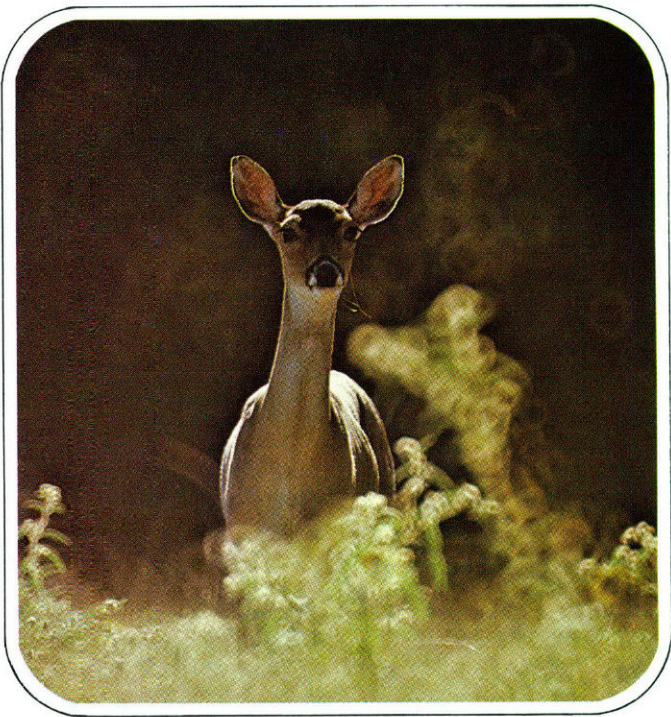
SUMMER

Quality and quantity of available food becomes essential for antler and body growth. It has been found that deer expand their daily foraging trips during this time to satisfy their basic energy requirements. The fawns have also begun to require at least some nutrition from the land itself.

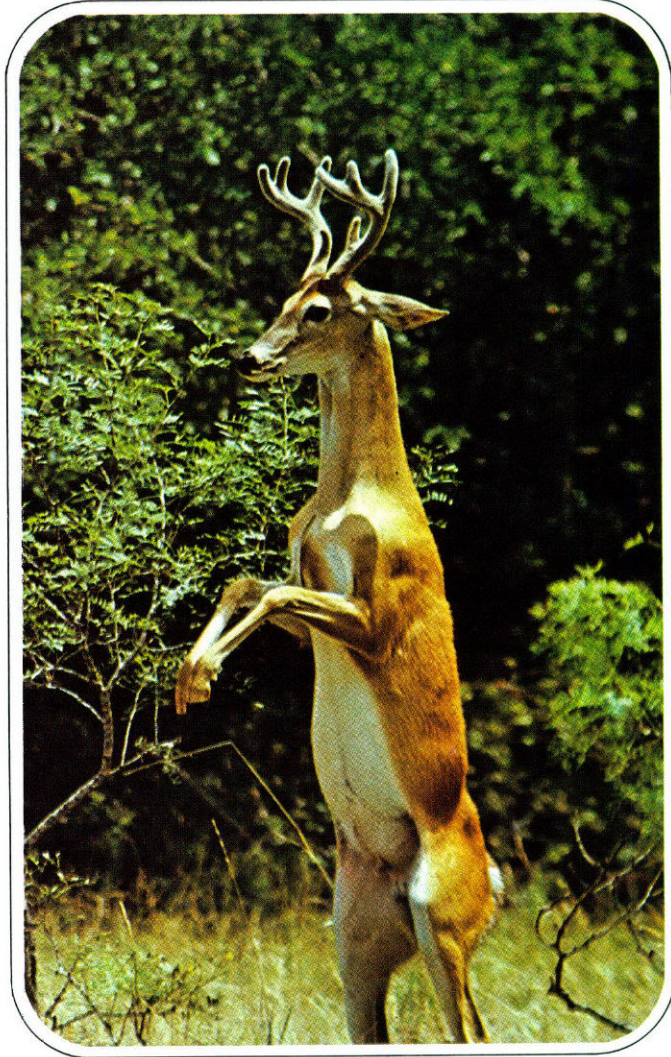
Summer is a deceptive period for most observers



and managers of deer populations because the abundant grasses and vegetation seem to be adequate to support the deer. The truth is that most of the deer die-offs in the state occur during late summer because the populations are at their peaks, the palatable and nutritious foods are depleted and the mast such as acorns are not yet available.



Jim Whitcomb



Martin T. Fuller



FALL

The hunter now enters the white-tails' world as the best management tool in practice. An estimated 516,900 hunters harvested approximately 362,179 whitetails during the 1972-73 season. It is evident that hunters, when given the opportunity, can effectively take the surplus animals and significantly reduce the pressure on the land. At the same

time hunters get back some of their investment in the form of venison.

According to department estimates, Texas deer hunters took home more than \$11 million worth of venison in the 1972-73 season. This figure is based on 13,174,000 pounds of boneless meat (36 pounds of boneless meat per deer) valued at \$.85 per pound as compared to



Perry Shankle, Jr.



Martin T. Fuller



Neal Cook

the price of ground beef chuck in November of 1972.

It is also during this time of the year that the deer begin rutting—when they are not busy trying to evade the hunter. The rut is the breeding season for the whitetails and bucks travel greater distances in search of does. Within this season, the life cycle begins again.



WINTER

With the onset of winter, whitetails increase their range in search of food. They have to consume great amounts to meet their normal nutritional requirements and maintain body tissue. Die-offs have occurred in the state when extended periods of snow and ice have covered the browse and made it almost impossible for the deer to feed. Overgrazed ranges cannot sustain high deer populations during these periods.

Late winter freezes that occur after trees and other vegetation are coming to life in the early spring can cause die-offs much later in the year. The production of mast such as acorns is susceptible to these cold spells and, as a result, the entire acorn crop might be destroyed. This in turn causes stress periods when the deer are usually dependent on mast for food.

It may sound as if man and the elements are cruel in the whitetails' world but they comprise the balance of nature which is essential in the survival of these and many other creatures. Apparently, everything is going well because there are more deer now than ever before in the history of the whitetail in Texas. **





Martin T. Fuller

OUTDOOR BOOKS

THE NORTH AMERICAN WATERFOWLER by Paul S. Bernsen; Salisbury Press, Superior Publishing Co., Seattle, Washington, 1972; 206 pages, \$14.95.

From the first chapter in which Paul S. Bernsen introduces the reader to the 10 most sporting species of ducks and gives tips on whether or not they decoy readily, to the conclusion in which he takes a look at the future of waterfowl hunting and what can be done to insure its continuance, everything of interest to the waterfowl hunter is found between the covers of *The North American Waterfowler*.

Good blinds, good decoys and good calling are the key ingredients for successful duck hunting and Bernsen devotes several chapters to these subjects. Information on the different types of blinds is presented along with illustrations and suggestions on how to build, install and camouflage them. Having the best-built blind in the world does not insure hunting success if the blind is installed in the wrong place, so tips on how to find the right place are also included.

Types, number, positioning and anchoring of decoys is thoroughly discussed and the myth concerning so-called "patterns" is shot down. Bernsen claims that birds decoy because the decoy set-ups look natural, not because they are set in a fishhook or other such pattern.

In his chapter on duck calls and calling the author suggests the hunter learn the four basic calls to which variations may be added as experience grows. Since reading how to call ducks in a book and calling them are two different things, the reader will be interested to know that a recording is included with the book so the beginning caller can actually hear how the basic calls should sound when properly made. Harry Hye, who does the calling on the record, teaches duck calling and has a forty-minute LP recording which is a condensation of his six-hour duck calling class. Information on how to obtain his recording is also included in the duck calling chapter.

Leaving the ducks, Bernsen goes on

to the geese and gives them adequate coverage. The five most important geese are discussed along with information on goose decoys, lines and anchors; goose calls and calling, and tips on goose hunting.

Subsequent chapters cover brant hunting, jump shooting, using and training retrievers, locating a desirable shooting area, hunting leases, improving waterfowl habitat, running a duck club, clothing and recipes.

Bernsen concludes his book with a section about Ducks Unlimited and what this non-profit organization has done to preserve waterfowl and waterfowl habitat during the past 35 years. He states that although there are 12,500,000 waterfowlers and bird watchers interested in the future of waterfowl, there are only 70,000 members of Ducks Unlimited. This means that less than one percent of the interested individuals are actually shouldering the financial responsibilities for waterfowl preservation for the other 99 percent. He feels that a larger percentage of those interested in waterfowl should get behind Ducks Unlimited to help them turn "wasteland into wetland" and includes an application for membership and a Ducks Unlimited envelope with each book to make joining the organization easy for his readers.—Ilo Hiller.

LIVING WITH YOUR LAND by John Vosburgh; Charles Scribner's Sons, New York, 1968; 191 pages, \$2.65.

Aimed at the suburbanite, *Living With Your Land* is an impressive paperback designed to help a person do creative things with property surrounding his home. In choosing a homesite, most persons select a site according to mortgage payments, taxes, insurance, schools, fire and police protection. But just as important are the soil conditions, drainage, erosion possibilities and vegetation.

The author emphasizes this point by giving accounts of persons who did not take these factors into consideration and suffered the consequences. Without a good foundation, a house may

settle and crack the walls or flood the floors; and in one instance, a house slid off an embankment and damaged nine other homes.

The prospective home owner should think about such things as fences and the best kind of vegetation to plant. The author offers advice on these headings and suggests that a variety of plants be utilized in case of disease. In an appendix titled "Where to Find Advice, Help and Material," the author lists agencies and organizations and the kind of assistance they specialize in.

A good deal of space in the book is devoted to attracting and protecting birds and animals for those persons with enough property. The author also discusses some of the federal and state laws that may apply under certain circumstances.

The author is a former editor of Audubon Magazine and is now a writer with the National Park Service, Department of the Interior. He presents his material in an informative and readable manner, offering many helpful tips for the do-it-yourself suburbanite.—Terrie Whitehead.

THE GREAT FISH written and illustrated by Peter Parnall; Doubleday & Company, Inc., New York, 1973; 42 pages, \$3.50.

Upon first inspection of *The Great Fish*, it appears to be just a children's book written about the Indians who lived in America a long time ago. Illustrations by the author depict Indians in their native dress living in a log cabin. The theme of the book follows a grandfather reminiscing days gone by to his grandson.

