

*Texas*  
**Game and Fish**

MARCH

1963

20 CENTS





**The opossum, suddenly a headline-making mammal, is believed to be a valuable link in the search for a vaccine against leukemia. See related article in this issue.**







**WANING CRANES:** The total number of wild whooping cranes in North America, which has been on the rise since 1956, seems to have dropped back to its 1959 level of 32 birds from its peak of 38 last winter. The 32 birds were seen on or near the Aransas National Wildlife Refuge last December. No young "birds of the year" were seen this winter. The wild whooping crane population has built up from a low of only 21 birds in 1954. There are also seven whooping cranes alive in captivity.

**SOAP HOPE:** Research chemists report that an acceptable "soft" substitute for today's popular "hard" detergent, alkyl benzene sulfonate (ABS), will be available to soap makers in about two years. This new product will be as cheap to manufacture as ABS, and as effective a cleansing agent. Most important, it will break down biologically and become food for bacteria as does soap -- not as quickly as soap, but far more rapidly than ABS, which is the most widely used "surfactant" material today. The question is whether or not the soap and detergent manufacturers will adopt the new, more biologically degradable material when it becomes available. This change may be made only if the public demands it -- by law, if necessary. Steps are being taken in this direction in several states and in some other countries, including West Germany and Britain.

**TREE LEAFLET MAKES A BOUGH:** The U.S. Dept. of Agriculture announces a new leaflet, No. 517, "Russian-Olive for Wildlife and Other Conservation Uses." More than 50 kinds of birds including game birds and mammals eat the fruit of Russian-olive. The tree is also used as windbreak or hedge, in general landscaping and as shade trees. Its wood makes good fuel and fair fenceposts, and it is a producer of high-quality honey. The leaflet may be obtained from the U.S. Govt. Printing Office, Washington 25, D.C., for five cents. Included are planting instructions and details of care and management.

**FINANCIAL FILLIP:** A "Dollars for Deer" program, under which hunters would donate a dollar for each deer killed to the screwworm control program, was originated by the Valley Sportsmen's Club. The state's ranchers are a million dollars behind in their fund raising campaign and aid of sportsmen is entreated. Most ranchers report that they could see a beneficial effect on the deer population from the screwworm control program. Donations may be sent to the Valley Sportsmen's Club, Box 1882, Harlingen. This club has taken the responsibility of raising funds in the Valley, but it is possible the movement might become statewide.

**ZIPPED LIPS:** Beavers can work under water sawing poles with their teeth without getting water in their mouths. The lips are so designed that they close behind the long, front incisor teeth.

**CHEW CLUE:** Scientists now believe there may be antipolio properties in the conch, a big item in the diet of people of the Bahamas. Only 15 cases of polio have been seen there in the past 10 years. If the incidence were the same as that of the United States, they would have had 177 cases. On one island, the children start eating conches as soon as they stop nursing, in every form, raw, fried, in salads, in stews. On Nassau, conches are eaten only occasionally -- and it was on Nassau that most of the 15 polio cases occurred. Research indicates that the juice of the abalone has certain antipolio qualities, also.

**TULAREMIA REASSURANCE:** Many people fear tularemia or "rabbit fever," and much has been written which might scare off prospective hunters. Actually, only a very small percentage of this rather rare disease in persons results from rabbit hunting, flies constituting the greater menace in areas where the sickness is common. Ticks also carry tularemia, and many game animals and birds besides the cottontail can be infected. However, a person can eat a well-cooked rabbit or other beast which had tularemia, without risk. The main precaution to be taken by the hunter is to make sure that he has no open cuts or wounds when cleaning game of any kind.

MAR 12 1963



# Texas Game and Fish

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## The Cover



The cardinal, a red-feathered, saucy streak with accompanying song, is a favorite in the United States, and especially in the South. Not a migratory bird, the vivacious cardinal brightens Texas' landscape the year round. Cardinals were once shipped to foreign countries as caged pets. See story on cardinal in Nov. 1962 issue.

Cover photograph by staff.

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# A Week For Wildlife

**M**ARCH 17 through 23 has been designated National Wildlife Week by the National Wildlife Federation. Since wildlife plays such an important role in the lives of all citizens, setting aside at least one week out of each year to salute this valuable natural resource is the least we can do. However, it can be said that most Texans in some way do something for wildlife just about every week. For this reason, we can say with pride that every week is wildlife week in Texas. Yet this week set aside for special emphasis reminds us that much work is still needed.

The theme of the 1963 Wildlife Week observance is "Chemical Pesticides are POISON—Handle with Care." It is a widely known fact that many of the pesticides now used by people in many areas of living contain lethal poisons. We should be deeply concerned about the use of these poisons, not only for the safety of wildlife, but for our own well being.

Pesticides are just one of many dangers that haunt our wildlife resources each year. Many dangers are created by man as he searches for means and methods of expanding and improving his livelihood. But, it is man's responsibility to consider always the effects of his actions on the

welfare of the wild creatures about him. The animals of the woods and the fish swimming about in our waters no longer can safely exist without the assistance of people.

Because of the fantastic increase of human population, the pressure on wildlife resources has grown tremendously. As the interests of man reach out into the areas where wildlife once roamed freely and undisturbed, man must reach out with an understanding mind and a helping hand toward the same wildlife species as they are pushed back into the corners of existence.

Because we have been given dominion over the resources of the earth, it's necessary for us to make every week wildlife week.

Nevertheless, since March 17-23 is a national observance, every Texan can let it be an *Extra Special Week for Wildlife*. If you have never taken time to place the wild, outdoor treasures in proper perspective with other areas of your life, do it during this week.

There's no better time to admit the great need for the wild things about us, than in the spring when the outdoor theatre opens in full color, with sounds, fragrance, performers all gay and busy, and miracles of nature causing us to feel like human beings. \*\*

HOWARD D. DODGEN

Executive Secretary

Game and Fish Commission



**WHAT** may be sauce for a Canada goose is not necessarily sauce for a snow or a blue gander, according to a survey currently underway in the Central Flyway by the National Fish and Wildlife Service.

If the survey comes up with the information on a flyway basis which confirms common knowledge of the hunters in each area, it probably will result in some drastic changes in species bag limits for geese and later even ducks in Texas.

The Gulf Coast areas, for example, get snow geese by the thousands. Up in North Texas, snows are as rare as

How is this proof being collected? I found the answer to this on a cold, wintry morning at the Hagerman Refuge.

I drove up to the main office and found Bolwahn and the rest of his staff trying to get rid of the dawn's early chill over a cup of coffee. Bolwahn said he had three nets out in areas that had been baited; they were planning to fire one or more trapping nets to collect geese for tagging purposes.

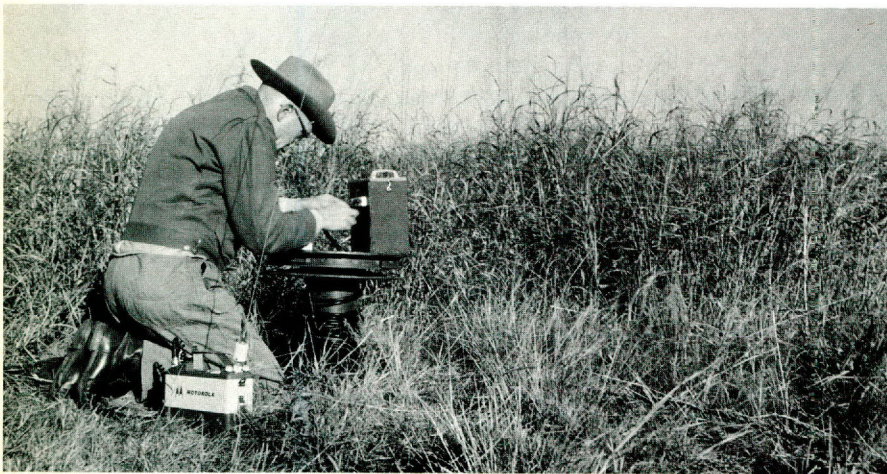
"Hunters killing a banded goose are asked to send the band to the Maryland address on the band," explained Bolwahn. "There it will be

trigger of the battery-powered detonator that would send the net whirling through the air over the heads of the geese.

A half mile southeast of us on the roof of Bolwahn's home, Gordon Hanson was perched with binoculars, counting geese within range.

It got colder as we waited out Hanson's signal. Occasionally the wind parted the grass and we could see the baited area. To us it appeared that ample geese were within range.

Walkie talkie radios were used by Bolwahn and Hanson. I reminded Bolwahn of past failures and sug-



Refuge Manager Red Bolwahn readies the battery that triggers the shot which will send the net hurtling through the air to settle over a group of geese a quarter of a mile down the hill.

a whooping crane, but there are Canada geese by the tens of thousands. In other areas the blue geese are predominant. In still others, the white front or speckled bellies take over.

"What we're trying to offer," said Fred Bolwahn, manager of the Hagerman National Wildlife Refuge on Lake Texoma, "is positive proof that Canada geese prefer this area, for example, and snow geese, the coastal regions. If we can do this, the authorities will have ample proof on which to base limits in each area," Bolwahn continued. "What your national office then will do is merely say that in the Central Flyway you can kill five geese, and then your state game and fish commission will step in, take the reports and name the species available for each section of the state.

"It will amount to regulatory authority in action on a state-wide basis," said Bolwahn.

checked with the list of numbers sent in from here and the flight pattern of the geese can be determined. Then, and not until then, efforts can be made to regulate the geese."

Bolwahn said the program is being conducted all along the suspected flight line in the Central Flyway of geese which summer at Sand Lake, N.D.

The net used to trap these geese is 60 feet long and 40 feet wide and made of three-inch nylon mesh. Three iron posts are driven in the ground at 20-foot intervals. The net is attached to an iron sleeve that fits over the post.

Wire is strung from here to the observation post, in this case a quarter of a mile away, where it is attached to a battery that touches off the blast that fires the net.

Then high on a cold, windy hill, a quarter of a mile from the baited area and the nets, Bolwahn and I crouched and waited to trip the

gested that he not be "too greedy." An approaching vehicle sent the geese completely out of net range and the wait started again.

Hanson had been at a different site earlier and came in because a passing truck spooked the geese there.

Finally, 90 cold minutes from the time we got to the area, Hanson sent the signal to fire. Bolwahn tripped the trigger and as the shot fired I grabbed my camera and ran down the hill over the terraced, frozen ground.

The net had fired perfectly and covered a 40x60 area. While hundreds of geese escaped the trap, 61 were counted and another, which had been momentarily stunned, flew off as workers stepped over it, thinking it was dead.

Pickup trucks arrived in a hurry from refuge headquarters, bringing cages for the geese. As the fowl were tediously removed from the mesh, they were put in the cages and transported to headquarters. There, the

# NET GAIN

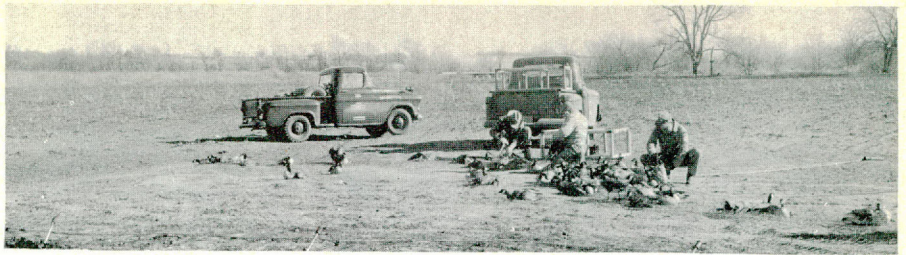
by JOHN CLIFT  
Denison Herald



sex of each goose was determined, the bands attached and the number and sex listed on a report sheet that was sent to Maryland.

The geese then were put in a "wilding pen," which had a high fence around it and plenty of food available. Usual recovery time was a couple of hours, but some who hurt a wing in their struggle to get out of the net stayed around a day or more before once again winging their way south.

Actually, this constant netting



Iron stakes in the foreground were arms that the pipe sleeves fitted over. When the shot was fired, the sleeves shot off the arms, carrying the net over the geese in baited area.

close to the original catch of 61. They had snared as few as three and only as many as 17 since the

first bag. Many times they were blanked.

Bolwahn blamed wet powder for failures that didn't send all three cannons off simultaneously. He figures he has that licked now, as their powder cartons are coated with wax to keep moisture out.

"We're learning and I feel we'll have no problem in winding up with well over 500 geese caught and tagged," Bolwahn declared.

Hanson, his aide for the past year, will continue the program at Aransas Refuge, having been transferred there in mid-January as assistant manager.

Buffalo Lakes Refuge in West Texas was the first to go over its minimum goal, hitting 541 by mid-January.

But Bolwahn explained that all of this work will be useless should hunters who kill the banded geese fail to send the bands to Maryland headquarters. \*\*



Sixty-one geese trapped in the nets are being freed by refuge workers and placed in cages.

operation keeps the geese on the refuge stirred up and they take off to surrounding grain fields; the work thereby insures hunters of more action.

This is the first year of the five-year plan. Bolwahn said five national wildlife refuges in Texas and two in Oklahoma are making the study of flights from the Sand Lake nesting grounds of the honkers. Salt Plains and Tishomingo in Oklahoma and Buffalo Lakes, Aransas, Muleshoe and Laguna Atascosa refuges in Texas are in on the program.

Bolwahn said the banding would continue probably until spring when the last flight of honkers passed through on their return trip to North Dakota.

