

KANSAS

FISH & GAME



TABOR COLLEGE LIBRARY
Hillsboro, Kansas 67063

WINTER 1970

KANSAS FISH & GAME



Winter, 1970

Vol. 27, No. 5

CONTENTS

<i>Honkers for Tomorrow</i>	3
<i>County Clerks . . . Servants Deluxe</i>	6
<i>Walking Cats</i>	8
<i>Plan Now . . . Plant Later</i>	10
<i>The Raccoon</i>	12
<i>Words of the Environment</i>	14
<i>Thoughts</i>	17
<i>Blooded Hounds</i>	18
<i>Symbol of Ignorance</i>	20
<i>Why DO They Hunt?</i>	22
<i>Readers' Response</i>	23
<i>Front and Back Cover Photograph by Ken Stiebben</i>	

COMMISSIONERS

R. W. (BILL) FOWLER, <i>Chairman</i>	Weir
JACK HALEY	Minneapolis
ROBERT S. LEMON	Shawnee Mission
CHARLES HULME	Great Bend
FRED SEARS	Colby

DIRECTOR

GEORGE MOORE	Pratt
FRED WARDERS	Assistant Director

DIVISION CHIEFS

ROY SCHOONOVER	Fisheries
LEROY E. LYON	Information Education
OLIVER GASSWINT	Game
ROBERT WARD	Fiscal
WALTER HARRISON	Field Services
FRED WARDERS	Law Enforcement
NOEL MULLENDORE	Legal

STAFF

LEROY E. LYON	Editor
VIC McLERAN	Managing Editor
GEORGE VALYER	Staff Writer
KENNETH STIEBBEN	Photographer
BEVERLY ALDRICH	Editorial Assistant

KANSAS FISH & GAME is an official publication of the Kansas Forestry, Fish and Game Commission. Subscription is free upon written request to adult Kansas residents. Articles in the magazine may be reprinted without permission provided proper credit is given.

Second Class Postage paid at Pratt, Kansas, and at additional mailing offices.

PRINTED BY
ROBERT R. (BOB) SANDERS, STATE PRINTER
TOPEKA, KANSAS
1970

33-6592

Gun Owner's Creed

I accept the responsibilities that go with owning a gun and pledge myself to know and obey the laws governing the ownership and use of firearms;

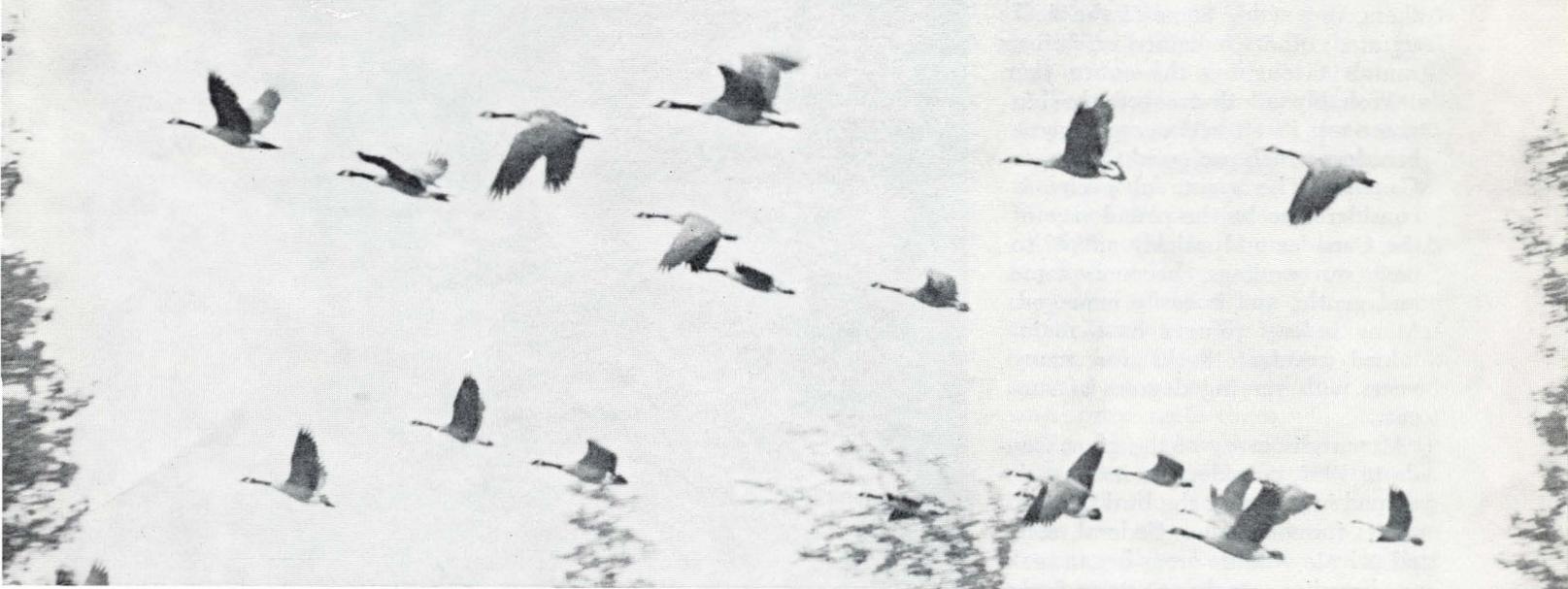
I recognize that my gun manners reflect on all gun owners and I pledge to handle my firearms safely and courteously;