The author relies heavily on his excellent sketches to give a visual image of what the grandfather says. No clues are given to the purpose of the book until the last page when the author says, "But now my son, a mother's tears are not enough." A picture of dead fish and an over-turned car in a once beautiful river climax the book and bring the reader from the 1700's to the 20th Century with a great force and impact.

The approach and development of this book are excellent as it impresses upon young readers the need for conservation in the control of pollution.—Terrie Whitehead.

YOU'RE THE SOLUTION TO WATER POLLUTION

LONG SHOTS SHORT CASTS

Front Cover — Ed Dutch; Nikkormat, 80-200mm zoom Nikkor; Ektachrome.

Inside Front — Bill Reaves; Nikon F2, 28mm Nikkor; Ektachrome.

Page 2 — Martin T. Fulfer; Nikon F2, 400mm Leitz Telyt; Kodachrome X.

Page 3 — Leroy Williamson; Hasselblad 500C, 500mm Zeiss Tele Tessar; Ektachrome.

Page 4 (top) — Jim Whitcomb; Nikkormat, 300mm Nikkor; Ektachrome. — (bottom)—Reaves; Nikon F, 400mm Leitz Telyt; Ektachrome.

Page 5 — Fulfer; Nikon F2, 400mm Leitz Telyt; Kodachrome II.

Page 6 — Reaves; Nikon F2, 400mm Leitz Telyt; Ektachrome.

Page 7 (top) — Whitcomb; Nikon F, 500mm mirror Nikkor; Kodachrome X. —(bottom)—Fulfer; Nikon F, 400mm Leitz Telyt; Kodachrome X.

Page 8 — Reaves; Nikon F, 500mm mirror Nikkor; Ektachrome.

Page 9 (top) — Perry Shankle, Jr.; Leicaflex SL, 560mm Leitz Telyt; Kodachrome X. —(center)—Fulfer; Nikon F, 400mm Leitz Telyt; Kodachrome X. — (bottom)—Neal Cook; Nikon F, 500mm mirror Nikkor; Ektachrome.

Page 10 — Shankle; Leicaflex SL, 560mm Leitz Telyt; Ektachrome.

Pages 10-11 — Fulfer; Nikon F, 400mm Leitz Telyt; Kodachrome X.

Pages 16-17 — Jana Johnson Schnoor; pen and ink on scratchboard.

Page 19 — W. Cade; pen and ink on illustration board.

Page 20 — Helen Sloan Young; pen and ink on illustration board.

Page 21 — Sim Oefinger; Nikon F, 55mm micro Nikkor; Ektachrome.

Page 23 — James C. Kroll; technical information not available.

Page 25 — Charles Shaw; acrylics on illustration board.

Page 29 — Williamson; Nikon F, 35mm Nikkor; Kodachrome II.

Page 30 — Whitcomb; Nikon F, 55mm micro Nikkor; Kodachrome X.

Page 31 (top) — Reagan Bradshaw; Hasselblad 500C, 80mm Zeiss Planar; Ektachrome. —(bottom)—Williamson; Hasselblad 500 C, 250mm Zeiss Sonnar with tubes; Ektachrome.

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

Back Cover — Fulfer; Nikon F2, 400mm Leitz Telyt; Kodachrome II.

compiled by Neal Cook

L. A. Honored: L. A. Wilke has been awarded the highest honor given by the Outdoor Writers' Association of America—its "Excellence in Craft" award.

Subscribers who took the magazine in the late 1950's and early '60s will remember Wilke as editor of *Texas Game and Fish*; for others the name will be familiar from one of the hundreds of articles with his byline which have appeared in both state and national publications over the past 50 years. The award was based on his contribution to the field of outdoor journalism through writing for newspapers and magazines about hunting, fishing, conservation and the environment.

While "retired", Wilke is writing on a free-lance basis in Austin and has just finished a new book on fishing holes in Texas.

Fisheries Depleted: In Bristol Bay, Alaska, fishermen have found out what the term "biological overfishing" means. This area of our northernmost state has historically had a profitable red salmon fishery, but this past four-day season for commercial harvesting of the fish saw another dramatic decrease in the numbers of fish making the spawning run up the bay's river system. About 2.3 million fish made the run as compared to 40 to 50 million fish in years past. Alaska Department of Game and Fish officials say that a combination of extremely hard winters, which killed food species as well as salmon eggs and young salmon, and constant fishing pressures since the 1930's depleted the fish resources.

Barely Scratched: The center of the earth lies nearly 4,000 miles beneath sea level. To date, man has drilled nearly six miles into the earth.

Lakes Popular: Over 3.5 million people visited 17 U.S. Army Corps of Engineer lakes in North Texas during August 1973. The most popular lake was Whitney with 765,802 people visiting.

Peregrine Falcons: Twenty peregrine falcons hatched at Cornell University last spring. This apparently demonstrates that researchers have overcome the major problems of propagating these birds of prey in captivity. With the long-term goal of restocking the increasingly rare and swift bird, university scientists expect to increase the number of producing pairs from three to at least 20 by 1976.

Are You Hunting For A Heart Attack?

by Clifford Damstrom,
American Heart Association,
Texas Affiliate, Inc.

"TAKE CARE of your heart before it takes care of you" . . . may be somewhat of a cliché, but it carries a tremendous amount of importance and significance to hunters during this, the advent of the hunting season in Texas.

The American Heart Association estimates that approximately 50 percent of all deaths in Texas this year will result from cardiovascular diseases, with heart attacks being the single greatest killer of all. Although we do not know the exact number of heart attacks which strike hunters each year, we know that they do occur and, all too often, fatally. The tragedy lies in the fact that many heart attacks could probably have been prevented or the effects lessened if the hunter had taken proper precautions and conditioning before the hunting trip.

To understand the nature and scope of the cardiovascular problem, it is important to know how the heart functions and what it is called upon to do. During the course of a normal lifetime, the heart generates enough power to lift a battleship 14 feet above the surface of the water; the heart is called upon to beat about 100,000 times a day, resting only a fraction of a second between beats; and it moves 4,300 gallons of blood each day through 60,000 miles of blood vessels.

The heart is one of the toughest organs in the human body, but that does not make it immune to sickness or disease. We know that exercise is generally good for the health, but after studying people in different occupations, scientists have concluded that exercise may be "particularly good for the heart." Findings from the American Heart Association indicate that men physically active on the job tend to have fewer heart attacks than those with desk jobs and, if they do have heart attacks, they are apt to come later in

life and be less severe. The evidence comes from comparative studies of bus drivers and conductors, railway yard men and clerks, farmers and sedentary workers. Thus, regular physical exercise is considered one important factor in reducing the risk of heart attack.

With this in mind, the American Heart Association offers the following advice and precautions to Texas hunters getting ready to leave for the hunting leases:

*Arrange to see your doctor before your trip. Discuss your plans with him and take his advice on safe energy expenditure, medicines to take along, etc.

*Dress sensibly. Consider the climate both day and night. If you hunt at an altitude higher than where you live, get there a few days early so you will become acclimated. Get adequate rest before the hunt starts. Don't hunt when exhausted—plan your day of hunting and rest often.

*Know the approximate distance to be covered. Know the location of the phone nearest to your camp, the nearest doctor or nearest emergency rescue center.

*If you are already a heart patient, be sure one member of your party knows about your condition, the medicines you take and how the medicines are administered. Never hunt alone.

*After you get the lucky shot, wait for help to carry the game out of the woods.

Before your hunting trip, it might do your heart good if you were to secure a copy of "Hearts and Hunting," "Physical Activity and Your Heart" and "Creative Walking: Secret For A Slimmer Sexier You." Copies may be obtained free of charge by contacting the American Heart Association, P.O. Box 9928, Austin, Texas 78766.

It makes good sense to take as good care of your heart as you do your gun. Happy Hunting. **

SALINAS,

HIS GENTLE VISION

AN EXCLUSIVE OFFERING OF 15 PORFIRO SALINAS PRINTS IN BEAUTIFUL COLOR

Wallace Engraving is proud to make available for the first time 15 full color lithographs by nationally-acclaimed Porfirio Salinas. These reproductions offer the full range of Southwestern landscape in various sizes at only a fraction of the original prices. They are special additions to both homes and offices and make excellent gifts the year round.

PORFIRO SALINAS

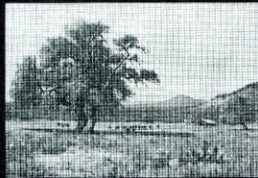
When Porfirio Salinas died in 1973, the Southwest was deprived of one of its most ardent visionaries. In his tranquil scenes, the quiet power of the land seems to explode in color here and promise a more inviting horizon there. His work is an open window on undisturbed nature, stirring moments of delicacy and majesty.



BLUEBONNETS AND OAKS #8-\$19.50



1



2



3



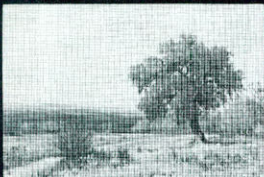
4



5



6



7



9



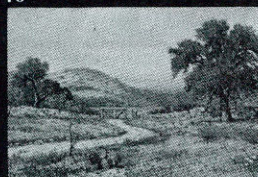
10



11



12



13



14



15

P. O. BOX 1485
407 LAVACA
AUSTIN, TEX. 78767

Wallace

ENGRAVING COMPANY

PLEASE SEND THE FOLLOWING:

Size 16x24—\$15.00

1. Bluebonnets in Shadow

2. Lazy Afternoon

4. Deer Country

Size 18x24—\$15.00

3. Rio Frio

5. Breath of Spring

6. Pedernales Country

7. Bluebonnet Time in Texas

Size 24x36—\$19.50

8. Bluebonnets & Oaks

9. Rocky Creek

Size 12x16—\$8.00

10. Monday's Wash

11. Vista

12. Illumination

13. The Open Gate

Size 9x12—\$6.00

14. Ranch In April

15. Evening Reflection

BANKAMERICARD MASTER CHARGE

ACCT # _____

SIGNATURE _____

TOTAL OF ORDER	
ADD 5% STATE SALES TAX	
ADD SHIPPING & HANDLING	.75
TOTAL	

PLEASE PRINT:

NAME _____

STREET _____

CITY _____

STATE _____ ZIP _____



VENISON CARE AND RECIPES

By Ed Dutch

VENISON is delicious if you know how to take care of it in the field and during processing and preparation.