Each refuge has a 500-geese minimum in its tagging program. By mid-January, Hagerman had only 106, as subsequent nettings failed to come

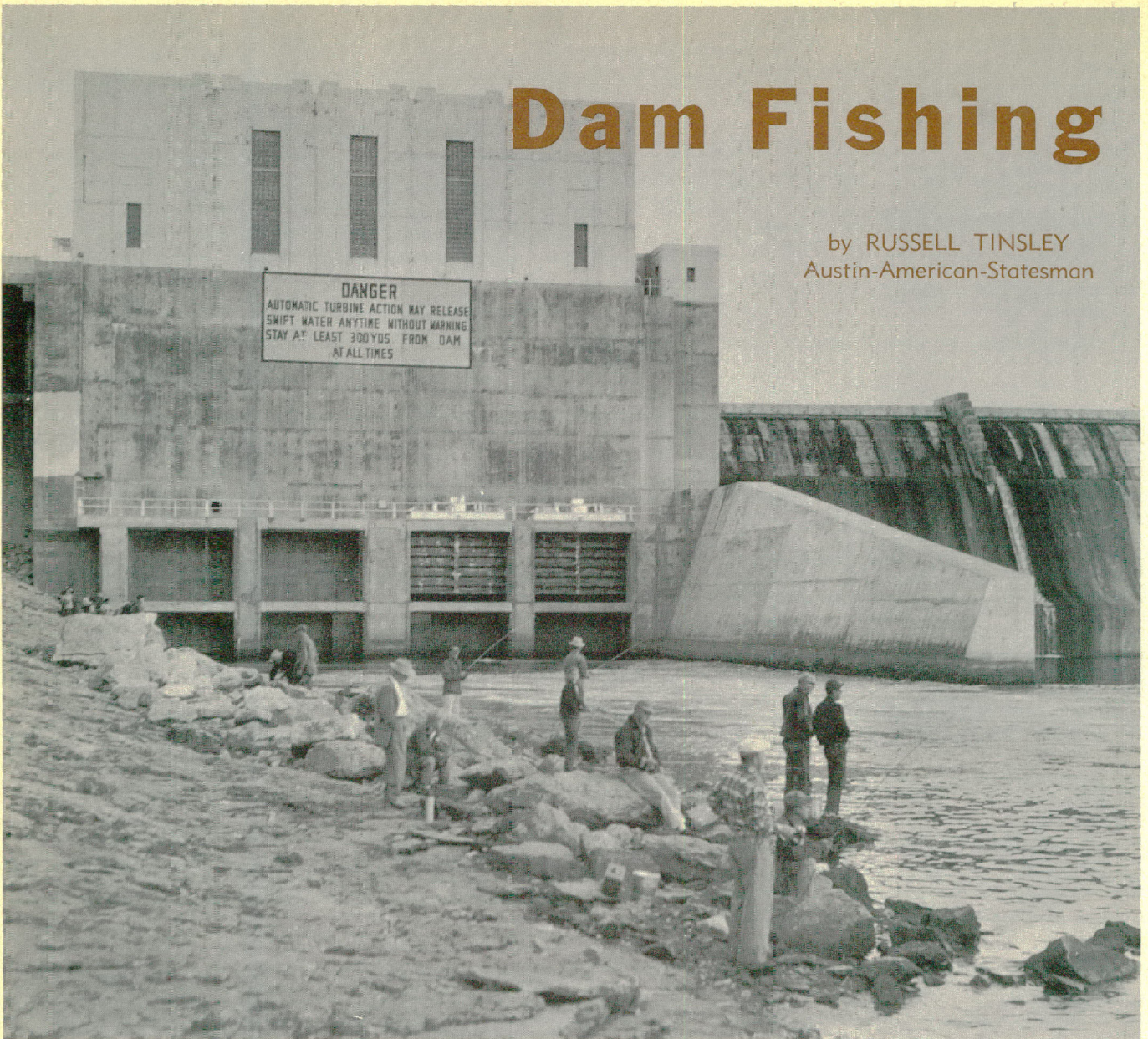


It's not so hard. Steady hands and a little cooperation from the goose make it easy.



# Dam Fishing

by RUSSELL TINSLEY  
Austin-American-Statesman



**WE WERE** quite proud of ourselves. A. W. McLaughlin and I had been fishing the better part of the morning below Marble Falls Dam in Central Texas with fantastic results, and now we were laboring to get our heavy stringer of white bass and crappie up the rocky shore.

Flood water that resembled chocolate milk poured over the dam and people were standing elbow to elbow on shore alongside the current, most of them pulling out fish as fast as they could get baits in the water. It seemed on this day that every white bass and crappie in Lake Travis had migrated up below the massive span of concrete.

As Mac and I hauled the fish and our equipment up the slippery rocks

that are strewn along shore below the dam, another fisherman walked up, carrying a five-gallon bucket and a long-handled net designed to snare shad for bait. He paused and eyed our fish curiously.

"We did pretty well," Mac volunteered proudly. "Got all these this morning."

The gent didn't change expression. "Wait a minute," he said, "and I'll get you some good ones."

With that he rammed the net far down in the water, gave it a hard tug and pulled. Inside the mesh were a couple of nice crappie. He dumped them in front of us and said, "Want some more?"

Mac looked at me and grinned weakly. "No," he answered. "I imag-

ine we've got enough."

Now fishing *isn't* always that good below the dams. This was one of those rare exceptions when all the unpredictable pieces of the fishing jigsaw puzzle seemed to fall neatly into place. The time was March, three years ago. A mild flood had filled the lakes and sent water pouring over the top of the huge concrete span which holds back the waters of Marble Falls Lake. Inexplicably, the white bass and crappie migrated upstream, until the dam blocked further travel, and despite the murky waters they'd hit any kind of bait, as long as it was a light color.

But even at its poorest, dam fishing usually offers better possibilities than other spots. Game fish, particu-



larly white bass, have an inherent tendency to move upstream, into a current, and when the generators in the power dams are going, the moving water brings up the fish. The dams block their path and as a result the waters just below the concrete spans are veritable fish traps.

In Central Texas some of the best known fishing hotspots are below the dams which impound the Highland Lakes, places like Buchanan Dam, Inks Dam, Wirtz Dam and Marble Falls Dam (Max Starcke Dam, if you prefer).



It's not a mean catch for a bank fisherman.

Fishing below the dams also is popular because of accessibility. All are easily reached, either by driving or by coming upstream in a boat. A majority of the game fish are taken by fishermen standing on shore, or those wading out. No elaborate tackle is needed. An ordinary spinning rig is the pet outfit, for with it a fisherman can get distance on his cast and no heavy tackle is needed to subdue white bass, which is far and away the most popular species sought by dam fishermen.

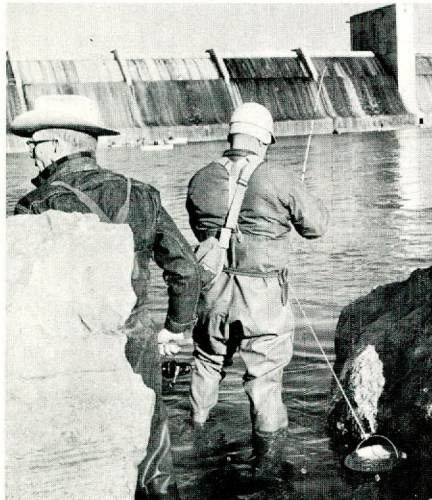
Probably the best known spot in Central Texas, among the dam clan, is Marble Falls Dam, just a mile outside the tidy crossroads lake community of Marble Falls. Here a big concrete span was wedged in a deep canyon to form Marble Falls Lake. Years back, getting to the hole below the dam was an arduous task, requiring monkey-like tactics to descend the sheer rocky walls.

Then an enterprising dentist from Austin, one Dr. C. H. Roper, decided

Rods bent into this success-telling arc are not uncommon below the dam gates.



to make things easier for fishermen. A ramp was blasted and hacked from the bluff, rails were laid on it and an electric car was mounted on the tracks. Now all the fisherman



When the generators are quiet, waders and inertubes allow a dip into greener pastures.

must do is mount the car, press a button and he gets a leisurely ride in and out of the canyon for the nominal price of a dollar. Atop the bluff a tackle shop was built, along with several cabins, all easily accessible via modern road. Today, thanks to The Ramp, the hole below Marble Falls Dam is one of the most popular in the Central Texas region.

Fishing below the dams in the heart of Texas knows no seasons. It is good throughout the year and, surprisingly, the best fishing of all comes during the cold-weather months.

"I guess below the dams is the only place on the lakes that has better fishing in winter than any other time of the year," explained Bill Corley, manager of The Ramp. "Some of our best catches are made during the most miserable weather."

The fishing reaches its peak in February and March when the whites start stirring in preparation for their annual migration upstream to spawn. When the generators are gushing forth turbulent water, the whites move up below the dams to deposit their viscous eggs which drift downstream until they cling to vegetation and rocks, remaining there until they hatch.

The movement of water holds the true key to fishing success. When the generators of the Lower Colo-



With wet waders and tired rods, men mount the rocky incline in cable car comfort after successful fishing below Marble Falls Dam.

rado River Authority are in operation daily, the fishing is likely to be good. Sometimes the whites hit like crazy in the tail-race water pouring from the generators; other times, the best fishing comes soon after the generators shut off and the waters subside, leaving the whites trapped in the holes below the dams. In times other than spawning season,

• Continued on Page 27





## Possum

# Possibilities

by W. R. LONG  
I & E Officer, Region III

**W**HEN an animal that has long been considered both a freak and a nuisance suddenly catapults into the spotlight with characteristics that give it an important place in the sun, man begins to wonder if he has erred in his evaluation.

The lowly opossum, one of the few marsupials (pouched mammals) in the world today, long considered a pest by farmers and a freak by biologists, is earning its place in the sun quite by accident. Its unusual habits of reproduction, as well as the peculiar structure of its body, are giving it new worth in the sight of man.

One of the dreaded ills, feared and thus far uncontrollable, is leukemia. This infection, cancer of the blood, interests scientists and chemists over the world; it deeply concerns Dr. Matthew Block, research director of the University of Colorado Medical Center in Denver. Not only is he interested in the search for a vaccine for this enemy of man, but also in the 'possum, for the two are related.

Dr. Block needed 'possums for something more urgent than the traditional dish of 'possum and 'taters. He began a study of the animals, and of course, needed animals for the study. He asked for help from the Texas Game & Fish Commission, more specifically from Conservation Officer Hill Lawrence of Paris and recently from Conservation Officer Jack Hardie of Tyler. Both men live in areas that have long recognized the common opossum as either a nuisance to farm production or a source of enjoyment to the hunter. In the animal Dr. Block saw certain peculiarities that would benefit research for his vaccine. He advised the men, and they went to work on what has become the world's largest 'possum hunt.

Quite naturally the question was asked, "Why the 'possum? Why not a cow or a horse?"

This was an easy one, and Dr. Block explained it quite simply, in lay phrases that were exciting to those who understand animals, as well as to those who understand medicine.

The 'possum, with its strange and exotic habits of reproduction, was the only animal that happened to be

easily obtainable, with characteristics adaptable to the particular type of research being conducted.

Ancient, even prehistoric in bodily functions, the opossum was once an egg-layer. Centuries have passed, and today the opossum has changed little. Nature, since millions of years ago, has made the opossum a true mammal, with the characteristic of bearing live young, but nature took away few of its other million-year-old habits. The young are born after a gestation period of 11 days. They are very tiny and embryonic at birth.

Newly born opossums weigh about 1/10,000th as much as the mother. In fact, it would take 3500 of them to weigh the equivalent of a pound of butter. They are born blind, hairless to the point of complete nudity, and a dozen of them could settle down quite comfortably in an ordinary teaspoon. However, what they lack in size is more than compensated for in ambition and common sense, not to mention determination.

At birth, under their own power and by the will for survival, the normal litter of 12 to 20 young find their feeble way into the marsupial pouch on the mother's stomach. Occasionally, in large litters, a few are disappointed to find that the mother has only 13 nipples for feeding; when the dinner bell rings, it's a first-come, first-served situation, and the first 13 to arrive pull up to the table. The others, being embryonic, presumably have no regrets as they return to the dust from which they came.

When the eager mouth of the young finds a nipple, he does his very best to swallow it; he soon finds that the gland has swollen until it is impossible to release it, so he settles down to a two-month period of nourishment indulgence. The milk of the mother is quite rich, and as hair develops, eyes open and body structure increases in size. Suddenly junior decides he's grown at last, releases his grip and begins looking around for the door that leads to the world.

Dr. Block and his staff of research scientists are very selective in their 'possum hunt, and have no interest in papa 'possum. They need the female for her reproductive abilities. Their interest lies in those that have



young on the way, or already in the pouch. It is with the tiny young that leukemia research is being conducted. Into the tiny, unfeeling body the delicate tip of the vaccine needle is gently inserted, and from that moment on, to the scientists, the small body could be no more valuable if made of solid gold.

Exactly how to gather 100 live, adult, female, bred opossums must have been a matter of great concern to Lawrence, as certainly it is now to Hardie in Tyler. Last year, the first year of the experiments, Lawrence solved his trapping problems by doing them himself for a time, and later by enlisting the services of youth groups, Boy Scouts, 4-H and FFA groups. He met his quota and made his shipments.

The "world's largest 'possum hunt" was this year transferred to Tyler, where the animals abound. Hardie is supervising the hunt.

His back yard at his residence resembles the clutter of a zoo and the baggage of a loading dock. He has stacks of shipping crates, holding pens, isolation pens, cages and traps of all descriptions. And, he has something more; he has a stack of dollar bills that has been furnished by the University of Colorado to be used as inducement.

Newspapers, radio and television have carried news of the hunt, and Hardie helps defray the cost of transportation from the trap to his holding pen by tendering \$1 per head for the animals accepted.

Boy Scouts have held meetings and devised plans of action that they have put into operation. FFA and 4-H groups are being contacted and individuals, some who have had relatives meet death by the tentacles of leukemia, are joining the hunt and doing their part. They have the enjoyment of the hunt, the benefit of the dollar and the precious knowledge that in their way they are fighting back at a fearful disease.

Hardie is feeding and caring for the trapped animals until groups of four are collected. Then, in lightweight aluminum crates, the furry creatures are delivered to the express office. However, for so distinguished an animal, rail transportation is neither good enough nor fast enough. They are relayed, promptly,

to the local airport with full shipping instructions and care directions.

If baggage compartments have first-class passengers, then her royal highness is given the red-carpet treatment, by jet airplane, to her eager recipients in Denver. Upon arrival she is met in ceremony by the men who will be her keepers until the research is completed and the dreamed-of vaccine becomes a reality.

One of the animals in the latest roundup became a prisoner by mistakenly considering a hollow log safe refuge. A 13-year-old boy, close behind in chase, thought otherwise, and he pocketed a dollar. Another met downfall by thinking the feed barrel in the barn of Smith County Agricultural Agent was placed there only for her nibs to become a mother. Mrs. Ben Browning looked on the situation more as a ready-made trap. She had read the papers, knew of the project and gathered in another dollar for her good will.

It may be many years before someone is heard to say, "I had leukemia once, but thanks to Mr. Lawrence, Mr. Hardie, Dr. Block and the common 'possum, I've been cured."

However, the possibility exists, and its existence is worth the effort



Jack Hardie, Game and Fish law enforcement officer at Tyler, is active in an enormous possum hunt that may figure in development of a vaccine against the dread leukemia.

being made. Right now there is perhaps no more important animal than this one which has been despised and criticized, but now is so vitally important in solving one of the dread problems of man. \*\*



Four opossums are placed in a cage and flown to Dr. Matthew Block at University of Colorado.



**A**NY ATTEMPT to project the destiny of conservation in the next hundred years requires an analysis of the past and present. Except for occasional warning cries lost in the tumult of falling trees, forest fires, the booming guns of commercial hunters and a million plows, little that could be called "conservation" was known or practiced during the latter part of the nineteenth century. Like a child learning that a stove is hot, the people of this nation first had to burn themselves. Not until the past few decades has "conservation" become synonymous with "management," "restoration," and "preservation."

To foresee what the next hundred years will bring is a virtual impossibility. Will wars consume our resources like a bear eating honey? Will atomic power be used for con-

structive or destructive purposes? Will the United Nations succeed in social and political endeavors?

But life must be premised on the positive and optimistic assumptions that we will survive atomic and biological weapons and that the United Nations will succeed in unifying world-wide thought and action to insure a peaceful world. Without such a premise our plans are but houses built on sand. Only with a firm belief and determination can we go forward to accomplish the obligations of our life span.

Cringing at thoughts of uncertainty and hoping for absolute security leads only to destruction. Justice Oliver Wendell Holmes once said: "I believe that the struggle for life is the order of the world, at which it is vain to repine."

In our growing maturity we must realize that the people of the entire world must begin to practice conservation. Depletion at any one place weakens all of us. If a people in your neighboring state were starving you would extend them aid. However, you would also urge them to raise their own food, especially if this practice caused you to wear out your land and destroy your own future livelihood. In this respect the accepted idea that "America is the breadbasket of the world" cannot be forever maintained.

Nations damaged by war must be helped to recover, but they also must soon produce to the capacity of their own lands to help feed themselves. Erosion of valuable soil has already destroyed many areas throughout the world, as well as our

# The Next Hundred Years

Photo by GRADY HARRISON

by ERNEST SWIFT National Wildlife Federation





own "back forties," and the spirit of the people occupying such lands has also been eroded.