The deer must be cleaned and cooled immediately and since it is still quite warm throughout much of Texas during the season, this is especially important. When dressing the animal, be careful not to get any intestinal matter or urine on any of the meat. Also wipe the body cavity clean of excess blood and cut away areas of bloody tissue or meat damaged by the bullet. This will prevent the other meat that is in contact with the blood from becoming bitter.

The body cavity should also be propped open with a small stick. This will allow air to circulate and the body heat to dissipate.

Transporting the carcass to your home or to the butcher requires that you still keep the animal cool. A carrier or rack on top of your car is best or, if you have a pickup, you can put the carcass on the bed and cover it with heavy canvas. Never tie the carcass to the hood of your vehicle as the engine heat will cause it to spoil. It is also best not to put the carcass in a tightly closed trunk because the excessive heat and lack of air circulation will also cause spoilage. Get the carcass into a cooler and out of the sun as soon as possible. Don't linger too long on the way back from your hunt. Warmer temperatures and longer times traveling will make it necessary for you to take better care of the carcass.

Sportsmen generally agree that it is best to age the meat before butchering. Aging adds to the flavor and texture of the meat. It is usually done by carrying the skinned carcass to a butcher's meat cooler or a locker plant and letting them hang the meat for a five- to 10-day period.

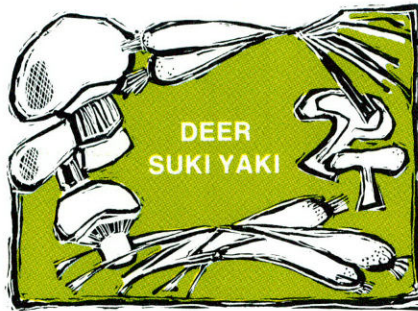
You can then either cut up the animal yourself or have it processed by the butcher or locker plant. If you have it processed, it is your responsibility to make it known how you want the deer cut up. You can ask the processor for advice.

Now that you've got your cuts of meat ready, here are a few recipes from which to choose. Whether you like a simple deer loin steak smothered in mushroom soup and onions or a fancy meal of deer "Suki Yaki," you're sure to find that the time spent to process your deer right was well worth it.



- 1/2 lb. pinto beans
- 5 cups canned tomatoes
- 1 lb. chopped green peppers
- 1 1/2 tbs. salad oil
- 2 cloves crushed garlic
- 1/2 cup chopped parsley
- 1/2 cup butter
- 2 1/2 lbs. deer meat (or lean meat)
- 1 lb. ground lean pork
- 1/2 cup chili powder
- 2 tbs. salt
- 1 1/2 tsp. pepper
- 1 1/2 tsp. cumin seed
- 1 1/2 tsp. monosodium glutamate
- 1 1/2 lbs. of chopped onions

Wash beans and soak overnight in water 2" above beans. Cook in same water until done, do not drain. Add tomatoes and simmer for 5 minutes. Saute green peppers in salad oil for 5 minutes. Add onions and cook until tender, stirring often. Add garlic and parsley. Melt butter in large skillet and saute meat for 15 minutes. Add meat to onion mixture and stir in chili powder and cook 10 minutes. Add this to beans and the spices. Simmer covered for one hour, cook uncovered for 30 min.



- 2 lbs. deer tenderloin
- 10 mushrooms
- 3 bunches green onion
- 3 stems broccoli
- 1 can Chinese vegetables
- 4 tsp. sugar
- 1/2 cup soy sauce
- 1 can dried noodles

Cut meat in paper-thin slices about 2 inches square. Slice mushrooms thin. Slice onions and broccoli in thin rounds. Render a piece of deer suet in very hot skillet. When rendered, put in vegetables. Cook several minutes. Then add tenderloin, mushrooms, sugar, soy sauce. Cook 10 minutes. Serve on rice and cover with onion rounds and dried noodles.



- 1 cup of your favorite barbecue sauce
- 1/2 cup oleo
- 1 small onion, minced
- 1 large pod garlic
- 1 1/2 tsp. prepared mustard
- 1 tsp. chili powder
- 1/2 cup lemon juice
- 1 tbs. brown sugar
- 1 tbs. Worcestershire sauce
- 1/2 cup water

Simmer 15 minutes. Salt and pepper meat, rub generously with oil, preferable bacon drippings. Put in pan, cover tightly with foil, cook in 375° oven. Check every so often for tenderness. About 30 minutes before taking out of oven, start basting with barbecue sauce.



(serves 10-12)

- 4 to 5 lbs. venison roast
- 2 lemons
- 6 slices salt pork, 1/4" thick
- salt to taste
- black pepper to taste
- 2 tbs. Worcestershire sauce
- 1 medium-sized onion

Remove all fat from venison roast. Season with salt and pepper. Line a roast pan with salt pork after washing off excess salt. Place roast in pan. Add the juice of one lemon, Worcestershire sauce, chopped onion and slices of other lemon. Cover and cook slowly until done. Add a small amount of hot water if needed.



- 2 large onions sliced
- 2 carrots, sliced
- 2 stalks celery, chopped fine
- 2 cloves garlic, chopped fine
- 2 tsp. salt
- 1 tsp. fresh ground pepper
- 1/2 cup sugar
- 1/2 tsp. of clove, allspice, and basil or thyme
- 2 bay leaves
- 1 tbs. chopped parsley
- 1 qt. vinegar
- 1 qt. water
- 1 pt. of beer (optional)
- 1/2 cup olive or salad oil

Saute onions, carrots and celery in olive oil 10 minutes, add remaining ingredients, simmer 1/2 hour then chill. Place in large earthenware bowl or crock and add 3 to 4 lbs. of venison (shoulder, neck, breast or other tough portions) cut in 1 1/2" to 2" pieces. Let stand in refrigerator for one to two days, turning several times. Place meat and marinade in large kettle, bring slowly to a boil. Cover and cook over low heat for 2 hours. Thicken liquid for gravy if desired. **



(serves 4)

- 1 lb. "ham" steaks, 1/2" thick
- 1/4 cup thick cream or evaporated milk
- 1/4 cup flour
- 3 tbs. butter or margarine
- Salt and pepper to taste

Pound steaks thoroughly with sharp-edged meat pounder. Cut into serving pieces. Dip steaks into cream, dredge in flour. Brown one side in hot butter. Turn. Salt and pepper to taste. Continue browning until second side is well browned. Serve hot.

SEASON OPEN NOW!

You can CALL FOX, CAT, COYOTES right up close! Day or Night



\$3 C-3 LONG RANGE DELUXE
\$2 S-2 CLOSE RANGE FOX CALL

SPECIAL DEAL (\$7 value)—Both Fox Calls plus \$2 Instruction Record (78 or 45 rpm) only \$5

Enjoy big action—exciting hunting thrills! It's easy, day or night, with surefire BURNHAM CALLS featured in TRUE SPORTS AFIELD etc. Thousands in use, bringing game in everywhere. Original BURNHAM Calls lured up 171 Fox, 33 Coons, 156 Coyotes, 11 Bobcat, 42 Deer plus Eagles and Hawks on their dry run. Letters tell us amazing results—First time I used your call I brought up 5 coyotes—P.T.C. New Mexico BURNHAM calls guaranteed—you get close shot at varmints or your money back! (Dealer Inquiries Invited.)

FREE CATALOG For new booklet "THRILLS OF GAME CALLING" with many pages of rare and exciting photos, send 35c. All electronic callers available

ORDER TODAY! We Pay Postage

BURNHAM BROTHERS
Box 101, Dept. E-113-F, Marble Falls, Texas 78654

CALL QUAIL

for the best shooting you ever had



MONEY-BACK GUARANTEE

Exciting way to bag Bob White Quail. Call and locate coveys and singles with this easy-to-use call. Guaranteed to work in any part of the country or your money back. Free instructions and catalog included. SEND NOW.

SPECIAL OFFER FOX CALL KIT: Long and close range call, instruction record (78 or 45 rpm). A \$7 value, ONLY \$5.

NEW BOOKLET "Thrills of Game Calling": Rare and exciting photos. Send 35c.

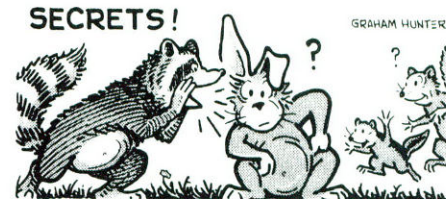
Q 5 ONLY \$1.50 PPD.

ORDER TODAY

BURNHAM BROTHERS
P.O. Box E-113-Q, Marble Falls, Texas 78654

SECRETS!

GRAHAM HUNTER



Trapping secrets, that is! Lots of 'em! . . . They're in that fascinating, unusual book—the HAVAHART Trapping Guide. All about animals and things animals do. It tells how to trap 'em humanely, too. . . Price list for traps, cages, n' everything is included. . . This great book is FREE and we'd like you to get your copy at once. Write for it today. Address—

HAVAHART, 149 Water St., Ossining, N.Y. 10562
Please send free trapping guide and price list.

Name _____
Address _____
City _____ State _____ Zip _____

"CATFISH FARMING HANDBOOK"
by Jerry Mack

This valuable reference book covers Production, Financing, Disease Control, Marketing, and all other phases of this dynamic new agribusiness industry

\$12.95 hardcover postpaid
AGRIBOOKS
Box 5001-T
San Angelo, Texas 76901

PORTABLE HUNTER'S STAND AND BLINDS



NEW! Portable Hunter's Stand

NEW HUNTER'S BOW STAND. 10 foot stand can be set up in two minutes. Weighs less than 40 lbs. \$59.00.

Hunter's **NEW ALL WEATHER BLINDS** on 10 foot and 15 foot scaffold type tower. One man can set up in about one hour's time.

Blind (4'x4'x6' 3") \$95.00
With 10 foot tower \$155.00
With 15 foot tower \$185.00

NEW "PORTABLE BLIND"
Light weight total 70 lbs. Can be assembled in 5 minutes
Dimensions — 4'x4' x 6' 3"
\$105.00 F.O.B. San Angelo, Texas

PORTABLE HUNTER'S STAND for the discriminating sportsman who wants greater hunting success as well as comfort, pleasure and safety. Seventeen years of proven success.

Tubular steel construction with full 360° bannister gun rest for perfect shots. Full view of game offers selection before killing. No odor when above. Excellent for hanging game while cleaning. Stand is light and sturdy. Can be assembled or taken down in three minutes for portability from one location to another.

Other uses: varmint calling, photography, wildlife observation, viewing and judging sporting events.

10 ft. model with Fiberglass Swivel Seat as shown \$79.50, 12 ft. \$87.50, 15 ft. \$97.50. Other models and seats available. Canvas Windbreaker for weather protection, \$14.95.

All prices f.o.b. plus 5% sales tax.

For more information write or call for free brochure.

HUNTER'S EQUIPMENT MFG. CO.
P. O. Box 5254
PHONE: 653-5262 or 949-6459
SAN ANGELO, TEXAS 76901



Wild Game Ownership

by George Adams

DOWN through the ages, it has been necessary to draw a legal distinction between domestic animals and wild game animals.

In Texas, the Penal Code designates those animals which are "game animals" under law. According to this article, "wild deer, wild elk, wild antelope, wild desert Bighorn sheep, wild black bear, wild gray or cat squirrels, wild fox squirrels or red squirrels and collared peccary or javelina" are wild animals. In addition, aoudad sheep are declared game animals in Armstrong, Briscoe, Donley, Floyd, Hall, Motley, Randall and Swisher Counties.

By the provisions of this article, two requirements appear necessary to classify an animal as a "game animal." The animal must be "wild" and it must be an animal "indigenous" to the state as a whole or some part of it. Although the term "indigenous" is not defined, rules of construction require the term to be given its "ordinary signification." The term therefore may be defined as that which was "born, growing or produced naturally in a region or country."

Another article in the Penal Code uses the term "wild" declaring that "all wild animals, wild birds, and wild fowl within the borders of this State are hereby declared to be the property of the people of this State."

Also, "all fur-bearing animals of this State" are declared to be "the property of the people of this State." Fur-bearing animals specifically mentioned by this article are: "wild" beaver, polecat or skunk, raccoon, muskrat, opossum, fox

and civet. Still another Texas statute numerates the species of wild game birds. By declaring all wild animals to be the property of "the people of Texas," the necessary civil or penal laws can be enacted by the legislature to protect or control wild animals as the need arises. As the Court of Criminal Appeals has stated: "The ownership of wild game, so far as it is capable of ownership, is in the state for the benefit of all its people in common. . . ."

Laws governing hunting rights have their foundations in early civilized history. For example, the common law of early England made a distinction between the wild game which was called "ferae naturae" and domestic animals called "domitiae naturae." Title to wild game in England originally vested in the sovereign. The Magna Charta in 1215 and the Charters of the Forest by Henry III in 1225, limited the rights of the sovereign in wild animals.

The law there afterwards recognized a property right in wild game in the individual but only after the game was reduced to possession by the hunter. In Blackstone's words ". . . by the law of nature every man from prince to the peasant, has an equal right of pursuing and taking . . . all such creatures as are *ferae naturae*, . . . but liable to be seized by the first occupant, . . . but it follows, . . . that this natural right . . . may be restrained by positive laws enacted for reasons of state or for the suppose benefit of the community."

In Spain, the *Las Siete Partidas*, adopted in 1263, declared: "Whoever

takes wild beasts and birds, and fish from the sea and rivers, becomes their owner as soon as he has taken them, whether he obtains possession of them on his own land or on that of another." This early legal concept has been carried forward into our modern laws.

The right of private ownership of land was developed concurrently with the right of the individual to hunt and reduce wild game to possession or ownership. The absolute right to hunt wherever a person chooses would clearly limit a landowner's property right. Wild game therefore can legally be taken only upon two important conditions: (1) when all game laws both state and federal are observed and (2) after permission is granted the hunter, when he is hunting upon the land of another. The Texas Trespass Law states: "No person shall enter or attempt to enter upon the enclosed land of another without consent of the owner, proprietor, lessee, or person in charge thereof, and hunt or attempt to hunt with firearms, bow and arrow, crossbow, or any other instrument capable of being used in hunting of any animal or bird."

It is the legal responsibility of each hunter to know the game laws of Texas and to abide by them while hunting. Information on game laws can be obtained by asking for "A Guide to Texas Hunting and Fishing Regulations" where licenses are purchased or by writing The Texas Parks and Wildlife Department, John H. Reagan Building, Austin, Texas 78701. **

How To:

Build a Portable Blind

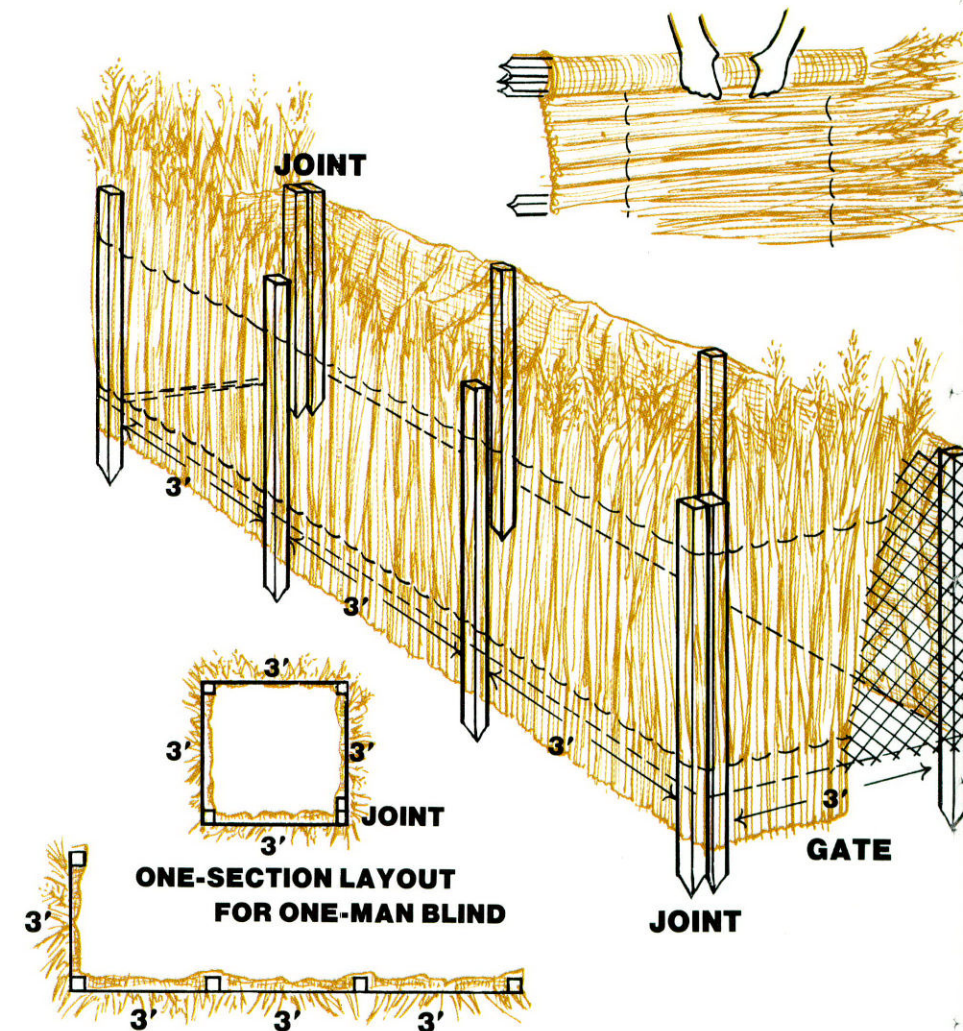
By Sim Oefinger, Biologist

BACK when the weather was warm during this year's early teal season, a couple of friends of mine introduced me to one of the finest portable blinds which a duck was ever hunted from. Riverbanks and lake shallows are ideal locations for pitching such a blind. This "roll it up—take it with you" special is easy to make, very portable and with only moderate scrounging can be put together for less than \$10.00.

A blind for three hunters requires 24 feet of 48-inch-wide chicken wire, 10 wooden stakes about one inch square and five feet long, seven or eight tow sacks, a ball of heavy cotton twine, about a dime's worth of small fence staples and a good-sized armful of Johnson grass. By this time of the year the Johnson grass will have dried and turned brown which is ideal for use on the blind.

Cut the chicken wire into two 12-foot sections and lay one piece out flat. Sharpen five of the stakes on one end. Place one stake at each end of the wire and space the other three evenly along the middle. Nail the wire to the stakes making sure the point ends are protruding. Then sew the tow sacks to the other side with twine.

When setting the blind, the stakes are pushed into the ground for support. If you know where you are going to set your blind, you might want to vary the length of your stakes because of the water depth or the soil conditions.



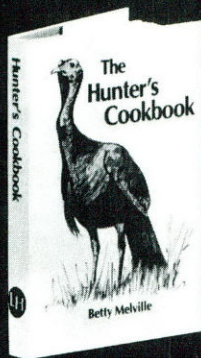
Repeat these steps for the second piece of chicken wire. Building the blind in two parts makes for easier handling when the sections are rolled up, and one section makes an ideal one-man blind.

Lace small bundles of Johnson grass to the chicken wire, leaving the seed heads sticking one to two feet above the top. Buy some wooden campstools or improvise board seats to sit on, and you're ready.

Don't wait for opening morning to get started. Scout your hunting spot ahead of time. When setting up your blind, locate it in the vegetation in or near open, shallow water. Placing cut rattlepod or other naturally growing vegetation around the blind will help break up the outline.

All that's left is to sit back and wait for that beautiful sight of ducks with set wings drifting in over the decoys. **





The Hunter's Cookbook

By Betty Melville

Former high altitude test cook for Betty Crocker

A collection of over two hundred recipes for wild game including Barbary Sheep, Antelope, Grouse, Pheasant, Buffalo, Elk, Bear, Javelina, Opossum, and Raccoon. Dozens of new recipes for Deer, Squirrel, Rabbit, Quail, Goose, Duck, Turkey, and Dove which every cook will find delicious and easy to prepare.

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.

THE HUNTER'S COOKBOOK is a culinary reference book for the true sportsman which no hunter—or hunter's wife—should be without.



Little House Press

4300 SHOALWOOD
AUSTIN, TEXAS 78756

Please accept my order for _____ copies of THE HUNTER'S COOKBOOK at \$7.95 per copy. I am adding 40¢ for postage and handling. Texas residents add 5% sales tax.