Agriculture in recent years has made astonishing developments in new methods of intensive production on fewer acres: forest industries are proving the practical value of sustained yield through various methods, forest fire damage is being reduced, wildlife managers are placing greater emphasis on habitat control; and the public, generally, has become more concerned with stream pollution and ground water levels.

These are all good signs of the times, but can lead to a false sense of security. There is still terrific waste of our resources, both before and after conversion, and their rehabilitation through governmental agencies comes home to all of us in the form of higher taxes to pay for the necessary restoration, which means less money for the family unit, and a wornout land whose beauty has been marred or destroyed.

Consideration of the next hundred years would be inadequate without thought given to population increases and their demands. Despite creditable advances, we still see soil erosion much too evident. There is greater competition for water, with underground sources dwindling; streams are still polluted with silt, industrial and municipal wastes; some species of wildlife are diminishing because of overhunting and habitat destruction; and many small forest holdings are badly managed and overcut. As oil and ore deposits give out in one place, new explorations give false hopes of an eternal supply of a non-renewable resource at some other point of the globe. For fish we are now systematically tapping the great seas as the final source of supply.

Is this a hopeless picture? If it is not, the important question is, where do we as individuals fit into the future conservation program? In the history of man, unexpected inventions or a renaissance of the spirit have changed the trend of events beyond expectations. The power of atomic energy poses great possibilities which would reduce dam construction and might even develop processes to create a substitute for ore.

A pessimist, however, could easily call attention to failures and paint a gloomy picture in meeting the problems of the day. At this point we must consider the greatest "if" in the future of conservation—the reaction of man to his environment and to his neighbors.

It has been wisely said that conservation is no longer a pleasant hobby, but a matter of life and death. But, whose life is involved here? How long before we realize that it is our life and not someone else's in China or Europe? Waste is a disease that not only affects our lives but surely will be visited on our children and their children. Will the social and ecological conscience become an effective force for the good of mankind during the next hundred years?

Even though our founding fathers planned well, democracies have a tendency to live from day to day. A democracy can survive only through its ability to discipline itself. Without self-discipline, there can be no self-government. The interest of the individual in his government is the only guarantee that he can and will continue to govern himself.

It can be said that every day and every decision is a cross-roads in itself. We can drift and evade and sink into oblivion, or we can face up to our problems. Success depends upon intelligent and dynamic action, but action without realistic planning will not succeed.

The safeguarding of natural resources and their proper management is no longer a community affair. Success lies in local, state, national and international cooperation. But when issues become this large, the question again can be rightly asked: Just where does the individual fit?

When each of us begins to realize that all of nature belongs to everyone alive today and also to the coming generations, then we can hope for a public renaissance of the spirit which will insist upon conservation in a new form—a social awareness by everyone which will ostracize those who are wasteful.

This simply means that all of us must begin to realize that not only the air we breathe, the water in the

lakes, and the wildlife of the fields and forests belong to everyone, but that in its truest sense, everyone has a real stake in our soil, total water resources, minerals, and forests regardless of who owns or controls them at the moment. This does not mean that any "private rights" must be taken away and given to the public, but it does mean that methods must be found and practiced through enlightened social awareness to make good conservation practices a necessity and a paying proposition.

This brings us to the crux of most anti-conservation activities today—the need and desire for economic gain at the present moment. Somehow we must find a way to make it a paying proposition for temporary owners to use good conservation practices. We must be willing to support financially those community projects which will prevent pollution, guarantee unpastured woodlots and prevent row crops on steep hillsides. We must support with a unified front all efforts to manage and restore our renewable resources and prevent unnecessary waste of the non-renewable. We must take every opportunity to do our small part in carrying out programs in the community we call "home." We must encourage educational activities which will make people, and especially the youth of the nation, aware of the importance of these problems in relation to their future well-being.

Even as the last hundred years saw public attempts at preservation turn to a wider concept of conservation, so also I believe a new trend toward social restoration must arise to embody meaning and purpose. This restoration will not only be of our drained marshes and depleted soils and woodlands, but also a restoration of the spirit of people more deeply aware of the beauties and values of their land.

This we can and must do through self-discipline aimed at overcoming the wastefulness common to the past. Not by discipline altogether based on laws, and not by self-discipline which applies only to the "other fellow," but by self-discipline born of an intelligent understanding of the limitations of our natural resources by each and every individual. \*\*



Antisocial alive but . . .

# Posthumously Popular

**F**IERCE, independent, beautiful—that's the mink (*Mustela vison*), a resident of eastern Texas as well as other territory from Mexico to the Arctic Circle.

The mink is an unsociable animal that haunts its rangeland of marshes, streamsides and tidal marshes with great tenacity.

The adult male of the species establishes a range or territory as large as 30 acres in which it roams, with dens in many locations. Setting up temporary headquarters, it hunts one area of its total range and gradually moves onward to another locality as the food supply dictates. The female of the species has a more restricted hunting area, but it too steals and bounds across a particular territory.

When making the rounds of its hunting grounds, the mink travels mainly by land, but it isn't constrained to do so. Having a strange mixture of the talents of the otter, an aquatic animal, and the weasel, a land cousin, the mink finds water as well as mud a pleasant medium in which to travel. The mink is neither

the otter's equal in water nor the weasel's on land. It is a good swimmer, though not swift, and a competent diver. It can swim one-and-a-half miles an hour and make 10-foot dives and can swim under water as far as 45 feet at a time. Slightly webbed feet equip it for its water sprints.

It is well enough adapted to land existence to climb trees and fences occasionally. And it has an almost magical ability to find a crevice or hole at the opportune moment and scurry into it more quickly than an eyelid falls.

When choosing to travel terrestrially, the mink ambles at a rather leisurely gait, steals deliberately like a slinking shadow or bounds quickly and gracefully, clearing the ground by 10-15 inches and covering seven to eight miles an hour.

The mink enjoys the comfort of many dens in its range. Dens usually are long burrows in banks, holes under logs, stumps, roots, hollow trees, rock crevices, drains, nooks under stone piles and bridges. It often

chooses to take over a nest of some animal rather than build one of its own. Breaking and entering a muskrat home, killing its occupants and then taking residence there is not uncommon in the mink world. When the mink does construct instead of seize a home, it usually digs a burrow about four inches in diameter, two or three feet deep and 10 to 12 feet long. The burrow often includes a tunnel which terminates in a nest lined with grasses, feathers and other soft material.

If an adult mink—male or female—looked into a mirror, it would see a beautiful reflection. The animal, though small and slim, is a regal looking fellow. It is about two feet long including a fairly bushy tail of about six to eight inches. Its face is small and rounded and its long body flows backward from the head with graceful ease. The mink is more stockily built than its terrestrial cousin, the weasel and is smaller than its aquatic counterpart, the otter. It has short close-set ears, short legs and a highly arched back.

But its beauty is more in color and texture than in shape. Its coat is a rich brown which darkens on the back and becomes almost black on the tail. Long lustrous guard hairs extend beyond a soft thick undercoat. In the middle of the back the fur is about an inch deep. A few small irregular white markings on the chin, chest or belly sometimes interrupt the dark tone of the coat.

Today this fur in coat and stole form would bring delighted squeals and ecstatic sighs from almost any American lady. But it has not always been so. This generation can look back with a chuckle on the appraisal and prediction made by Dr. John Richardson in the early 1800's, ". . . the fur of the *Vison* is of little value, and at many of the remote parts, their skins are taken by the traders from the Indians merely to accommodate the latter, but are afterward burnt, as they will not repay the expense of carriage. The fur, however, is very fine, although short, and is likely, in the revolutions





by ANN STREETMAN

of fashion, to become valuable again."

Certainly Richardson was right about the revolutions of fashion. The value and popularity have increased substantially in the last 100 years. Mink ranching was begun in the late 1800's. By 1951, less than a century after the convenience of mink farming began, more than 2,000,000 ranch mink pelts were sold on the market for about \$40,000,000. Trapping, however, still occurs.

The little semiaquatic animal matches its beauty in ferocity and aloofness. The adult mink goes about its way alone, with few enemies besides man daring to disturb its solitude. It can quickly scurry away into hiding when a human approaches, but if it is unavoidably confronted with a man, it takes the situation into its grasp and displays a hideous array of grimaces, steely stares and contortions of its lithe body that rival those of any respectable monster villain in the modern science-fiction movie. Warning growls and screams add to the eerie spectacle. But the little animal has another unpleasant tactical move. When frightened, even to a small degree, it freely releases a disdainful musk which is reported to be even more nauseating than the skunk's. The mink cannot squirt its pungent musk, however, as can the more accomplished striped stinker. This musk seems to signal other minks to stay away from the area which proved a trouble spot for one fellow.

The mink does have to avoid the great-horned and snowy owls, lynx, bobcat and fox, for these animals hold mink meat in high esteem.

A good hunter, the mink finds meals in water and on land. It sometimes ambles along the streambank poking its little head into likely places or stealthily creeps upon an unsuspecting victim. At least one observer reports the mink can follow its prey by scent, hound style. Under water it slides its paws under rocks, snatching crayfish, and it catches suckers and other fish. Other items on the mink menu are minute shellfish, frogs, aquatic insects, birds including marsh-hens, seaside finch,

bank swallows and woodpeckers, mice, rabbits, turtles and turtle eggs. Researchers have also found that the mink often eats ducks wounded by hunters. But the mink's favorite food is a plump muskrat. Although the muskrat is huskier than its predator, it is no match for the mink's ferocity and strength. The mink, often called blood-thirsty, also delights in robbing chicken houses. Generally, it appears not to have the intense blood lust that drives a weasel to kill much more than it needs to satisfy hunger. Most records indicate that the mink prefers to take residence in a crevice in or near the chicken house and steal only one or two fowls a night until after some days it moves on or is killed. There have, however, been records of individuals killing fowl almost as wantonly as the weasel.

When the mink finds a choice meal, it often takes it to a nearby den to eat in leisurely comfort. Studies show that it sometimes stores as much as a month's supply of food in a single den.

Although the mink is generally considered a fierce animal with ruthless habits, it can be tamed. The little animal was a favorite pet among boys of the Blackfoot Indian tribe. Other reports claim that the mink, although always ready to bite and release its musk at provocation, makes a mild, interesting pet.

Behind it the mink leaves distinctive tracks. The print is slightly square with four of the five toes recorded. When the creature is bounding heavily, the heel, too, appears. Tracks of the front feet are a little wider than those of the hind paws. The toe prints are spread apart when the animal is walking on soft ground.

The voice of the mink varies from a growl, deep savage snarl, louder snarl of defiance akin to a scream, to a screech and loud sniffing.

Besides the musk warning and audible signals, the mink also has a silent form of communication which is colorfully described by Ernest Thompson Seton in *Lives of Game Animals*, "At intervals throughout the mink range will be found flat stones, projecting logs, or prominent bog-lumps, on which each mink who passes, feels it a duty to drop dung, and—but of this I am not sure—uri-



nate. The dung carries with it some of the anal gland secretion (musk), and the result is a smell-telephone of crude construction, yet developed so that each mink calling at this 'letter box' or 'card tray,' can tell who has been there lately; and, if a stranger, whether it was male or female, old or young, hale or helpless.

"Further, the recent food of said previous visitor is more or less indicated so that the mink now calling knows just what kind of foodstuffs are found in this region. . . . This rudimentary wireless appears to be the mink's sole impersonal mode of intercommunication, and a very poor one at that."

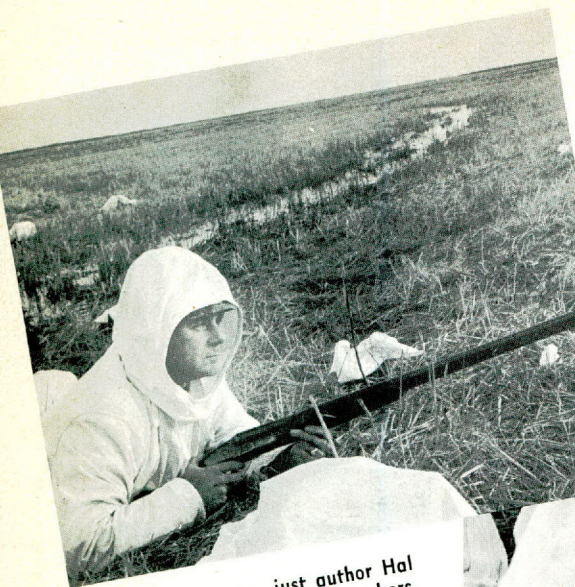
Like many other creatures the mink does not hibernate but does curl up in its den to pass very cold days. During these naps it wraps the furry tail over its nose tip, in the manner of a fox.

A polygamous mammal, the male mink mates with several females in January, February and March. Young are born after a gestation of 39-76 days. At birth the kits are blind, helpless creatures covered with a coat of fine, short, silvery hair which is soon replaced by a dull reddish brown coat that will later be swapped for the lustrous beauty of adult pelage.

Authorities disagree on whether the father lives with the mother and

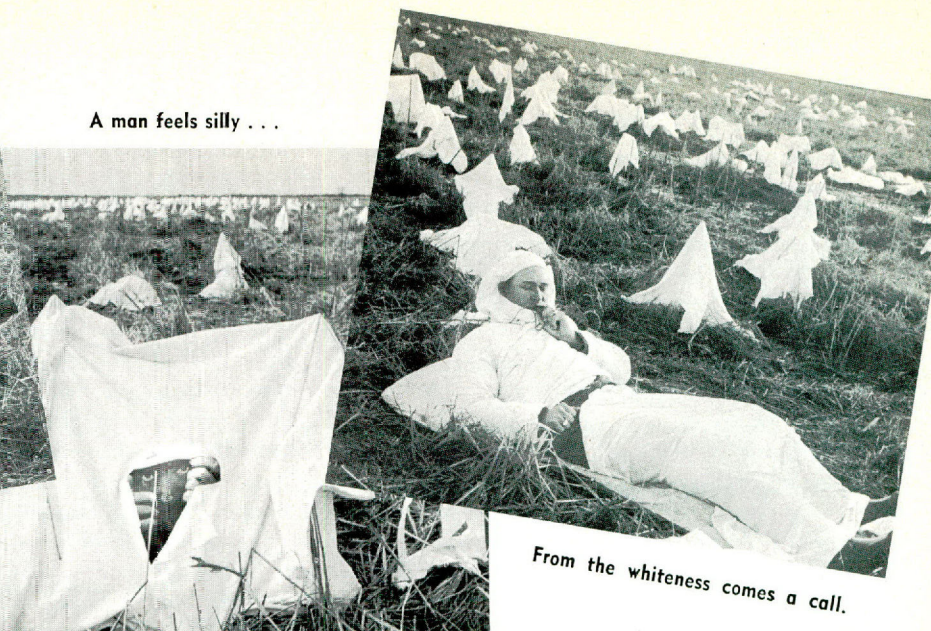
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Not a space man, just author Hal Swiggett waiting for the honkers.

A man feels silly . . .



From the whiteness comes a call.

# Rag Tag

by HAL SWIGGETT  
San Antonio Express-News

“**A** WEB-FOOTED, flat-billed bird, like a large duck or a short-necked swan.” That, according to Webster’s New American Dictionary, is the definition of the word “goose.” “A silly, goose-like person” concludes its treatise on the word.