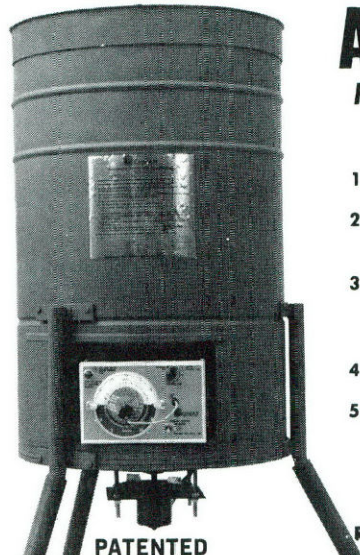
NAME _____

STREET _____

CITY _____

STATE _____ ZIP _____

NEW LEHMAN



AUTOMATIC FEEDER

Fishermen • Hunters • Birdwatchers

Time Tested—Over 3,800 Sold!

1. New 24-hour 4-jewel movement.
2. Feed one or more times day or night any selected time regularly unattended.
3. Distributes feed 25 to 75 ft. — depending on installation height. Install suspended — or on pipe legs.
4. Operates on 6 volt dry cell — 2 to 6 mos.
5. Capacity 250 and 1,000 lb. sizes.

Write for Free Brochure

LEHMAN EQUIPMENT CO.

Route 3, Box 53, Corpus Christi, Texas 78415



EXOTIC GAME FOR STOCKING and Trophy Hunting

Exotic breeds from Asia, Africa and Japan available for Fall or Winter delivery in the Southwest. Guaranteed top quality game, all breeds well adapted to Texas short grass ranges. Hunting: 10 guaranteed trophies this Fall. Write or call for particulars.

AXIS DEER FALLOW DEER EUROPEAN RED STAG BLACKBUCK ANTELOPE
MOUFLON SHEEP JAPANESE SIKA DEER ALOUDAD SHEEP SAMBAR

THESE EXOTIC BREEDS ALSO AVAILABLE ON SPECIAL ORDER

SITATUNGA • ELAND • HORNED SHEEP • ELK

CORSICAN RAMS • BARASINGHA

THE WORLD FAMOUS

PATIO GAME RANCH

P. O. BOX 21100 • SAN ANTONIO, TEXAS 78221 • 512 WA 3-3411



Marbled Salamander

by James C. Kroll and
Thomas K. Pauley

AMPHIBIANS traditionally lay their eggs in water where they develop into fishlike larvae, however, some Texas salamanders deposit their eggs on land. The marbled salamander, *Ambystoma opacum*, is such a species.

It belongs to the family Ambystomidae and is often called a mole salamander because much of its life is spent underground. This chunky little salamander may be identified by light silvery markings, usually with crossbands, on a dark black background and solid black belly.

Marbled salamanders occur in several habitats but are generally found in low, moist sandy areas which are subject to flooding. For some unexplained reason, they are often found in soil near the bases of willow trees. This relationship probably involves a requirement for moist conditions by both the plant and animal.

If you would like to observe some

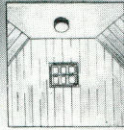
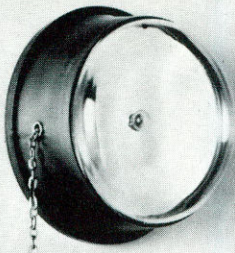
of these little amphibians, Caddo Lake State Park near Marshall is an excellent area; however, we would suggest that you do not remove them from their natural habitat. All salamanders are economically and ecologically important in that they feed on insects and their larvae.

In October, male and female marbled salamanders emerge from their burrows, congregate in large numbers and mate. Mating behavior is very complex and involves a *liebes spiel* or love play. The males become excited by the females' presence and deposit small sperm capsules called spermatophores. Each female picks up a spermatophore with the lips of her cloaca and the sperm fertilize her eggs internally. She then burrows back into the ground, builds a depression and lays 50 to 232 small eggs. These nests are reported to be single, but we believe them to be communal, or at least, connected by tunnels.

The eggs are pigmentless and are composed of a non-cellular gelatinous envelope surrounding a single egg cell. When laid, the gelatinous coating is small, but swells to a much larger size in the moist conditions of the nest. The female guards her eggs until fall rains flood the nest, at which time, the eggs hatch. This wait for rain can vary from 14 to 207 days. The larvae overwinter and metamorphose into young adults the following spring after a larval period of five to six months. If the fall rains do not come, the female continues to guard the eggs through winter or until the eggs are flooded.

Since many salamanders breed in spring, the newly developed marbled salamanders have a head start on the young of other salamanders. Therefore, marbled salamanders have a marvelous adaptation which allows them to compete with other species for food and shelter. **

WIRELESS LIGHT FIXTURE



**ATTENTION
OUTDOORSMAN!**

Ideal battery operated light for your hunting, camping and boating trips. This unique light goes in hidden places and where electricity isn't available. Equipped with an on-off pull chain and bulb. (2D batt. not included).

WIRELESS LIGHT: \$2.98 plus 50¢ handling and postage.

**ELITE GIFT HOUSE
P.O. Box 1198 Dept. 12
Ingleside, TX 78362**

WILDLIFE & NOSTALGIA

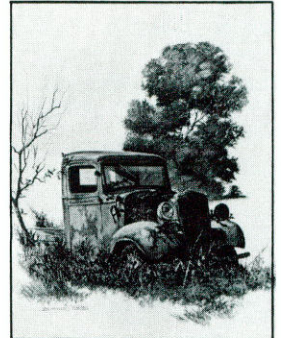
New Limited Edition Collector Prints



"Raccoons"
by Nancy McGowan

Introducing a new series of Collectors Signature Edition Prints magnificently reproduced in full color. These prints are important new works by two popular Texas artists. Each print is strictly limited to 1500 copies and is numbered and signed by the artist.

Each print is 16" x 20".



"Granddad's Truck"
by Robert Summers

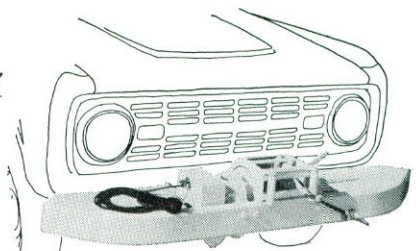
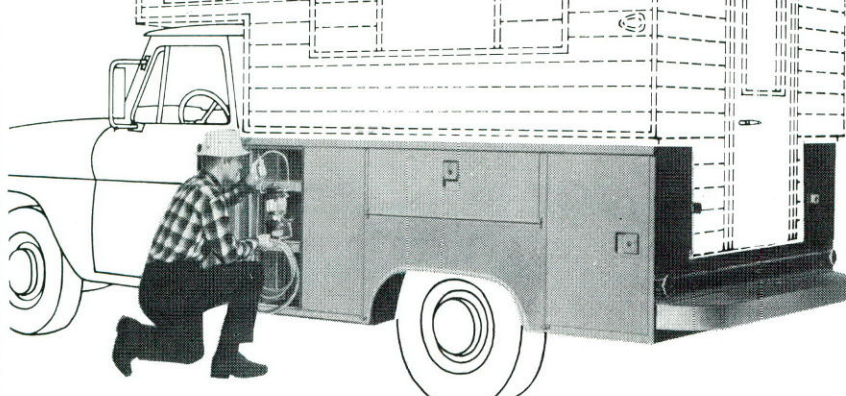
Quantity	Collector Print	PP Price
	"Raccoons"	\$23.00
	"Granddad's Truck"	\$28.50

Enclosed is \$ _____ Check Money order for the Collector Prints ordered above.
 Please ship order to me. Gift list enclosed.
 Name _____
 Address _____
 City _____ State _____ Zip _____
 Please send me brochure of all Texan House Prints.

Send coupon to:

TEXAN HOUSE INC.
P. O. Box 9159
Austin, Texas 78766

Camp Mates.



The Koenig Kamp-Stor Body gives you room to store your gear outside the camper so there's room for you inside. No unpacking or moving equipment around just to make room for yourself. And when you stop for the night, you know exactly where everything is. Stowed away securely in one of the individual compartments. Each compartment is weather resistant and locks

securely. Store food, tents, stools, boat motors, fuel or whatever you want to take. **For any standard-sized camper.**

Koenig
Iron Works, Inc.

Koenig helps you see America.

The Koenig Electric Winch allows you to go off the road where the action is. 8,000 lbs. of dependable pulling power will enable you to cross a stream, climb a hill, or winch your vehicle out when it bogs down. Now, go where you want to go. **Models for two or four-wheel drive vehicles.**

Please send me literature on:

- Kamp-Stor
- Electric Winch

Name _____
 Firm _____
 Address _____
 City _____ State _____ Zip _____

Koenig Truck Equipment
P.O. Box 7726, Dept. TP-11 Houston, Texas 77007

Always point the muzzle

Always point the muzzle in a safe direction!

A careless move, a sudden fall, can always cause an accidental discharge. A safe hunter is constantly aware of muzzle direction and insists his companions follow the same rule.



in a safe direction!

HUNTERS

The ONLY Deer Stand For You!



Stands 12 Feet High
Swivels 360°
Weighs about 30 lbs.
EASY TO CARRY
Sets up quick & quiet
**ALL STEEL
CONSTRUCTION**
ONLY 59⁹⁵

C. E. BLACKWELL NEW BRAUNFELS, TEXAS
In Austin, Contact CHARLIE STARK, Phone 836-8983

Contact
942 Allen St. • 625-7816
Home phone 625-0149



The FEED-ALL

Game-proof, 5-gallon feeder dispenses dry grain and pellets. Self operated by breeze; only one moving part. Simple control cone adjusts opening to dispense and provide positive control of flow of various types of feed. Rust-resistant steel construction. \$6.95 prepaid plus 5% tax. PAT. #2,972,334

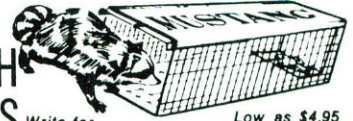
See your dealer or order direct from:



P. O. Box 5087

San Antonio, Texas 78201

LIVE-CATCH TRAPS



Write for FREE CATALOG

Low as \$4.95

Traps without injury squirrels, chipmunks, rabbits, mink, fox, raccoons, stray animals, pets, etc. Sizes for every need. Also traps for fish, sparrows, pigeons, turtles, quail, etc. Save on our low factory prices. Send no money. Write for free catalog and trapping secrets. MUSTANG MFG. CO., Dept. N37 Box 10880, Houston, Tex. 77018

ELECTRONIC GAME FEEDER

Build your own game feeder with our pre-assembled electronic Motor/Control. Control operates once or twice a day with adjustable run time. Motor/Control and construction plans only—\$39.50 plus tax, post. Brochure available.