My question is this:

When homo sapiens trudges four or five hundred yards into a sloppy rice field, puts four or five hundred white rags on the stubble to symbolize a flock of geese, climbs into white cover-alls that are four or five sizes from right and then lies on his back in the muck while the thermometer hovers four or five degrees above freezing, waiting for some of those web-footed, flat-billed duck swans, IS A GOOSE HUNTING A GOOSE?

Answering my own question, it all depends on which side of the fence you are on. I closed out the season in the very popular goose hunting area of Eagle Lake and Garwood. On days when dawn broke with cloudless skies and silent winds (lousy weather in goose hunting lingo), we felt like “a silly goose-like person.” There were geese, don’t get me wrong, but they were just a few feet below outer space. There have been times under such circumstances when I actually thought the beady-eyed rascals were laughing as they winged their way over, far out of range.

Then on days when dawn could barely cut through fog, clouds or drizzle it was our turn to laugh at those geese as they worked their way across white rags and into charges of No. 4 or No. 5 shot. Stumbling back out of a sloppy rice field under the weight of four or five geese makes a big difference in what a man thinks of himself.

I have hunted geese in almost all the accepted ways and, 30 years ago, even a few ways that weren’t. To me,

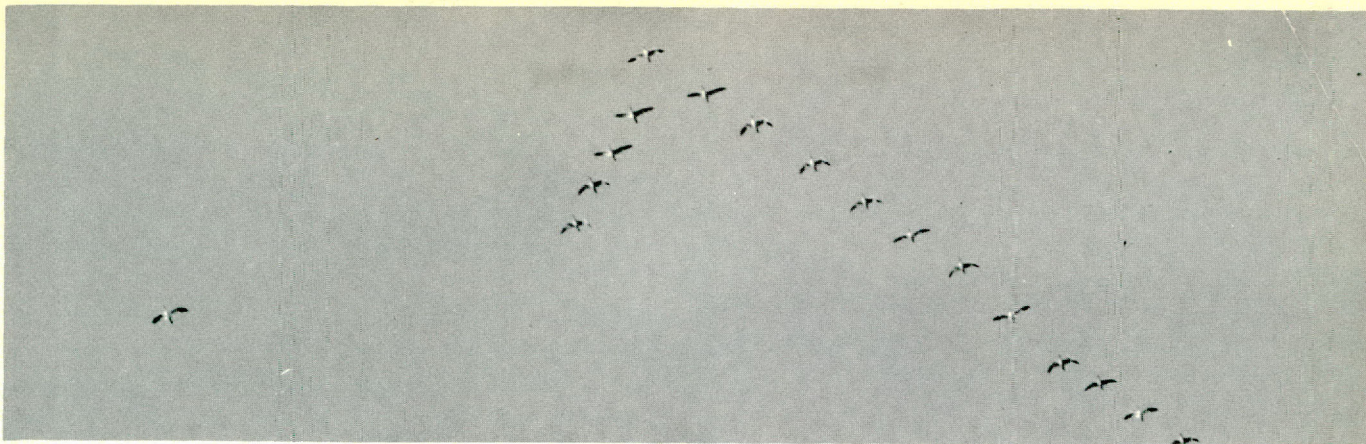
the most illogical way seems to be the most productive. I have used decoys, waited near refuges, sweated out feeding fields, crawled miles through mud AND stayed flat on my back among a sea of white rags.

The rag stunt sounds silly. While you are putting them out, they look silly. Sprawled out on your back



The trigger finger tenses as the flying white mountains loom closer.





Several more wing beats and the deluded rascals will be in range.

in white cover-alls, you feel silly. If the weather is good (meaning lousy), the silliness disappears as clouds of geese take to the air from their roosting grounds and head for breakfast. Thousands of snows, blues, specks (white-fronts) and Canadas break off into smaller flocks and fan out over the rice fields.

The spread of rags suddenly looms up as a flock of geese being served. The guide, with his call, convinces them everything is on the level. Here they come. They look real big, so you know they are still too far away. Closer and closer. Now they look like feathered mountains which means a couple of more wingbeats and it's goose in the oven.

It sure beats waiting near refuges. Geese have a mind of their own and don't always go out the way they are supposed to. It beats sweating out feeding fields because those contrary critters usually decide they don't

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A wingspread like this goose has is worth a few sheepish moments.



A comparative view shows why the flock swooped into the white trap.



Lying in the slush is forgotten when this beauty goes into the bag.





Longoria

Cha

**A NEW SOUND** pierces the air on the Longoria Unit of the Las Palomas Wildlife Management Area located five miles north of Santa Rosa in Hidalgo County. For the first time in many years the raucous call of the chachalaca is again greeting the rising sun. The sound's returning is a result of a Game and Fish Commission transplanting experiment.

The chachalaca, also known as the Mexican tree pheasant or just Mexi-

can pheasant, is about the size of a small chicken and resembles a pheasant with a little roadrunner thrown in. It is olive gray and olive brown with lighter underparts and a white or cream tip on its long tail feathers. Its head is slightly crested with elongated feathers and bears a chicken-like but slightly curved bill.

The chachalaca is the northernmost member of a large subfamily of tropical chicken and turkey-like game birds known as guans. The chachalaca is found in deep South Texas through Mexico and the tropical Americas. It is an important game bird in many of these southern countries.

Chachalacas occur naturally in the United States only in some 16 tracts of dense native brush in the Lower Rio Grande Valley of Texas. Most of these brush tracts are wildlife refuges operated by the Commission or the federal government. Calvin Vernor, biologist of the Commission, estimates the Valley's total chachalaca population at only some 4,500 birds. The chachalaca apparently was once common throughout the Valley when dense brush covered much of the area.

The chachalaca gets its name from its raucous call of "cha-cha-lac" or as others have interpreted it, "slap-her-back," or "cut-it-out." This call is re-

peated many times, often in duet or sometimes in trio. Frequently, two groups will call back and forth to each other early in the morning and at dusk.

Fruits and berries constitute most of the chachalaca diet, along with a few seeds and insects. The chachalaca has little need for drinking water and can go for long periods, if not indefinitely, without a drink. Apparently, the moisture in its food suffices.

Ted L. Clark and Vernor, biologists on Commission federal aid project W-78-D, believed the Longoria Unit of the Las Palomas Wildlife Management Area was good chachalaca habitat. This unit, which includes some 150 acres of dense native brush and 50 acres of cleared land, was purchased by the Commission in 1957 for a white-winged dove nesting sanctuary. It supports a large breeding population of whitewings each year. No chachalacas were on the area, although they had ranged there in the past.

In 1959, the Commission decided to trap several chachalacas on the McManus Unit located seven miles south of Donna, to release them on the Longoria Unit. Vernor snared 20 birds during the winter of 1959-1960 by using large wire funnel traps baited with corn. After being



Calvin Vernor secures the band on a chachalaca for release on Longoria Management area.



# *Unit hears a new sound*

## *cha - lac!*

by DAVID R. BLANKINSHIP

banded, these birds were released on the Longoria Unit.

All that could be done then was to wait and to watch. The brush on the area had an abundance of berries and fruits and conditions looked good for the birds to survive.

Spring of 1960 arrived and the raucous calls of chachalacas were heard here and there on the Longoria Unit. At least some of the birds had survived the winter. Then came summer, and Commission personnel observed a few chachalacas without leg bands, indicating the birds had reproduced.

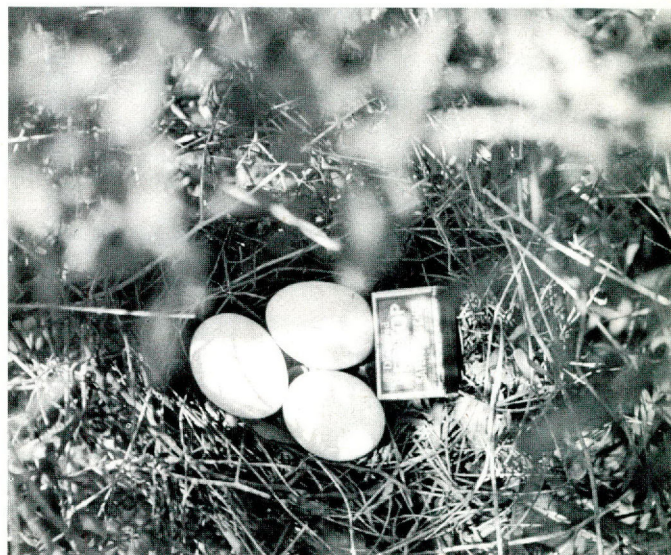
Several chachalaca nests have since been found on the area. The nests are built of twigs and are located from 4 to 20 feet above the ground in tree crotches and in dense tangles of branches and vines. The creamy white eggs with a rough surface are slightly larger than those of a chicken.

The adults are good parents; they try to protect the young which leave the nest soon after hatching. A few young chachalacas were found in traps set to catch white-winged doves for banding. The adult chachalacas rushed around the traps and loudly scolded project personnel until the young were released. All then quickly vanished into the brush.

The chachalacas have continued to

thrive in their new home. Vernor estimates the present population on the Longoria Unit to be about 150 birds.

The success of this experimental transplant of chachalacas has given rise to hopes of more such introductions in the future. The chachalaca probably will never again become a popular game bird in Texas—because of lack of proper habitat. Perhaps though, through such transplants as this, the future of this fascinating bird can be made somewhat secure and many more people will have the opportunity to make its acquaintance. \*\*



Without the match box, these chachalaca eggs might be mistaken for those of a barnyard variety.



# DEER CINDERS

by L. A. WILKE

**A** LOW GROUND fog had rolled in from the Gulf of Mexico over night. All along the coast and for 50 miles inland it covered mesquite brush and cactus patches as thick as pea soup.

It was in that part of December when the nights are nearing their longest hours. We had set the alarm for 6 o'clock. Our motel room was perhaps a hundred yards from the coffee shop. As we looked through the fog-bound window, we could barely see the lights.

For deer and turkey that morning it looked hopeless, unless the fog burned off pretty early.

I had joined the party the night before, down in the Texas brush country where I was to get a deer and turkey. Marion Toole and Lou Guerrero, both fishery biologists, had arrived the afternoon before. Each had collected two fine turkeys on a ranch near Encino.

Val Lehmann, wildlife specialist for the King ranch, was to be my guide for the day. In fact, it was to be my day! The two biologists just

were "riding shotgun" to make sure I got my game.

We took our time in the coffee shop. There was plenty to open our eyes, black and strong. Even the pan-fried sausage had an extra portion of pepper, and some little green chili peppers were scrambled in the eggs.

Fog bound, we killed more than an hour hoping it would lift, but the fog seemed to hang lower and lower. Finally, we decided we might as well get out in it. Val keyed the motor and the windshield wiper slapped across the wet glass with little lasting effect. Inside the car our moisture proof jackets were damp.

Whatever else may be said for Val Lehmann, he isn't exactly what you would call a timid driver. He knows every inch of every road and cattle trail in South Texas. As we swung down the highway, lights from approaching trucks moving up from the Rio Grande Valley seemed like tiny flickering stars, very low on the ground. As the lights got closer, the cars and trucks moving slowly,

the lights fanned out, like a series of circles.

We slit that fog open for 10 miles, and then turned through a heavy ranch gate. Toole, who had grabbed the front seat as we started out, had the honor of opening the gate.

By the time we had driven only a few hundred yards into the pasture we could see the drenched forms of several does just off the side of the sandy road. Other deer dashed ahead of us, confused by the circular lights of our car in the heavy fog. It was long past the hour of official sunrise, but there was no sun in sight. It was lighter, and through that moisture-laden light we could see a little farther back into the brush and trees.

Does were everywhere, but no bucks appeared. Already excuses were being made. It had been unseasonable; too hot. The bucks were still hiding in the brush.

On and on the chatter went, mostly for my benefit. The bucks were still hiding in the brush. We shouldn't have a bit of trouble getting a turkey, but a deer probably would come hard. In big buck country we'd do well if we had to settle for a Hill-country size. A man hunting in the same area last week had gotten a fair buck late in the afternoon.

I had heard these stories before. Every rancher has a stock of 'em. These types of stories are a favorite alibi of fishing guides . . . I should have been there yesterday, or tomorrow will be a better day.

This had been going on for a half-hour when we saw the first recognizable buck. Val hit the brakes and I slid out of my seat, but that buck was already gone. This gave me an opportunity, however, to see that the fog had practically obscured the view through my K2.5 Weaver on a 742C Remington.

That carbine was perhaps the main reason I was out that day to get a deer. I had hunted this pasture before and had missed a buck because I was too slow in getting off



L. A. Wilke kneels by his buck which sports a 25½-inch spread.



the second shot with a bolt action. With this new semi-automatic, however, I was looking forward to snapping a few caps before a deer could get away from me.

Back in the car I used a piece of facial tissue to cover the lens of my scope. The fog had lifted slightly, with the sun doing its best to wipe away the tears of a restless night. From an oak tree not too far away we heard a flock of turkeys leaving their roost to spend the day out over the ranch, filling their crops with acorns.

Does were moving about, but the clearing light only moved Val to drive a little faster. Lou, however, has good eyes for big bucks. "Hold it!" he yelled. "There's a *papacito* right over there on the ridge."

Lehmann put his boot down so heavily on the brakes that I was almost thrown from the car. As I hit the ground he had already dug the wheels into the sand off the side of the ranch road. There I was standing in the open, with nothing between me and that deer but a heavy fog.

The buck in all its lordly glory was looking back at the automobile. I was yanking the tissue from around the eye-piece of my sight. Then for some reason Lehmann gunned his motor and started backing.

Bucks don't get a big spread standing still while hunters take their time or fumble. I jumped aside and the buck took off. Fifty yards beyond it there was an oak mott. It dug its feet in, threw its head back and headed toward those trees.

It's strange how in such a fleeting moment a person can see so much. I could tell that was the biggest white-tailed buck I had ever seen. Ahead of it was this clump of trees, where the prevailing gulf wind was from the southeast and the tops of all the trees were swept forward through the years to look like an army of old men on the march.

But even as all this was flashing through my mind, I had lifted the gun to my shoulders. Through the scope the tail of that buck showed up plainly beyond the crosshairs. I realized that the 180-grain .308 bullet would pulverize its hams or slice that buck from end to end.

I had seen deer shot from the rear before. I remembered I had a gun

that would shoot fast, and I knew that if I shot one high shot and missed I still had another left for that intervening few feet it would travel. I tipped up the front end of the gun. As the crosshairs covered the mighty rack of horns I squeezed.

That buck never completed the jump. It fell from mid-air into the grass-burr laden sand, 137 steps away from me and about 20 steps from the oak mott. The bullet had hit it squarely in the back of the head.

I knew how dead that deer had to be, but the others were taken by surprise. As they pulled alongside me I jumped into the back seat and we went across the wet sand to where it had fallen. There lay the biggest whitetail I had ever killed in a half-century of hunting them. We measured its spread, 25 $\frac{1}{4}$  inches, very symmetrical. The bullet had hit the buck directly in the back of its head, shattering the skull.

Val rolled it over on its back and in a few minutes it was field dressed. I was content with the deer and would have passed up the turkeys, but Val insisted he knew right where there was a big bunch of gobblers.

A few minutes later I got my gobbler with a .22 Winchester magnum as it sailed away from me. I was accused of being lucky. I still insist it was just good shooting.

That night back at my home in Central Texas, I checked the buck into a processing plant at 142 pounds. It was to be dressed, cut up into steaks, chops, roast and a goodly supply of sausage.

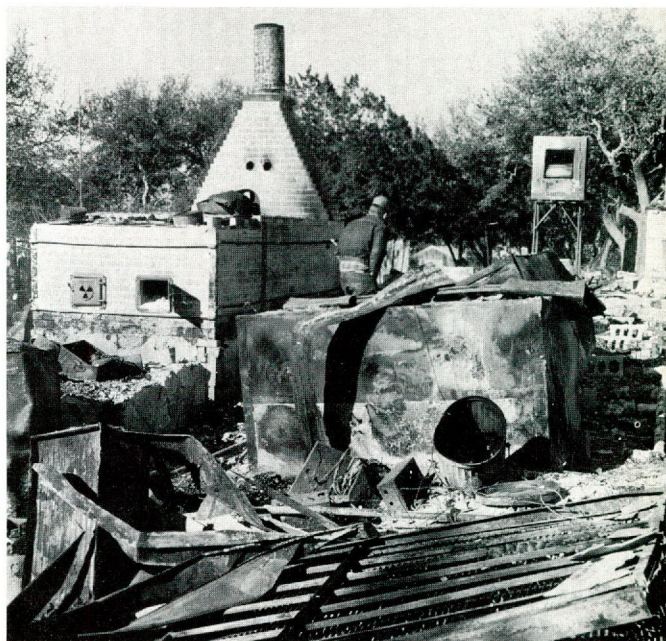
A few days later, sitting in the living room of my home and listening to the news broadcast, I was startled to hear the announcement to prove I wasn't lucky. That afternoon the processing plant had burned to the ground with my big buck and some 400 other deer belonging to hunters of the area. The next day I drove to the plant. All that remained was the wreckage and charred piles of aluminum-wrapped venison that had been prematurely barbecued.

A few days later I learned that some of the horns had been put out back of the building. I went back and found the rack. Today it furnishes proof of my biggest whitetail.

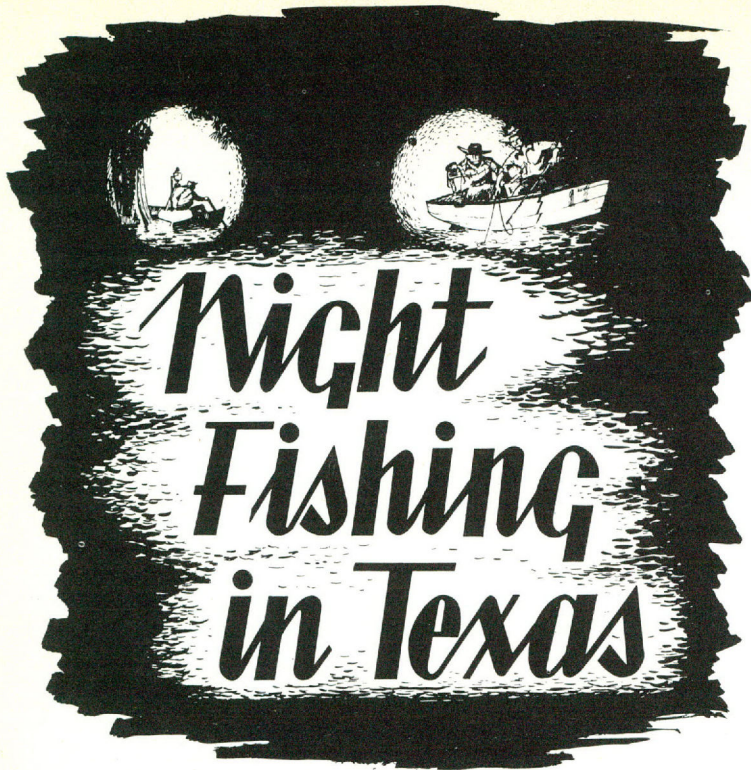
There is a sequel, too, about the processing plant that was burned. A new and beautiful place was built and had just started doing business when it, too, was burned to the ground.

So while I was lucky in getting the big deer and lucky in finding the horns, I could sympathize with the owner of the plant where my deer was processed and barbecued. \*\*

Charred venison is strewn in the rubble, but the rack is saved.







reviewed by CURTIS CARPENTER

**NIGHT FISHING IN TEXAS**, by John W. Honea. Published by The Naylor Co., San Antonio, Texas, \$3.25.

“**V**ISIT any wild and lonely place some night and listen closely for a few minutes. The sounds of life can be heard from all directions. Insects, rodents, reptiles and mammals all stir at night. And so do the fishes.”

The paragraph above was borrowed from *Night Fishing in Texas*, by John W. Honea, a night-fishing Texan. It implies clearly the gist of his very fine book. There's something special about night fishing. “The thrill of night fishing is considerably different from that of day fishing,” writes Honea. “The sound of a big lunger smashing at your unseen surface popper—the noise of a reel clicking madly in the darkness as you sit by a lonely and terrifying surf—a set pole dipping completely under water as you come close to it on the midnight run—and the sight of a big ‘saddle blanket’ flounder in some dark back-bay—all have the thrills that cannot be gained during the day.” And as he emphasizes throughout his writing, “If you want fish, go after them at night.”

Honea covers all types of night

fishing. He starts with catfishing, “Several different species of catfish are found in Texas, but only three are of any importance to fishermen. These are channel cats, blue cats and yellow cats.” Catfish are primarily nocturnal feeders, feeding usually at night and hiding out during the day in deep holes or under rocks. When the darkness falls over the land, catfish begin their search for food.

Honea goes into details about catfishing, including the effects of water temperature, rising water and other factors bearing on the feeding habits

of this favorite trot line species. He reminds fishermen that catfish do not feed extensively when the water is unusually warm. They love rising waters and squalls which bring muddy water gushing down creeks and into rivers.

This catfish is an unusual inhabitant of the waters. It has been “greatly aided by nature with the addition of smell, taste, hearing and feeding senses.” It has taste buds over the general outer skin, and they are especially plentiful on the barbels, or whiskers, which also serve as feelers, according to Honea. This tasting ability along with its excellent equipment for detecting sound vibrations and changing pressures, make the catfish a “living radar machine, able to catch food whether visible or not.”

This is just one of several popular night fishing species, says the author. And, if you plan to go after the cats, he recommends the trot line, throw line, set hook method, the hand line or drop line. These are simple to set up, and the author uses illustrations to demonstrate the procedures. If you read his book, he'll tell you how.

Undoubtedly, this man, Honea, has had rich experience in night fishing. The reviewer has tried night fishing for black bass and some of the popular coastal fishes such as trout, reds and flounder. And, as he says, there's something special about night fishing.

The author talks about the black bass, white bass and crappie in one chapter. He reminds fishermen that black bass don't need to be lured from their hiding places at night.



The catfish, a living radar system operating in murky water, is a prize for night fishermen.



"They come out, of their own volition, to search for food. At night, they will venture into the shallowest waters around the edges of ponds and lakes, or follow up the riffles in running streams." When you go after them, use artificial lures, preferably topwater.

For those interested in frogging, *Night Fishing in Texas* includes 12 pages about frogging while the sun is beneath you. Nothing about the style of Honea is formal. "It was at this time that I stood at the edge of the lake, listening for a particular sound to stand out above the others. Then I heard it! The deep, bass, soul-stirring bellow of a giant bullfrog." And then he tells his readers how to have more successful frog hunting ventures.

"The environment of an area largely determines the manner of frogging that will be most successful," writes Honea. "Frogs can be shot, giggered or taken unharmed. They can be found with the use of a boat or by walking and various kinds of lights can be used."

Frogging offers unique hunting excitement. As Honea explains, "Frogging is a challenge and a conquest, and it is fun." There's one thing to remember, when the frogs are out, so are the snakes. Usually, you catch frogs in snaky country.

From the frog ponds Honea takes his readers to the coast for a lesson in floundering. "Floundering is not a fast and thrilling sport as compared to some types of fishing," he writes, "but once you have experienced a successful floundering trip, it is very probable that you will try it some more."

There's something special and fascinating about wading across some shallow, silent lagoon through a clear layer of bay water, with the black night trying to steal into the circle of lantern light. Honea perfectly describes the excitement, "For some unexplained reason, the finding of a big flounder nosing up on a little sand bar, offers a thrill that even surpasses the smashing strike of a big red or trout."

Floundering is not as simple as it might appear to many. You don't just pick up a gig, a lantern and a pair of boots and head across some shallow water on a dark night. There are

many factors to consider, such as knowing their feeding habits, when to go after them, where to go after them and finally, how to go about getting up close enough to use the gig once you have located a flounder. He covers all of this in his very encouraging chapter on this favorite food fish. When floundering, beware of the stingarees!

Honea covers night fishing in coastal waters very thoroughly in his last few chapters. He has included a chapter on trot lines in salt water, another on rods and reels in salt water, fly fishing at night, one on the dangers of night fishing and a last chapter on the future of Texas fishing.

"The potentials of the fresh-water

if all conditions remain perfect, life will be in great abundance. However, if some disturbing factor such as the silting of bottoms occurs, the chain of life is broken and the marine life starts to decline. This is happening in Texas waters today. The major streams of Texas deposit annually from 50 to 100 million tons of silt and dissolved material into the coastal areas, and a large portion of this settles in our bays and lagoons."

This is only one of the enemies of our bays and lagoons. Dredging, dirt fills for roads, causeways and bridges, small boat channels through prime spawning grounds and many others are destroying irreplaceable fish habitat. "Little can be done to remedy the damages caused by sedi-



The gig jets forward toward a suspecting frog and the result is a surprised moccasin.

environments of Texas have increased tremendously in recent years," writes Honea. "The construction of large reservoir lakes on all major streams has been by far the most important factor of all in building up the fresh water fish density."

His idea of the future of saltwater fishing is not as promising as his forecast of fresh water fishing. "In areas of clean bottoms, life can be found in layer-like fashion: burrowing forms under the bottom, sedentary forms on the bottom and the vagrant and nectonic forms of life in the water above bottom. One form of life is dependent on another, and

mentation," admits the author, "but there will always be some areas that are not seriously disturbed by excess silt and these we can protect." If this isn't done, and an interest shown by every citizen of this state, implies the author, not only will our night fishing be ruined, but there won't be any day fishing.

*Night Fishing in Texas* is a fine little manual. It's not big and bulky and it costs only \$3.25. If you want it, write to The Naylor Company, San Antonio. It's a minimum price to pay for such information born of long experience. Read it and you'll be a night fisherman, too. \*\*



# A Look at the Ledger

by HOWARD T. LEE  
Director Field Operations

**AS THE TITLE** indicates, this is a brief resumé of Game and Fish Commission programs now underway including general plans for the continuation of Commission work. All questions on this subject cannot be answered in such little space. This will serve simply as an outline of the Commission's activities and plans for the future.

Financial factors have an important place in the programming and planning of the Commission. Many Texans are unaware that the operation of the Commission is financed, not by *ad valorem* taxes, but primarily by the following sources: sale of hunting, fishing and related licenses; a portion of fines for game and fish law violations; the State's share of the federal excise tax on sporting arms, ammunition and sport fishing tackle and sale of sand, shell and gravel from public streams and bays. All monies received from the above sources are deposited in the Special Game and Fish Fund, and none of it may be spent by the Commission without prior appropriation by the Legislature.

The Legislature convenes in regular session every two years and, some months prior to the convening, the Commission submits an appropriation request including amounts for salaries and operations. This request has already been presented for the 1964-65 biennium.

Hunting and fishing by Texans rose from 1,625,000 persons who spent \$165,054,000 in 1955, to 2,425,000 persons who spent \$382,769,000 in 1960. This growth in activities calls for more intensive management of our State's fish and wildlife resources.

The Commission's estimate of revenue for each year of the next biennium is \$6,825,000 for 1964 and \$6,900,000 for 1965. The expanded program for 1964 will cost \$8,046,517 and for 1965, \$7,541,755. The Special Game and Fish Fund will have a sufficient incoming revenue and balance carried over to cover the total expense.

Administrative operations of the

Commission were completely reorganized on recommendation of the Texas Research League Sept. 1, 1961. The State was divided into five regions with a regional office and several district offices in each region. It is believed that the reorganization has greatly enhanced the efficiency of the Commission.

One of the greatest problems relating to efficient operations is the inability to hire, as well as keep, personnel on the present salary scale.

Salaries now paid this department's employees are below the pay scale in other progressive states. In many instances in the past, we have lost men to other states and to private business and industry because of non-competitive salaries. In 1962 the resignation of 42 employees can be attributed to non-competitive compensation. Salary schedules are fixed by the Legislature. Salary increase requests are included in the new appropriation request. Some illustrations of salary differentials are shown in Table I.

Successful management of wildlife forms depends upon two basic factors—one is manipulation of the population and the other is manipulation of the environment or habitat.

Thorough knowledge of the individuals which make up a wildlife population and of the factors which contribute to the well-being of that population is essential before any type of manipulation will be of lasting value. These principles apply to aquatic as well as terrestrial forms.

To insure an enduring supply of desirable species for future generations to enjoy, man has, since the beginning of recorded history, brought many influences to bear upon these species. Only in very recent times, however, has there been a concerted effort to understand all the factors including the effect of man himself.

The effect of man's direct influence through hunting and fishing has been overemphasized, though, as is reflected in all of the early legislation which only restricted man as populations waned and disappeared. Buf-

falo, bighorn sheep and prairie chickens are examples of game species that have diminished in numbers so that huntable populations no longer exist. Simple protection from the hunter is of course helpful, but only by large scale habitat control could huntable populations of prairie chickens be restored.

Thus it can be seen that basic research into those factors affecting our wildlife resources is essential to proper management. Once the backlog of basic work is accomplished, relatively less complex studies of abundance, harvest and environmental conditions will serve to *maintain* adequate supplies of wildlife resources. However, since demands for recreational outlets are increasing steadily, there is a need for augmenting the supply in many instances and this requires some additional detailed investigational work. Essentially there are four steps in wildlife management work through which we must progress:

A. The preliminary study of populations and habitats, B. basic management to maintain an existing population, C. more detailed study of factors that could affect either an increase or decrease in population numbers and D. intensive management to augment and expand the population.

We have reached different stages with respect to various forms, and it is the purpose of this summary to show where we are and where we should go next in various areas.

Since this department had its origin in 1895 with the establishment of the office of Fish and Oyster Commissioner, the area of Marine Fisheries might well be a good place to start looking at operations.

## MARINE FISHERIES

There are three broad categories into which studies have been divided. These are fish, crustaceans (shrimp and crabs) and oysters. All of these forms have been used extensively over the years and still are of major economic importance to Texas.

The shrimp fishery is the most



valuable of all fisheries of the United States, and Texas' shrimp fishery is the largest and most stable of those in all the states. The growth of this industry in recent times has been remarkable and in 1959 the dockside value of the 84 million pounds landed in Texas was about 25 million dollars. In studies we have progressed to stage B so that the supply remains fairly constant. To progress to more than just "holding our own," more detailed study is necessary. At the present time, all costs attributable to shrimp research amount to about \$75,000 per year. To expand research into the nearshore gulf and conduct controlled experiments in ponds, it is felt that about \$100,000 will be required this year and as much as \$125,000 by 1966. This increase would allow purchase of additional research vessels and employment of personnel required to conduct the studies.