JACKSON MANUFACTURING
P.O. Box 1216,
LaPorte, Texas 77571

LLANO COUNTY LEASES

Finest hunting available for season, week, or weekend. Individual pastures with cabins and/or campsites for each group. The heart of deer country. Reservations accepted now at reasonable prices.

BEN A. WALLIS & SON
LLANO, TEXAS 78643
(915) 247-5207

BIRD DOGS

Chandler Kennels, one of the largest in the business offers to you for your selection over 100 top trained POINTERS, SETTERS & BRITTANIES. These dogs are all registered out of top blood lines. We guarantee all our dogs as advertised to suit you, the Hunter. Also puppies & started dogs.

Call, write, or come by:
CHANDLER KENNELS
P.O. Box 1011, La Porte, Tex.
Call: Area Code 713-GR 1-4023
Hollen Chandler—Owner

NOW Set or Take up Trotline in 5 Minutes!
BOOKLET ON HOW TO 20 PAGES
Catch 'em!

"TROTLINE FISHING SECRETS"... written by experts.
How, when, where to set trotline, illustrated. Baits laws, tackle. Send 25¢ for mailing cost.
LAWRENZ MFG CO., DEPT T, P.O. BOX 3837, DALLAS, TEX 75208

BIG BEND COUNTRY OF TEXAS

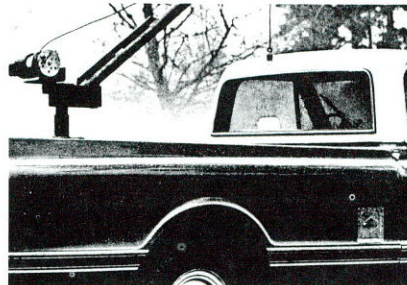
Guided hunt on 7,360 acres for Mouflon and Corsican trophy rams. 3-day hunt, guaranteed kill. Jeeps & Lodge included. Air strip. Javelina in season. Ram \$200, Javelina \$100. Also breeding stock available. 35 miles west of Sanderson, Texas. Write to H.O.H. Ranch, 2304 Hancock Dr., Suite 4, Austin, Texas 78756. Call Harry Montandon person-to-person 512-451-6401.

WE WARN YOU

Equip your vehicles with WARN Winches and Hoists. For pulling or hoisting, freeing a bogged down vehicle or snaking a heavy load into a pickup, jeep, camper or truck, it's a breeze with WARN Winches and Hoists.

Pictured below left is the new WARN Utility Hoist mounted in a pickup. Gives you three quarters of a ton lifting power — when you want it and where you want it.

Pictured below right is WARN Winch M-8200 in action. Develops 8,000 pounds pull on single line. Operates on 12 volt battery . . . power in or power out. Fits all 2 or 4 wheel vehicles and is transferable.

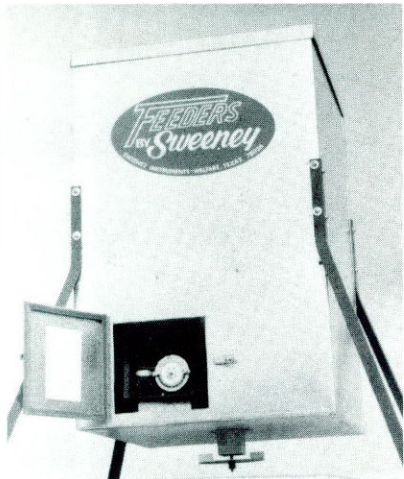


New from Warn! MiniWinches & Hoists. A great addition to an already great line, this mini-series is available in a variety of models and prices. Call or write for full details on WARN equipment. • We also carry a full line of hubs for all types of four wheel drive vehicles and safety alarms. • Let us Warn You!

E. N. DEAN SUPPLY CO.

1515 Rogers St., San Antonio, Tex. 78208
512-226-8231 Dealer inquiries invited

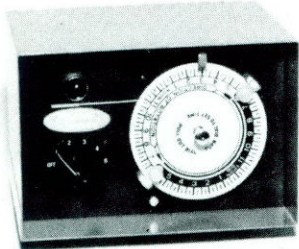
AUTOMATIC FEEDER



MODEL DF-1

It's square—not round like a barrel—because it is designed and fabricated for one specific purpose. Model DF-1 holds 300 pounds of corn and stands on four legs. Constructed of heavy gauge galvanized steel. Lockable door to controls and battery. Feed the amount you want and when you want. DF-1 comes complete with 12 volt dry battery and the DFT-1 Automatic Timer. Extension pipe legs are not included.

AUTOMATIC TIMER



MODEL DFT-1 (Patented)

Hundreds of feeders already in the field do not function properly because of inefficient and unreliable timing mechanisms. The DFT-1 Automatic Timer can rejuvenate these feeders and make them dependable, easily operable units. Jeweled 24 hour clock movement. Electronic circuitry for precise feeding cycles. Up to twenty operations per day. No flashlight batteries or photo cells. Twelve volt D.C. Automatic or manual operation. Simple to program. By far the finest battery powered timer made.

12 months warranty. Free brochure. Limited dealer franchises available.



SWEENEY ENTERPRISES, INC.
 (WELFARE, TEXAS)
 Rt. 2, Box 145 G
 Boerne, Texas 78006
 (512) 537-4244



TEXAS HUNTER®
For Safety and Comfort!

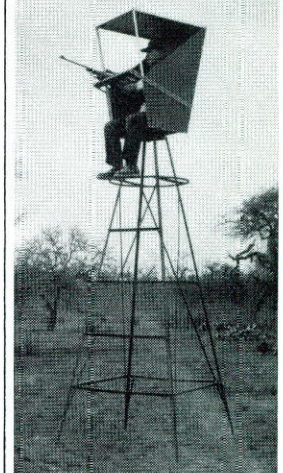
FOR THE HUNTER ON THE MOVE



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.

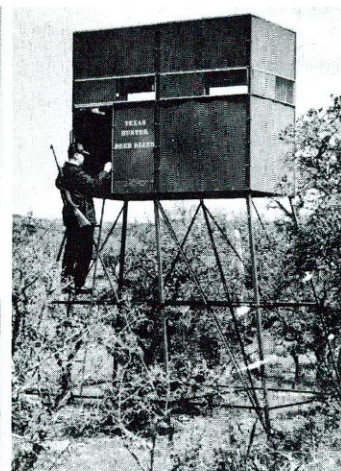
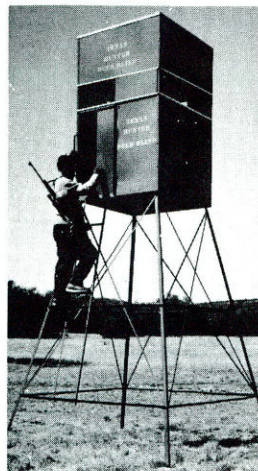


SWIVEL HIGH CHAIR



Weather & Sun protected, with 360 degree turn seat. Aluminum framework. Side arm rests. Front safety bar provides gun rest. All steel stand, wide base spread for safety. Shipped knocked down.

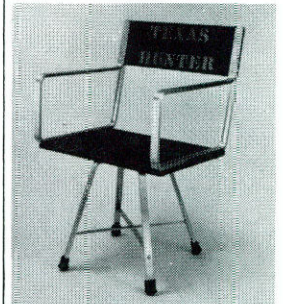
On 10' stand, \$89.00
 On 15' stand, \$125.00



Warm, Dry ENCLOSED DEER BLINDS

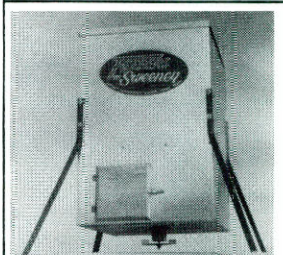
feature rigid steel frame construction, galvanized metal roof, 1/4" tempered masonite sides and 3/4" plywood floor. Steel ladder to free-sliding door and safety hand-bar at left side allows easy entrance and exit. Improved shooting ports on all four sides provide complete visibility. Bypassing glass 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.

SINGLE BLIND 4' x 4'	SIAMESE BLIND 4' x 8'
Without Tower \$ 98.00	Without Tower \$179.00
on 10' Tower \$145.00	on 10' Tower \$260.00
on 15' Tower \$192.00	on 15' Tower \$345.00
on 20' Tower \$258.00	



SWIVEL ARM CHAIR

Full-turning aluminum and wood chair is extra strong & roomy with proper tilt for comfort. Designed for use in enclosed blinds. **\$16**



Automatic Feeder **\$166**

• Prices FOB San Antonio, plus 5% sales tax. • Discount on quantity purchases.
 • Special units designed and fabricated on request.

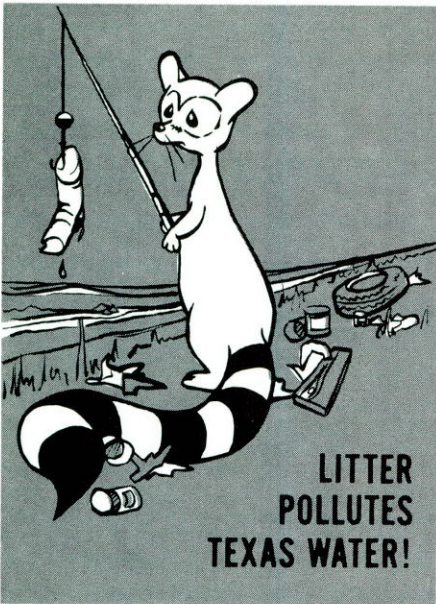


BRADEN WIRE & METAL PRODUCTS, INC.