Fin fish studies presently account for about \$75,000 per year in costs. With nearly three-quarters of a million sport fishermen landing an estimated 20 million pounds and about 3,000 commercial fishermen landing four million pounds, this fishery would be valued at a minimum of 12 million dollars per year. Progression through stage C in this field will increase costs to an average of \$115,000 per year for the next few years.

Oysters have long held an important place in marine fishery studies and in the preferences of those who eat seafoods. The fact that oysters exist in beds throughout much of the coast and in Atlantic Coast States to Massachusetts has aided in their study. We have reached the state of intensive management (D) in this species. Augmenting the supply is relatively simpler than in those other forms which pass part of their lives in the open Gulf. Although the value of the commercial harvest is lower than the other marine forms previously discussed (estimated to be at least \$1,000,000 per year), the efforts to re-establish this fishery in now barren areas of the coast are proving worthwhile. The limited distribution of oyster beds accounts for the relatively lower production figures. Presently about \$130,000 per year is spent for study and rehabilita-

tion of this species. No major increases appear necessary as the effort is now seemingly successful.

### SAND, SHELL AND GRAVEL

Because of the terrific impact that the utilization of sand, shell and gravel has on wildlife resources, their management has been placed in the hands of the Commission. Sand and gravel supplies are rather widely scattered over the state in both public stream beds and private deposits. The removal of deposits from public stream beds is controlled by rules established by the Game and Fish Commission and results in an average annual net revenue of \$80,000.

Shell resources are taken from below the bay bottoms from depths to about 35 feet below water level. This is fossil shell of oysters which lived during the Pleistocene period. The exact quantity of submerged shell is not known, but industry representatives have expressed concern over the limited supply and indicate that present removal methods and regulations will allow less than five more years in the area of greatest activity. Costs of surveys of quantities of shell are rather high, averaging from \$250 per square mile for electronic surveys to \$500 per square mile for manual probe surveys. Ideally, the two types would be operated together to measure quantity, quality and position in both shallow and deep bay areas. Funds derived from the sale of shell account for a net revenue of about \$900,000 per year. Since the supply of these resources is *limited*, the revenue will be available for a limited time only. Present costs of operating this management program are about \$60,000 per year. Improvement in harvest control and audits are to be made with this annual average cost placed at \$80,000 per year.

### GAME MANAGEMENT

Game management is necessarily a very major part of the overall activity of the department. The variety of forms sought after and the fact that no area of the state is without some sort of game necessitate extensive study so that the supply may be maintained and augmented. Trapping and transplanting of deer, turkey and antelope has done much to replenish the natural supply in

many areas of the state. Artificial propagation and release of quail has provided a much needed stimulus for improvement of habitat so that populations are in good supply over much of the state. Although this latter program has been the center of considerable controversy, that very controversy has brought about much public notice of the need for habitat improvement.

The ever increasing public acceptance of game management along biological lines requires that basic studies be conducted in all of the state and because of diverse land and vegetative types, studies made in one area are not universally applicable. The proven method of management by demonstration projects in various areas of the state has been helpful and well accepted.

For cost analysis purposes, the work directed toward these forms is divided into four major categories. These are upland game, big game, waterfowl and game farms.

Upland game consists of smaller forms such as turkey, doves, quail, squirrel and others. The big game category would include deer, antelope, elk, javelina and bighorn sheep. Waterfowl is pretty well self explanatory—ducks, geese, etc. Game farms work is that associated with the production of quail and other game birds and their distribution. In each category, costs include personnel, capital outlay and operational costs for all phases of the work such as research, habitat improvements, management surveys, demonstration projects, trapping and transplanting, and so forth.

Big game costs for fiscal 1961-62 then were \$390,800; upland game costs were \$298,900; waterfowl, \$247,300 and game farm, \$55,500. These items total \$992,500 for the year.

It is anticipated that the purchase of land for wildlife management and demonstration areas will be unnecessary after completion of the planned purchase of a substantial brushland tract in South Texas. Development and maintenance costs will be up slightly for the coming biennium to complete the major work on all these areas. Following that period, costs for such activities will decline and the overall game management func-



tion costs should not exceed \$1,100,000 annual average for the next five years.

### INLAND FISHERIES

The State's 13 fish hatcheries annually produce between 15 and 20 million fish. Most of this production goes into public waters with some going into privately owned impoundments. This type of activity is a part of the population manipulation approach. Average cost of hatchery operations, including personnel costs, operation and capital improvements, is \$350,000 per year.

With the prospect of doubling the area of surface water impoundments in the next 10 years, production of fish must increase correspondingly with more selective control over stocking of smaller bodies of private water. It is anticipated that this demand will increase costs to \$410,000 per year.

In conjunction with the above, in fact preceding the stocking of public waters, is the continuing study by trained technicians of the public surface waters of the state. The increasing use of both rough fish control and vegetation eradication practices indicates a progression to stage D in inland fisheries work. Continuous research, development and maintenance projects in fresh waters presently cost \$353,000 per year with an anticipated increase over the next four years to an average of \$502,000. Thus the entire inland fisheries program which now totals \$703,000 must increase to an average annual total of \$965,000 by the fiscal year 1966-67.

### LAW ENFORCEMENT

Law enforcement is the one phase of Commission activity with which most people are familiar. The success of all the other programs undertaken lies in the public conformance and acceptance of regulations. Enforcement officers are by far the largest single group of specialists and

Position	Present Salary	Texas G&FC Request	1962 National Average	
			Beginning	Maximum
Asst. Executive Director	\$9,092	\$9,910	\$9,422	\$10,951
Asst. Director	7,980	9,092	9,422	10,951
Fiscal Officer	7,980	8,700	7,541	9,206
Engineer	7,980	8,700	8,010	9,787
Legal Counsel	6,716	7,320	8,058	9,098
Chief,				
Law Enforcement Off.	6,716	8,340	7,722	9,380
Regional Director	6,716	8,340	7,573	9,380
Biological Supervisor	6,277	7,320	6,419	7,928
Biologist (Senior)	6,260	6,519	5,820	7,238
Biologist (Junior)	4,267	4,539	4,825	6,031
Wardens (Senior)	4,780	5,344	—	5,651
Warden	3,976	4,585	4,269	—
Hatchery Superintendent	4,584	5,122	4,358	5,625

Table III

Program or function:	Fiscal Years						Annual average for 6 yrs.
	1961-62	1962-63	1963-64	1964-65	1965-66	1966-67	
Game Management	948,000	1,811,000	1,207,000	1,020,000	950,000	925,000	1,143,000
Fresh Water							
Fisheries Management	663,000	896,000	1,238,000	1,107,000	900,000	1,000,000	967,000
Marine Fisheries	360,000	522,000	771,000	759,000	600,000	700,000	619,000
Law Enforcement	1,835,000	1,992,000	2,534,000	2,324,000	2,325,000	2,200,000	2,201,000
Information & Education	289,000	299,000	334,000	339,000	340,000	350,000	325,000
Administrative and Accounting*	1,253,000	1,392,000	1,512,000	1,543,000	1,435,000	1,475,000	1,435,000
Refunds—Sand, Shell & Gravel	295,000	450,000	450,000	450,000	450,000	450,000	424,000
<b>TOTALS</b>	<b>5,643,000</b>	<b>7,362,000</b>	<b>8,046,000</b>	<b>7,542,000</b>	<b>7,000,000</b>	<b>7,100,000</b>	<b>7,114,000</b>

\*includes transfers to retirement matching, etc.

the group most frequently in contact with the public as a whole. So that they will be better qualified to inform the public of the desirability of regulations, officers are actually taking part in the field population studies. As the public responds to the information program, the officer's work shifts from a negative to positive emphasis and he becomes a leader in the community conservation effort. Selection, training and advancement within this group thus becomes more critical.

At the present time, the cost of equipping 225 enforcement officers (including supervisory personnel) with uniforms, vehicles, equipment such as boats, trailers, radios, binoculars, etc., training and operations is about \$2,000,000 annually. Population growth and trends toward increased outdoor activity will require some increase in the operation cost, and modification of the radio system to conform to F. C. C. requirements will cause some upward change in the expenditures.

### INFORMATION AND EDUCATION

Of vital importance in the operation and effectiveness of the department's program, is the responsibility to inform the public of the results of field work and needs. The Commission has in the past year placed more emphasis on this phase of work and employed information specialists in

each of five regional offices. In addition, the Information and Education branch publishes a monthly magazine which reaches 41,000 subscribers, prepares and distributes motion pictures dealing with all aspects of wildlife management and assists generally in the dissemination of technical information derived by other personnel.

All activities related directly to public information work account for about \$345,000 annually. Again, as intensive management and new practices increase the desire for information, there will be a growing need to supplement this figure. No major or significant increases are anticipated but annual incremental costs must be expected.

### STAFF SERVICES

At the present time more than 40 different licenses are dispensed by this department through nearly 3,000 separate license accounts. Over 1.5 million licenses are handled by these sales agents yearly. Costs of preparation, consignment and accounting for these licenses average about \$280,000 per year.

Other supporting staff functions such as machine accounting, purchasing, property accounting, audits of sand, shell and gravel accounts, record keeping, reproduction, mail,

• Continued on Page 31

Source:	Fiscal Years		
	1961-62	1962-63	1963-64
Game licenses	1,626,000	1,630,000	1,720,000
Non-Commercial Fishing	1,666,000	1,750,000	1,800,000
Commercial			
Fishing & Equipment	403,000	425,000	425,000
Sand, Shell and Gravel	1,527,000	1,500,000	1,600,000
Federal Aid	1,029,000	1,460,000	1,000,000
Miscellaneous	341,000	259,000	280,000
<b>TOTAL</b>	<b>6,592,000</b>	<b>7,024,000</b>	<b>6,825,000</b>
Source:	1964-65	1965-66	1966-67
Game licenses	1,785,000	1,800,000	1,850,000
Non-Commercial Fishing	1,830,000	1,850,000	1,900,000
Commercial			
Fishing & Equipment	425,000	425,000	425,000
Sand, Shell and Gravel	1,600,000	1,750,000	1,750,000
Federal Aid	1,000,000	900,000	900,000
Miscellaneous	260,000	280,000	280,000
<b>TOTAL</b>	<b>6,900,000</b>	<b>7,005,000</b>	<b>7,105,000</b>



# Regional



# Roundup

## Region I—San Angelo

**C**ONSERVATION Officer Bobby Barnes of Odessa gained the friendship of at least 55 boys during the 1962 deer season by organizing special deer hunts for them in different parts of the state.

Finding a place to hunt is difficult for adults, but for boys the job is next to impossible. Conservation Officer Barnes contacted other wardens in Region I and asked if they would help to locate areas where Odessa boys could hunt deer. Three other conservation officers were eager to help.

Twenty-two boys from Otto's Boys Ranch near Odessa were permitted to hunt on the Harrison Ranch in Edwards County Dec. 1. They took home 50 deer. Fifteen members of the Odessa football team killed 13 deer Dec. 15 in Jeff Davis County on the Don McIvor Ranch. The last organized hunt December 22 in Schleicher County on the Wilson Ranch, was for 18 boys in the Odessa Boys Club. They killed 33 deer.

Conservation officers assisting Barnes in this joint effort were Bill Works of Eldorado, Ellis Martin of Rocksprings and Harvey Adams of Fort Davis.

## Region II—Waco

**T**HE REGIONAL Inland Fisheries biologists have supplied each District Office with samples of the 10 most common kinds of submerged vegetation along with 10 samples of chemicals to control all types of vegetation.

Plastic and gravel were placed over the bottom of a pond in the Heart of the Hill Fish Hatchery at Ingram in January. This is part of an experiment to increase the bass production in this hatchery.

A number of fish foods are being fed to yellow catfish at the Lewisville Fish Hatchery. The experiment is an effort to determine the best ration for producing the most rapid growth and for reducing cannibalism.

In one corner of a pond in the San Marcos Fish Hatchery, some adult goldfish are fenced away from the remainder of the pond. This is an attempt to supply the needed live food for flathead catfish. It is expected that the goldfish will spawn and the young will escape into the larger pond, thus providing a live food supply for the yellow catfish.

## Region III—Tyler

**W**ITH the midyear retirement of several employees, Ferris Garrett, Jasper Fish Hatchery; Robert Goss, game warden at Kilgore; and George Berry, game warden at San Augustine, Region III will begin to feel the pressure of an overlap in personnel duties. These men collectively served the people of their district for about 75 years, and while we will miss seeing them in uniform they are certainly to be commended for a job well done.

Fishermen on Lake o' the Pines are enjoying the usual excellent bass and crappie fishing, and fly rod fishermen are continually amazed at the size and numbers of large blue gills. Filling a stringer on this 38,200-acre lake is very easy, and campers are finding that the two dozen public camping areas are making their trips more enjoyable.

Interest in carp fishing is picking up in East Texas. Many fishermen have asked for and received copies of the leaflet on preparing baits for carp. For your copy, write Region III Headquarters in Tyler.

## Region V—Rockport

**J**AMES RAY PALMER, Region V's flying game warden, reports that his plane is proving more useful every day. It has recently been used to locate schools of fish for marine biologists to net and tag before the fish are released as a part of a movement study. Palmer is also assisting in deer census counts in the brush country, patrolling for pollution such as leaky oil barges, locating illegal nets in salt water, making aerial photographic surveys of vegetation control work on Lake Corpus Christi and patrolling for illegal oystering. The plane has been ideal for all these jobs and the economy of operation has delighted everyone concerned.

One of the jobs of the I & E officer in Region V which is peculiar to this region is supervision of 12 large aquaria in the Rockport Marine Laboratory. This is also headquarters of Region V and last year was visited by 21,140 tourists from 24 foreign countries and 48 states. This does not include 35 organized school groups and their sponsors. The maintenance of these aquaria is a full-time job for one man and the stocking of them is done by biologists who have choice specimens gathered in the course of their experimental work.

To make the display presentable to the public has been an almost impossible job until a few weeks ago. Almost a year was spent in the search for plastic plants which were impervious to salt water. These plants are now being used in conjunction with a coarse crushed limestone for flooring. These improvements and the addition of an improved filtering system have been a long step forward in the up-grading of this wildlife display in Region V headquarters.

In addition to the display of live fish, the lobby of the Marine Laboratory has a collection of beautiful shells from all over the world and a collection of arrowheads which were made by the Indians who once roamed the coastal beaches of Texas.

Mounted specimens of deep water fish such as marlin, sailfish, red snappers and huge rays adorn the walls.

Tourists who visit the Rockport area are invited to see these displays.

••



# GUNS



## ... and Shooting

This Month: **New Models**

By L. A. WILKE

**J**UST about the time gunners get ready to put their hardware in good grease and turn to fishing, the manufacturers come along with enough new models to awaken old Rip.

Right now it seems that 1963 will see the biggest rash of new armament loosed at one time. Every manufacturer has something new to announce.

And, if you think the .22 has gone along with the dodo bird, you have another think coming. For instance, Winchester has just announced a new 200 series with three rifles chambered for the short, long and long rifle, in semi-auto, pump and lever action. Each is priced at just under \$60.

The lines of the three guns are

almost identical, and, while they are streamlined in appearance, they resemble other guns enough so they aren't startling. They are equipped with the regular metal sights, but the receiver is grooved for easy installation of scopes.

Marlin is in the picture with some new guns for new calibers. A couple of years ago Winchester announced a .256 cartridge for which there was no gun available. At first it was intended to be a pistol cartridge, with a lot of push behind a .25 caliber bullet in a short shell. Ruger was first out, with a single shot pistol, but it remained for Marlin to adapt its levermatic action to the new cartridge. At the same time it also was adapted to the .22 Jet, which was a Remington cartridge development.

These are wonderful short range varmint guns, with low trajectory and high knockdown. In addition to the regular .22 ammunition this gun also is chambered for the .22 WRM and the more powerful pistol load, .357. This gun carries a lot of wallop.

Mossberg now is producing a Slugster in its 12-gauge model 500 pump. Later in the year the Slugster will be available in both 16 and 20 gauges. The new Slugster has a 24-inch barrel with ramp partridge type front sight and a folding leaf rear

sight. Last year when Mossberg announced its 500 series, interchangeability of barrels was one of the main selling points. This still is true. There is a wide selection of barrels available for any of the 500 series. They are all nominally priced guns built with style and quality.

Savage has entered the heavy caliber field with its line of bolt action rifles, both right and left handed. In its Model 110 it now offers .264, .338 and 7mm Remington calibers. The specifications are almost identical to the regular line of bolt action rifles, except they are heavier to carry the additional power from the heavier cartridges. They are priced so you can buy the gun and two or three boxes of ammunition for less than \$150. The .243 and .30-06 bolt actions now can be had for less than \$100, which means Savage will pick up quite a bit of deer gun business.

In the .22 caliber there is a beautiful bolt action single shot with a Mannlicher stock for both the standard and the .22 magnum loads, at prices just above \$20.

In the shotgun line there is a new one of trap quality in 12 gauge with a 30" full choke barrel for less than \$100.

After four years of experimenting, Remington has announced a new gas operated 12-gauge, 5-shot automatic, which delivers 40 per cent less recoil than conventional models. Later it will be available in other gauges, according to the announcement.

With beautiful styling and engraved receiver, the gun has an eye-appeal that will match its quality.

High Standard now makes a 20-gauge, gas operated pump to match the 12-gauge supermatic which has been on the market for some time. The company also has a new .410 pump shotgun with a ventilated rib barrel and a new .22 caliber rifle.

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# What Others Are Doing

by JOAN PEARSALL

**FLY FISHING:** Aircraft designers in Yorkshire, England, have drawn designs for adapting a helicopter to ocean trawling. It would be a craft with a deadweight of about 400 tons that could fly nine feet above the water, to travel at a speed of up to 100 miles per hour on the way to and from fishing grounds, with a range of 3,500 miles. It would cost an estimated one million pounds (U.S. \$2.8 million) to build. The designers emphasize the advantages of fishing from the air.

**DEARTH OF TURKEY:** This year deer hunters in Massachusetts were asked to report sighting of wild turkeys or their tracks, so that a check could be made on the whereabouts of the experimental turkey flocks introduced into the state in an effort to bring back the Thanksgiving bird. It was okay to look but not to shoot them, as they are completely protected there; shooting or possessing a wild turkey in Massachusetts can cost a \$500 fine plus loss of license.

**MANAGEMENT IMMIGRANTS:** A happy woodland arrangement has been worked out in Germany, where studies have shown that epidemic outbreaks of forest insect pests can be warded off through proper woodlot management. Birds in the daytime, bats on the night shift and ants all the time work together to hold harmful pests below outbreak proportions. Bird populations have been increased by erecting nest boxes at the rate of several to the acre. The enlarging population required many insects for the young. Bats, likewise, have been given ersatz belfries to colonize the woods. Ants, also, gnaw on the pest larvae. Side-by-side woodlots, some managed and some not, show a difference—woods with

boxes, birds and bats are nice and green; the others are completely defoliated.

**PLUNDER BLUNDER:** There's a sad trapper in Idaho. A few moments after he had shot a trapped animal, he realized he had made the worst mistake of his life. The catch was a rare white beaver, a breed that dimmed 200 years ago and in recent years was believed extinct. The last of this breed on record was caught in 1832 at Olympia, Washington. For breeding purposes, this beaver would have drawn a price of \$5,000 or more. From the standpoint of preserving this rare strain its worth would have been beyond mere dollars. A liver test proved the beaver to be a true member of the white breed and not an albino. Its beautiful pelt would have fetched a nice sum, but the crest-fallen trapper had it mounted by a taxidermist and keeps it in a glass box. He says he'll never kill another until—to make certain it's ordinary—he's washed it!

**GOOD OLD DAYS:** West Virginia has a new Centennial edition of its fishing regulations. It offers a synopsis of the 1863 regulations, including such informative items as: "Inspection fee—6 cents per barrel." "Fine for selling uninspected fish—\$2.00 per barrel." "Any slave shall, upon conviction, be punished by stripes not exceeding 39."

**PLEA FOR HELP:** Because of the season's generally depressed waterfowl flights, soil and water conservationists in Arkansas made a newspaper appeal to farmers to flood harvested soybean and rice fields and to maintain levees, so that ducks would have ample places to feed.



# Texas

## Tackle Talk

by CURTIS CARPENTER



ONE of the secrets of catching fish consistently is alertness. Don't let your guard down for a second. If your bait is in the water, your mind should be on fishing. From where they swim, fish can't tell if you are braced for a strike or not, but just take your mind off your fishing for a moment, and pow! It always happens, and usually it's the big ones that hit and run.

From the instant your bait hits the water, whether it is artificial or natural, keep the slack out of the line and be set to plant the hooks deeply and securely. Every action counts in fishing, as in any sport. If a golfer relaxes his grip just as he cracks the ball off the tee, he'll slice the thing clear off the course.

A fisherman can take his mind off his game for a blink, and the fish takes the bait and spits it out, or runs up so much slack that he can't take it out in time to set the hook.

Regardless of what some people think, fish seldom hook themselves, and when they do, it's usually not securely. The popular fish which fight on top will throw a bait if the hook isn't set properly and instantly.

When your bait hits the water, take up the slack, and keep your rod tip at about nine o'clock. As you work the bait back, keep the line tight, so you can feel a strike, or nibble in many instances, and so

### Young minks scatter to establish their own territories.

Posthumously Popular

young during the family training period, but the majority believe that he does not. The mother brings her kits solid food even before they are strong enough to leave the nest. After they are weaned, the playful youngsters accompany their mother on nocturnal hunting trips.

At the end of the summer the

you can set the hook quickly without a delay.

If you must take one hand off the rod and you are using a direct-drive reel, keep the other hand clasped on the reel handles. Then, if a fish strikes while you are holding with only one hand, it won't pull line off and cause a backlash. With direct-drive reels press the thumb on the spool as a brake, and don't rely entirely on the reel handles. Your thumb can then act as a drag if it's a big fish. Don't horse a big fish! Let him have some line now and then. You'd be surprised how quickly a rather small fish can break 10-pound line if you hold the line solidly. Even a 20-pound test line will snap under the tug of a nice bass if the drag isn't handled with care.

Keep your feet well placed at all times if you are a standing fisherman. An unexpected strike can get you off balance and unbalanced fishermen lose more good fish than those who can stand steady and never miss a trick. If you are a sitting fisherman, keep the line straight in front and keep your rod down for a quick strike. And no matter what kind of a fisherman you are, don't point the rod straight at the fish. One of the main reasons for using a rod is to provide a spring which will give at the right time. If your line goes in a straight line from the rod tip to the water, the spring of your rod is being wasted. Always keep the rod tip

family unit disintegrates and each mink establishes its own territory and dens. Caring not for fashion or fads and the price they place upon its life, each handsome creature steadfastly attends its own chores of hunting, building and reproducing in the loneliness of the semiaquatic mink world. \*\*

high enough so the line angles down slightly as it leaves the tip guide. When you are fighting a fish, keep it a little higher than when you are working your lure.

If your reel has a built-in drag, don't wait until you have a fish on before adjusting the drag. Test the drag before you make the first cast; if you can jerk repeatedly on the line without breaking it, your drag is ready.

Another very important factor to consider is the condition of your line and your equipment. No matter how careful you are about hooking and landing a fish, you'll lose the big ones unless your equipment is in order.

Start at the reel and work down to the lure. Check the reel for snags. A snag could damage the line as it flies through the level wind. Check the guides for snags and wear. Change the guides if necessary, unless you want to lose a good fish. If they are loose on the rod, re-tie them. It's easy to do it yourself, or you can get it done at your tackle store.

Check the line all the way to the end. If it has some bad places in it, cut them out before you go fishing. If you use a leader, re-tie the knots every so often. Know the best knot for each use. We'll try to carry something on this next month. \*\*



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# After the Smoke Clears

by HAL SWIGGETT

**N**OW that the shooting is over it's time to store that gun away properly for the year.

"Take a clean rag and wipe off all foreign matter; use a small brush to get at hard-to-reach places. Soak a patch with Hoppes No. 9 and go over the outside of your gun to remove any fingerprints that would eventually lead to rust spots. After a few minutes wipe the outside dry."

These are the words of L. L. "Les" Cline, former Winchester exhibition shooter and presently an NRA referee. Les, who is and has been a gunsmith most of his life continued, "Run a couple of dry patches through the bore, then a patch saturated with No. 9, followed by more dry patches.

"If the gun is to be put away for the season, coat a patch with any good gun grease and thoroughly saturate the bore of the weapon. Use the same patch to coat the outside metal parts.

"If your rifle is 'scope-sighted, carefully avoid getting any oil on the lens. Clean the lens with a camel hair brush and lens tissue and put the 'scope caps on. That's all it needs.

"Use oil sparingly on the mechanism," according to Cline.

"If the firearm has been exposed to sand and grit, it should be taken down and thoroughly cleaned. In doing this, remove only the assem-

**Lying in the mud beats crawling miles through it.**

*Rag Tag* \_\_\_\_\_ *From Page 15*  
like the one I picked. It beats crawling miles through mud (this way we only lie in it) since nine times out of 10 one of those rascals will see old homo sapiens and warn the others to clear out—barely out of range,



Cline uses a brush on hard-to-reach places.



Dry patches, followed by Hoppes No. 9 and grease are parts of the Cline care procedure.



Coating the outside with grease is important.



Furniture scratch remover helps restore stock.

blies easily replaced. If it needs a more detailed stripping consult your gunsmith for the job."

Les startled us a little with this statement, "A blackened grip portion of a stock is a sure indication of too much oil in the mechanism. Most people use far too much oil, especially in putting the gun away for a while; try setting it in your gun cabinet or the corner of a closet with the muzzle down." Storing the gun, muzzle down, lets any excessive oil

drain down the barrel and out instead of into the stock where it spoils the appearance and ruins the wood.

The elderly gunsmith also pointed out, "Never leave a gun in its case for any length of time. If, for some reason or other, you have to store a gun in its case, by all means, watch it closely. Most cases encourage rust, especially if they are not kept in a room where the temperature is fairly constant." \*\*

but always close enough to tempt said fellow into trying the next flock through more mud, with the same results.

Besides all this, rags are much cheaper and lighter than decoys. Better yet, they work. I've got geese in the freezer to prove it. \*\*

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## Fort Hood Hunting

Although Fort Hood, with its 219,000 acres of various ecological makeup, is primarily a military reservation, its acres also provide lush grazing land for thousands of privately-owned cattle and some of the finest hunting in Texas.

White-tailed deer were restocked on Fort Hood in 1947, a release of 25 animals which found the food and cover they required.

The success of the various wildlife species on Fort Hood can be largely attributed to the Rod and Gun Club and efforts it has made toward proper scientific game management.



by  
RAY HART  
Biologist II

This rack, taken by Don L. Skinner of Killeen, had the widest spread—27 1/4 inches—of any buck killed on the Fort Hood tract in 1961.

Photo courtesy  
U.S. Army, Ft. Hood

At an expense of thousands of dollars, a wildlife conservation and habitat improvement program was initiated which has and will continue to pay dividends in an increased bag for an ever increasing number of hunters.

Forty-one food plots have been planted by Rod and Gun Club personnel on the reservation. These are fenced from cattle and provide food for deer, quail, doves, squirrels and turkey. Many other management practices are carried on by the club.

Approximately 20 per cent of the hunters on Fort Hood in the past two years have been civilians who have made application to the club to hunt. To insure safety, only still-

hunting for deer is permitted. No hunting accident has occurred in Fort Hood's deer-hunting history. The legal harvest has increased from 100 in 1957, the first year deer were hunted, to 2,293 in the 1961 season. The kill in 1962 was 1,790, just 10 short of the recommended kill. \*\*

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### Personnel numbers should increase.

**A Look at the Ledger** — From Page 24  
janitorial service, warehousing, personnel office and training, etc., bring the total for such items to about \$600,000 per year. These costs should remain relatively stable in the near future.

Refunds of sale prices for sand, shell and gravel as provided in Article 4054, R. S. 1925, require up to \$425,000 annually, and transfers for services by other state departments, F. I. C. A., Retirement, etc. call for an additional \$350,000.

Numbers of personnel employed should increase somewhat in the next few years to insure proper scientific management and to counteract the effect the expansion of our human population will have on wildlife resources.

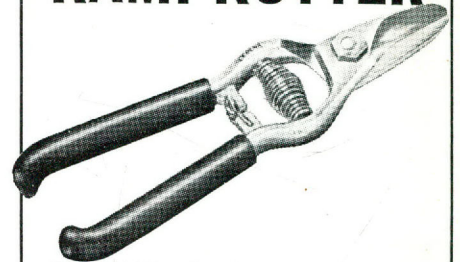
Texas experienced a 24% increase in population in the 10 years between 1950 and 1960. The Bureau of Census figure showing just under 2,500,000 persons hunting and/or

fishing in Texas in 1960 is an increase of almost 50% over the figure of only five years earlier. By the end of 1962, Texas will have passed the 10,000,000 figure if the growth rate continues at the same annual average of the past decade.

This means that the 615 persons now on the permanent full time payroll are each responsible to more than 16,000 people including 4,000 who actively hunt and fish. In actuality, only about 500 of these employees deal *directly* with the public in some way so that the responsibility increases to 5,000 hunters and fishermen and to 20,000 of the general public. The remaining employees, of course, provide the vital supporting services which are necessary to the organization.

The appended tables show anticipated revenue and estimated total expenditures for the present and next two biennia. Detailed accounts for these figures are presented as part of the appropriation requests.

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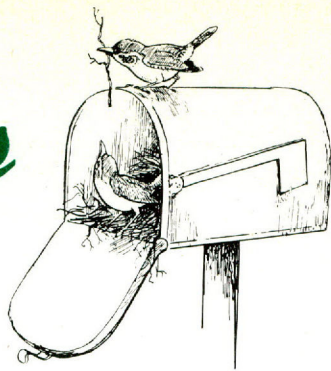
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BOX 177

PLEASANTON, TEXAS



# Letters

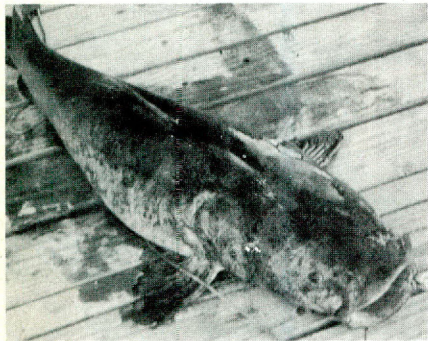


# to the Editor

## Whiskered Whopper

Editor:

Here are some pictures for the letters



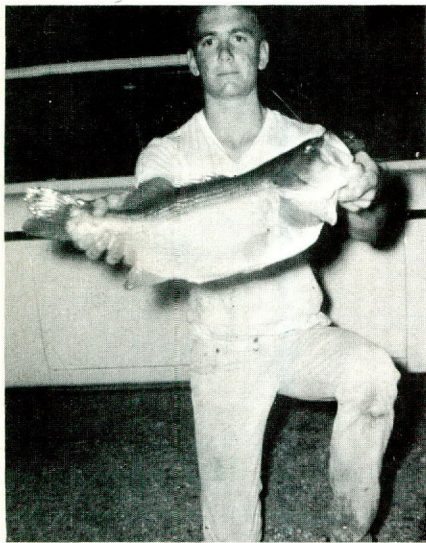
page of the magazine. (The one shown above is a 50-pound yellow catfish taken on a trot line in Lake Travis by the H. E. Maxwell fishing party.)