1310 West Laurel St. E-12-734-8199 P.O. Box 5067 San Antonio, Texas 78201

**STATEMENT OF OWNERSHIP
MANAGEMENT AND
CIRCULATION**

TEXAS PARKS & WILDLIFE is published monthly by the Texas Parks and Wildlife Department at the Reagan State Office Building, Congress at 14th Street, Austin, Travis County, Texas 78701, Neal Cook, Editor. During the past 12 months, the average net press run has been 94,333, paid circulation 88,873, free distribution 3,405, and 2,055 for files, spoilage, etc. September issue ran 94,000 press run, 89,006 paid circulation, 3,527 free distribution and 1,467 for files, spoilage, etc.



**LITTER
POLLUTES
TEXAS WATER!**

DUCK AND GOOSE DECOYS

Buy direct and save. Send for free catalogue to:

**DECOYS Rt. 11, Box 229-B
Houston, Texas 77050**

VARMINT CALLING TAPES



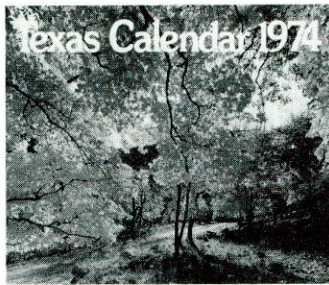
**NOW!
ORDER
TODAY**
Post paid

Exciting Action! 37 different authentic game calling tapes for portable recorders. Results Guaranteed. Young rabbit 3" reel \$2.95 - 5" \$3.95. Auxiliary speakers avail. Write for FREE CATALOG.

All electronic callers available

BURNHAM BROTHERS,

Box 101, Dept. E-113-R, Marble Falls, Texas 78654



**TEXAS CALENDAR
1974**

Ever popular wall calendar. A beautiful Texas experience every month of 1974 plus January 1975. Features 14 full color photographs of Texas scenes. Plenty of space for daily notes. A thoughtful gift. Each calendar is 10 5/8" x 8" when closed.

Mail today to:

Texan House, Inc.
P. O. Box 9159 Austin, Texas 78766
Please send me _____ (quantity) of Texas Calendar: 1974 for only \$2.90 each postpaid. Enclosed is \$ _____
 Check Money Order
 Gift list enclosed.

Name _____
Address _____
City _____
State _____ Zip _____

HUNTERS!

Save that deer skin
Home tanning guide. \$1.50
Texas residents add 5% tax

OLD FORT TANNERS

P. O. Box 16089 Fort Worth, Texas 76133

EXOTIC GAME HUNTING IN TEXAS

Fallow, Sika, Axis, Whitetail deer, Antelope, Aoudad, Mouflon, Corsican Rams, Wild Turkey.

PRIORU BROS. RANCH

Box 401 Ingram, Texas 78025
A/C 512-367-5324

Bottle Collectors

WHAT ARE YOUR BOTTLES WORTH? Identify and price over 2,500 new and old collectible bottles. Beams, Avons, Fruit Jars, Medicines, Inks, Snuffs, many others. "BOTTLE COLLECTOR'S HANDBOOK AND PRICING GUIDE", by Yount is the most complete bottle book you can buy. All 18 categories. Illustrated new edition! Plus, free bonus directory: "Where To Buy and Sell Bottles". \$3.95 Postpaid. Infobooks, Box 5001 San Angelo, TX Texas 76901



**"NO
GAME
NO
PAY"**

Y.O. ibex

TEXAS STYLE HUNTING

- OVER 125 SQUARE MILES
- GAME FROM FOUR CONTINENTS
- EXCELLENT MEALS, LODGING
- CUSTOMER ENTERTAINMENT PROGRAM

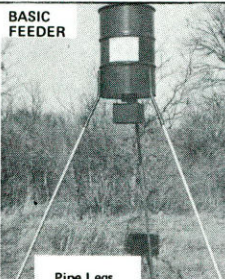
CALL OR WRITE TODAY



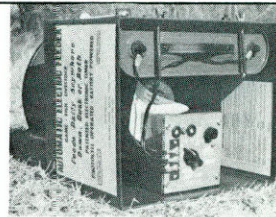
**Y.O.
RANCH**

BOX 220, MOUNTAIN HOME, TEXAS 78058

Telephone (512) 640-3222



Pipe Legs



**AUTOMATIC ELECTRIC
FEEDERS for
GAME • FISH • LIVESTOCK**



Feeder Kit

Feeds daily anywhere at Dawn or Dusk or Both. Patented electronic timer, photocell operated, battery-powered. Feeds at optimum times regardless of the seasons for greatest effectiveness and feeding efficiency. Adjustable dispensing rate and time. Uses the heavier, longer lasting and less expensive 6 volt battery, and permanently lubricated motors. 110 volt A-C powered models also available. All equipment now fully guaranteed for 3 years.

	Weight	Price
Basic Feeder — Model PTF (Includes battery)	85 lbs.	\$147.50
Feeder Kit — Model PTFK (Includes battery, universal funnel for 5 gal. cans and larger, complete except for feed container)	20 lbs.	\$ 94.50
Pipe Leg Suspension — Model PLS (As shown)	38 lbs.	\$ 12.50
Tripod-Winch Suspension — Model TWS (Not shown)	140 lbs.	\$ 79.50

Send for free brochure of complete line.

SPECIALTY PRODUCTS COMPANY

5911 Bullard Drive, Austin, Texas 78731 Phone 512/454-3355

Also distributed from 1218 Dryden Lane, San Antonio, Texas 78213 (512) 341-3204

Young Naturalist

Autumn Leaves

by Ilo Hiller

ALL SUMMER the green chlorophyll in leaves has been busy using sunlight to combine water and minerals from the soil with carbon dioxide from the air to make a type of sugar on which plants feed. This process is called photosynthesis (foto-sin-th-sis). When autumn days begin to shorten, these little plant food factories shut down and a strange thing happens. The leaves change from green to shades of red, orange and yellow.

Soon the whole countryside wears a blanket of color. Sumacs, maples, dogwoods, sassafras and some oaks turn shades of pink, red and maroon, while sycamores, hickories, poplars, sweetgums and catalpas turn gold, yellow and orange.

We take these fall colors for granted, but did you know that many people throughout the world never see the leaves change? They miss this spectacular sight because autumn coloration occurs only in the three temperate, deciduous forests. (Deciduous comes from the Latin word meaning "to fall off" and is the name given to trees which shed their leaves in the fall.) One deciduous forest includes western Europe and the British Isles; the second, eastern China and parts of Japan; and the third, the eastern section of North America. Only a few small regions in the southern hemisphere have trees which display autumn colors—southern Chile, Tasmania and New Zealand.

Have you ever wondered how the leaves manage to turn these beautiful autumn shades? Small children are often told that Jack Frost paints them, but to learn the real process, we must go back to the green leaves of summer.

You already know that the green color comes from chlorophyll, but did you know that the plant cells also contain tiny grains of yellow and red-orange plant pigments called carotenoids (ka-rot-n-oids)? The yellow pigment, also found in egg yolks, is called xanthophyll, (zanth-o-fill) and the red-orange pigment, which gives carrots their orange coloration, is known as carotene (care-o-teen). Because these pigments are quite small, their color is hidden by the bright chlorophyll green during the summer.

When the days begin to shorten in the fall, the decreased periods of light cause changes to take



Leroy Williamson

Surrounding evergreens cause these red, orange and yellow maple leaves to be even more spectacular.

place within the trees and they start getting ready for the coming winter. The chlorophyll, which is no longer needed to manufacture food for the plant, begins to break down and lose its color. As the green fades, the colored grains of xanthophyll and carotene are allowed to show and the leaves turn yellow or red-orange, producing the most common autumn colors.

Other pigments called anthocyanins (an-tho-cy-an-ins) are responsible for the bright reds, maroons, purples and blues. Anthocyanins are not found in the leaves during the summer as are the carotenoids, but are formed during the autumn.

One of the ways the tree readies itself for winter is by forming a separation layer of cells between the leaf and the limb. This layer of corky cells seals the tree and isolates each leaf. Once this happens, the sugar manufactured in the leaf can no longer pass over to the tree. It must remain in the leaf. As the sugar builds up, sunlight causes anthocyanins to be formed, and the leaf containing the greatest amount of sugar turns the brightest red.

Differences in the soil affect the colors of the anthocyanins. An acid soil causes the tree sap in which the anthocyanins form to be acid and produces the bright reds, but an alkaline soil will produce the purples and blues.

Combinations of xanthophyll, carotene and anthocyanins are responsible for all the various shades except brown. Brown can be produced by a sub-



stance called tannin which is a bitter, waste product of the tree, however, the brown coloration is usually a sign of dead cells. As the color pigments disintegrate and the leaf dies, it turns brown. In fact, an early, hard freeze can kill the leaves before any color develops. When this happens, the leaves turn from green to brown allowing no yellow, orange or red to form.

Dry, cool autumn days with plenty of sunlight and cool nights without severe frost produce the most brilliantly colored leaves.

In all too short a time the autumn colors fade and the leaves fall to the ground, but while they are still bright with color, you can collect and preserve a few of them. Once the leaves are properly dried, the colors will last two or three years.

One way to dry the leaves is to place them between two pieces of blotting paper or several layers of newspaper, making sure the leaves remain flat. Then place the blotting paper or newspapers between cardboard. Tie the package securely with string and place a heavy object on top to press the leaves. They can also be pressed by adding a piece of plywood to each side of the package and attaching clamps to compress it. In a couple of weeks or so the moisture should be removed from the leaf and you will have a dried specimen for your collection.

Another way to dry leaves involves the use of clean, dry sand. Sift a half-inch deep layer of sand into a container of some type. Place the leaves on top of the sand, making sure they do not touch or overlap, and then sift enough sand on top to cover them completely. Another layer of leaves can now be added along with another covering of sand. The sand will cause the water to evaporate from the leaf cells and will press the leaf in a natural position. Allow two weeks drying time. To speed the drying process, warm the sand in the oven before it is used on the leaves.

A similar, but more expensive, method uses silica gel instead of sand for the drying agent. It dries faster than sand and your leaves should be ready in less than a week. As with the sand, put a layer of silica gel in a container, place the leaves on top and cover them with more silica gel. The only difference in the process is that sand drying may be done in an open container and silica gel drying must be done in an airtight container. Silica gel may be purchased in most hobby and art craft stores and costs a little more than \$2 a pound.

If you do not wish to spend time drying your specimens, they may be preserved by dipping them into melted paraffin. A quick dip is all that is necessary to thinly coat the leaves with wax. A thick layer of wax will dull the colors.



Anthocyanins, which are formed by sunlight in the sugary sap of the leaves, give the sumac (extreme left) its bright red color. Elm leaves (left) owe their golden yellow to tiny grains of color pigments called carotenoids which are allowed to show once the chlorophyll green fades. The sycamore leaves (below) are dying and turning brown, but you can still see the fading chlorophyll and the exposed yellow carotenoid, called xanthophyll, in some of them.

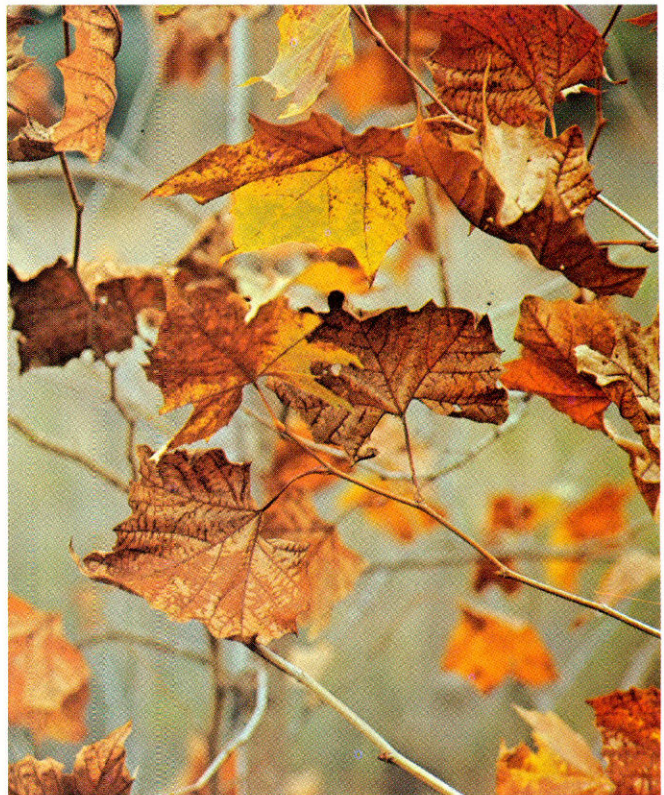
Since melted paraffin is extremely hot and can result in burns if you are not careful, you might prefer to place each leaf between pieces of waxed paper and press them with a medium hot iron. Fresh pieces of waxed paper will be required for each leaf because the iron melts the wax on the paper and transfers it to the leaf.

After the leaves have been dried or waxed, they are ready to identify and mount in a scrapbook. The book *Field Guide to Trees and Shrubs* by Roger Tory Peterson or the *Golden Field Guide Trees of North America* by Brockman, Zim and Merrilees should prove helpful in identifying your specimens. These books should be available at your local library.

A simple way to mount your leaves is to glue them directly to the paper. One of the milk-base glues, such as Elmer's Glue-All, is best for this purpose. The clear plastic wrap your mother uses in the kitchen can then be taped over the leaves to protect them.

If you do not want to glue your leaves to the paper, put each leaf in an envelope made from the clear plastic wrap. The envelopes can then be taped in the book with no damage to the leaves themselves.

Collecting autumn leaves can be a pleasurable pastime for you this fall, and your school teacher will be delighted to see your "Book of Autumn Leaves" when it is finished. **



Leroy Williamson

LETTERS TO THE EDITOR

License Increase

I recently noticed where the Parks and Wildlife Department is increasing the cost of a fishing license from \$2.15 to \$4.25. Please explain this nearly 100 percent increase, and convince me that this isn't just one more cost that's going to keep going up, and up, and up.

Kathy Y. Walker
Austin

The new license fees which sportsmen are finding when they buy their new fishing licenses were necessitated by rising costs with a leveling off of revenue.

The last license increase was in 1957 and since that time the department has increased its programs considerably. There are now 56 more major Texas lakes than there were in 1957, bringing the total to more than 170 major public lakes which this department is actively stocking and managing. We have increased the types of fish stocked to include many new species such as the striped bass, walleye, Northern pike

and hopefully the redbfish as well as continuing the stocking of bass and catfish. We have expanded our efforts to monitor and study our bays and offshore resources to better manage the various saltwater species, and our force of law enforcement personnel has more than doubled to work for the safety of boaters and fishermen and the protection of their sport.

There have been many other projects which along with increases in numbers of personnel, salaries and equipment cost made license increases necessary.

It is hoped that this new license fee will cover increased costs for several more years so that this license fee will not be one that keeps "going up, and up, and up."

Flaming River

In your column, "Long Shots, Short Casts" on page 11 of the September issue, you refer to extreme pollution in Ohio.

You mention the "Cuyahya" River.

I think you are in error on the name, assuming you are referring to the river which flows through Cleveland into Lake Erie. If you are, the correct spelling is "Cuyahoga" — supposedly an old Indian word meaning crooked (a description of the river in its final course before entering the lake).

As a former Clevelander, I thought I would bring this apparent error to your attention. By the way, this is the famous (infamous?) river which has caught on fire — twice.

Bill Novak
Austin

Bullfrog Diet

Over the Labor Day weekend, my father and I went to a ranch pond in Garza County to gig bullfrogs. While cleaning the frogs, we checked the contents of the stomachs to find out what they had been eating and were quite surprised at some of the things we found.

Many of the larger frogs had small frogs in their stomachs. One frog had eaten a five-inch channel cat, but the most surprising discovery was a 14-inch diamondback rattlesnake. A careful examination of that frog revealed no apparent ill effects from eating the snake.

Are frogs, fish and snakes common items in the bullfrog's diet?

Wayne Runkles
Midland

Bullfrogs seem to eat anything they can swallow, and there is a high rate of cannibalism. An article by Norrel Wallace, which appeared in our February 1967 magazine stated: "As spring approaches, Mr. Bullfrog begins to feed on anything and everything within reach. Small birds or snakes, mice, shrews, minnows, even turtles up to two inches in diameter, and insects make up his diet. On one occasion I watched a bullfrog attempt to swallow an adult mourning dove. He didn't succeed, but tried twice, nonetheless."

BACK COVER

Bobwhite quail may be found throughout all of Texas, but their principal range is considered the eastern half of the state. Their presence and abundance are dependent upon the amount and quality of quail habitat. Year-round food, water and cover are essential for bobwhite survival. Photo by Martin T. Fulfer.

TEXAS

PARKS & WILDLIFE

Send check or money order to:
TEXAS PARKS & WILDLIFE DEPT.
 John H. Reagan Bldg., Austin, Texas 78701

Check one

RENEWAL
 Paste your last magazine address label into space indicated and mail with payment.

CHANGE OF ADDRESS
 Paste recent magazine label into space indicated, show change on form and mail.

NEW SUBSCRIPTION
 Fill out form at right and mail with payment.

GIFT SUBSCRIPTION
 Show recipient's name and address in form, indicate gift signature and mail with payment.

Attach recent magazine address label here for renewal or change of address.

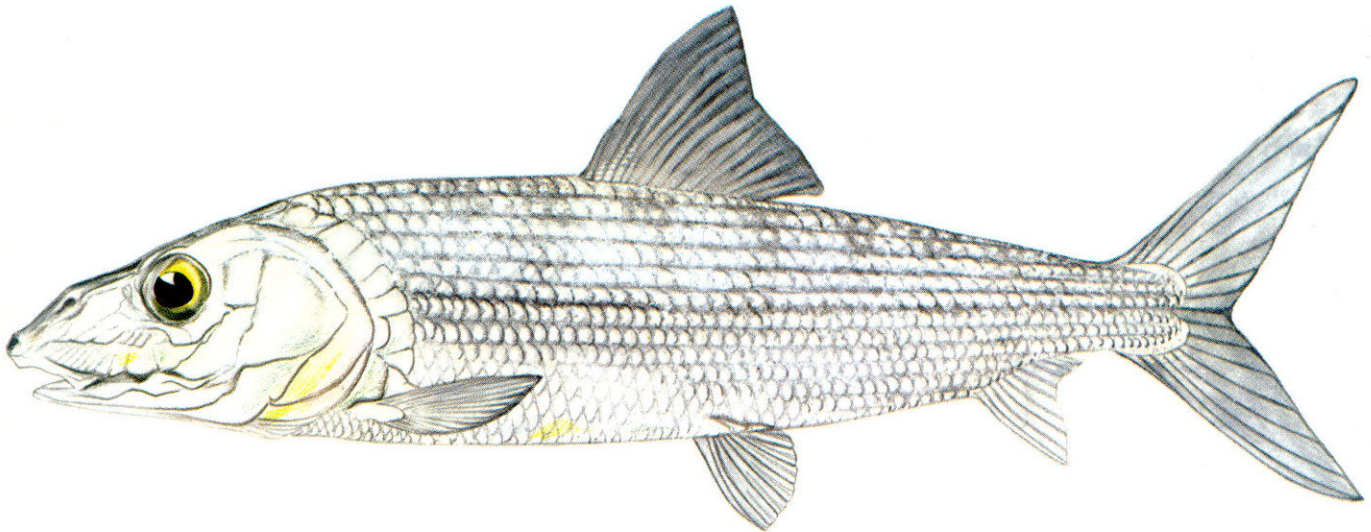
Name

Address

City State Zip Code

Sign Gift Card

CHECK ONE 1 yr. \$3.15 incl. tax 2 yrs. \$5.25 incl. tax
 Out of U.S. (except APO and FPO) 1 yr. \$4. 2 yrs. \$7.



TEXAS SALTWATER FISHES

The tenpounder (top), known as ladyfish, skipjack, bigeye herring and horse mackerel, is a savage striker. Once hooked, the fish is a showy fighter that jumps repeatedly. Tenpounders frequent the Gulf beaches, passes and inner bays where they feed on small fish and shrimp. Adults average one or two pounds, but may reach eight pounds.

The bonefish (bottom), which inhabits the warm

seas of the world, is considered rare off the Texas coast. It feeds in shallow water during the incoming tide, occasionally "tailing" as it seeks small fish, shrimp and small bottom-dwelling invertebrates. The bonefish, considered by many to be fastest fish that swims, puts up a strong fight when hooked but does not jump. Average size is two to five pounds, but it is known to have reached 20 pounds.

Artwork by Henry Compton.