Articles in our magazine and tips from other readers have helped us in making these catches possible.

H. E. "Cope" Maxwell  
Austin

(Thanks for your kind comments and for sending us the pictures showing your fishing successes.—Editor)

## Bushwacked Bass



Editor:

As a reader of your magazine, *Texas Game and Fish*, I wish to contribute this

picture. This is the bass I caught in a lake near Chilton, Texas. This bass weighed seven pounds and was 22 inches long. It was the largest fish I had ever caught and was such a thrill because I caught it on a bushwacker-type lure.

Joe Estes  
Houston

(This is a beauty. Hope you catch an even bigger one next time.—Editor)

## Lovelorn Mocker

Editor:

Blaine Wise of San Antonio wrote about an albino mockingbird. One came to our place several years ago. As she went about building a nest in the side yard in one of our many oak trees, we were able to observe her closely.

She was beautiful! Solid white with the exception of a few dark feathers on the underside of each wing.

She must have felt "frustrated," though, as the other birds of all kinds would not leave her alone.

Apparently, she left without laying. At least, there were no eggs in the nest when we checked a few days after seeing her the last time.

Philip Lyon  
Ft. Worth

(Albino individuals are often mistreated by their normal fellows.—Editor)

## Frame of Mind

Editor:

Boy, do I enjoy this magazine. I think all Texans should take it. You sure keep up with what is going on in Texas and that is a lot to cover. Only one thing wrong with the book—can't frame the covers. Wish you could leave the words, *Texas Game and Fish*, off the front so some of them could be framed for pictures. They are good.

Just for fun, I would like to tell Jay Ballou of Dallas (Junior Sportsmen, November, 1962) that he jerked too hard!

Keep up the good work on the magazine.  
Karl W. Kautz  
Texas City

(Thanks for your kind comments. We do regret that we can't send out reprints of our covers for our readers who request

them. Perhaps you could frame the covers by making a frame of appropriately colored paper or cloth (a square) just wide enough to blot out the name plate. Then you can place this and the cover in a picture frame. Of course, this method would not work on some covers because of the name plate placement and cover content.—Editor)

## Pup Needs Schooling

Editor:

I am in need of advice on training a pup for squirrel hunting. I have no dog to lead or teach it.

So will appreciate it if you or your readers would give me some tips on this.

D. E. Jones  
Killeen

(If you care to give Mr. Jones tips on training his pup, send letter to 713 West Avenue I, Killeen, Texas.—Editor)

## Floundering Around



Editor:

Thank you for your letter. I do enjoy your magazine anyway. Enclosed is a picture of two of the largest of 23 flounder taken at the boat out at Galveston by R. Barton and myself. My son James shows them.

Jack J. Freeman  
Houston

(Thanks for sending us the picture and for your earlier criticism of our magazine.—Editor)



# Junior Sportsmen



## Needed: Conservation Thoughts

by ANN STREETMAN

National Wildlife Week, March 17-23, is important to junior sportsmen as well as adults.

You can celebrate it with some wildlife awareness projects that are fun as well as thought-provoking.

Postermaking is fun regardless of the occasion. Make some posters listing the ways junior sportsmen can help conserve wildlife. You will probably want to include the following: 1) learn all you can about the different species of wildlife and 2) see that family campfires are extinguished. You can add other items to the list. Ask a merchant or your teacher to display your poster.

Making a wildlife scene in a peep box is another way to observe this special week. Draw animals, trees and stands of grass on appropriately colored construction paper and cut them out. Use your animal books and encyclopedia as guides for drawing. Or, if you prefer, cut the background and animals from magazines and other available material. Perhaps your teacher will let you display the box in your classroom.

If you enjoy reading and writing, you might study a particular animal in Texas and then write a story about it.

Another project for more advanced junior

sportsmen is theme writing. Young people as well as adults often hear the word, "conservation," but many never think about what the word means to them. Talk to your local game warden, your teacher and your parents about conservation and then think through the ideas you've gleaned and add your own. Then write a short theme, "What Conservation Means to Me." Don't forget to include what the word means in terms of action!

We would like to hear about your Wildlife Week projects, especially about your ideas and suggestions for junior sportsmen action in conservation. Send us a copy of your theme or story, and we will print it on the Junior Sportsmen page. We want to help you to share your ideas with other young people of Texas.

## KIMBLE COUNTY HUNTING

Editor:

This year we have been doing a lot of deer hunting. On opening day we had no luck. On the next day I spotted a large 12- or 14-point buck. It jumped a fence and was gone before I could get a shot, but we got one doe and two bucks.

We have about a 550-acre lease near Junction in Kimble County.

My father has been deer hunting for

eight years now and he used a 30-06. His largest deer so far is a 10-point buck he shot last year.

This is my first year of deer hunting with a high powered gun. I used a .308. So far I have missed all the deer I've shot at. But we are going once more on Dec. 28, 1962, and I plan to get one then. I am 13 years of age. I enjoy your magazine. Keep up the good work.

Ronny Jay Williamson  
Dallas

(Thanks for giving us a progress report on your '62 season. Let us know about your luck next year.—A.S.)

## HILLTOP BUCK



Twelve-year-old Joe Martin of Bellaire killed this eight-point buck Nov. 18. The buck was taken on Hilltop Lakes lease in Normangee.

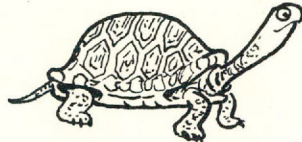
## HUNTER'S PRAYER

BY RICKY TUCKER

Forgive us, Lord, as  
We go to match our  
Minds and wits against  
The minds and wits  
Of the wild. We want  
Not to cause suffering but  
We are doing only what you  
Created us to do.

To a hunter, hunting  
Is a part of his life.  
He cherishes his gun  
And skill just as a  
Farmer cherishes his land  
And his tools.

So Lord as we go  
Afield today keep us from  
Death and let us come  
Home mindful of You and  
Your wonderful works. Keep  
Us Lord so that we may  
Look forward to another day.



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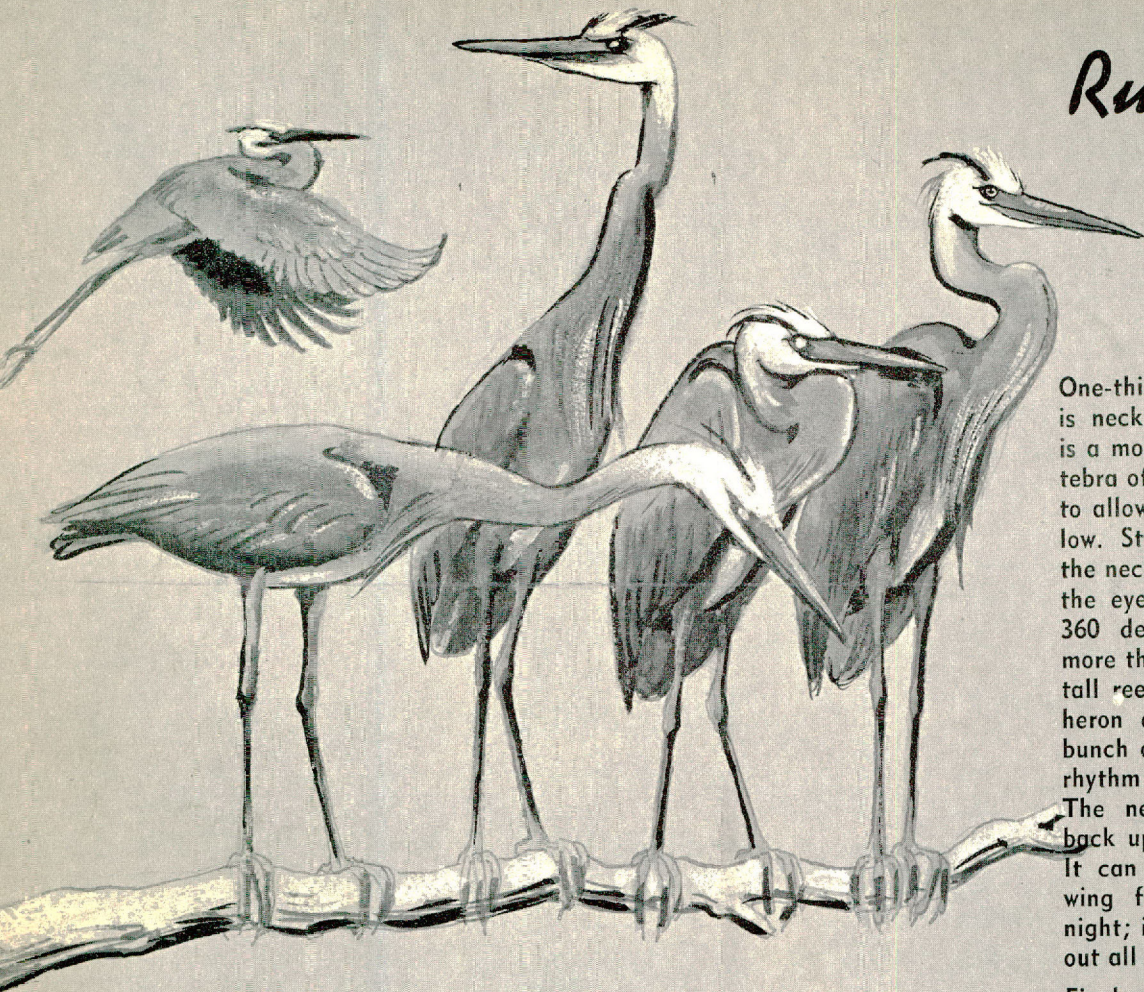
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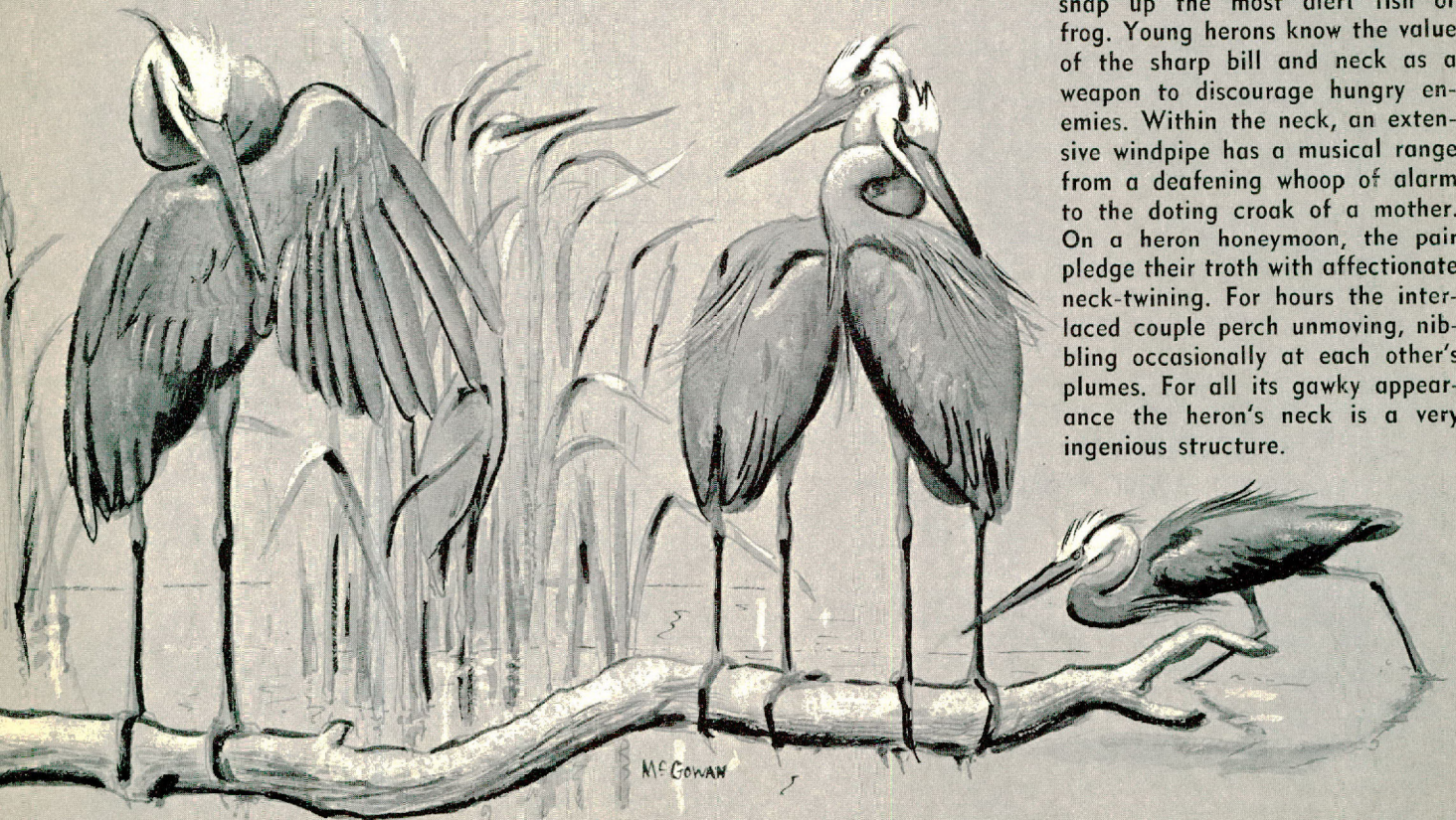


# Rubberneck



One-third of the blue heron's length is neck and beak. This one-third is a model of versatility. Each vertebra of the neck is precisely fitted to allow rotation upon the one below. Stretched to utmost height, the neck becomes a watchtower for the eyes, scanning an expanse of 360 degrees, about 330 degrees more than the human neck. Among tall reeds with neck extended, the heron appears to be one of the bunch and may sway to match the rhythm of the wind-blown grass. The neck can be neatly folded back upon itself for flight or rest. It can be tucked safely under a wing for deep sleep during the night; it enables the bill to smooth out all feathers.

Finely coordinated muscles in the neck act as a powerful spring to snap up the most alert fish or frog. Young herons know the value of the sharp bill and neck as a weapon to discourage hungry enemies. Within the neck, an extensive windpipe has a musical range from a deafening whoop of alarm to the dotting croak of a mother. On a heron honeymoon, the pair pledge their troth with affectionate neck-twining. For hours the interlaced couple perch unmoving, nibbling occasionally at each other's plumes. For all its gawky appearance the heron's neck is a very ingenious structure.



McGowan