I respect the rights of others to enjoy the outdoors in their own way and I will be considerate of private and public property;

I will work to preserve from waste the wildlife and other natural resources of our country and for their wise use and enjoyment by all Americans;

I will walk with pride in the path of those before me who have helped to create and preserve our great national heritage, and will help to teach others an appreciation of nature and an enjoyment of the outdoors.

Honkers for Tomorrow



By **MARVIN D. SCHWILLING**
Waterfowl Project Leader

Kansas goose hunters, although small in number, are a breed apart. They love their sport—nothing can compare with it, they claim.

They are also highly protective of their sport and always are in favor of a long season with liberal bag limits.

But goose hunters have another trait which sets them apart. They want future generations to be able to see the awe-inspiring sight of wedges of geese outlined in a clear, blue sky. And they want their children to share in the thrill of hunting "honkers"—the aristocrats of all waterfowl.

Perhaps that's why most goose hunters have been so cooperative in recent years, although, since 1964, The Kansas Forestry, Fish and Game Commission has restricted harvest of Canada geese through early closings.

After several years of early closures, goose hunters this year were given a longer season. Opening October 17, the season continues until sunset, December 30. But, once again, goose hunters are being

called on to sacrifice some birds in the bag. Starting December 10, the daily bag and possession limits may not include more than one Canada goose. And, once again, goose hunters may rightfully ask, "Why?"

The reason is simple. Such measures provide some protection to developing populations of the maxima subspecies of Canada geese. Early closures and reductions in bag and possession limits are important management tools which will provide expansion of wintering flocks of the largest goose of them all—the giant Canada.

Why is the giant Canada goose, often called the maxima, so important? Perhaps a look at the large goose's background will supply part of the answer.

The giant Canada goose (*Branta canadensis maxima*) was once a resident over large portions of the northern Great Plains from the Dakotas south to Kansas, Missouri and northern Arkansas.

While there are several subspecies of Canada geese, all have the same

familiar markings. However, the maxima is distinguished by its unusually large size. It may weigh as much as 24 pounds.

A magnificent trophy seldom seen over modern-day goose pits, the giant was rated tops by both market and sport gunners of an earlier era.

However, by the early 1900's, giant Canada geese had all but disappeared from most of their original range and by 1950 most authorities believed the large goose to be extinct.

Fortunately such was not the case, for in 1962, Dr. Harold Hansen, a research biologist who has devoted more than 20 years to the study of Canada geese, rediscovered the giant subspecies while examining Canadas which were wintering near Rochester, Minnesota.

The geese were much larger than others he had examined and fit the description of the giant Canada. Measurements taken during banding operations and the collection of nine skins provided the basis for Hansen's exciting rediscovery.

After conducting additional investigations, he found more small flocks of the large Canadas scattered from Colorado to the Great Lakes states and north into the prairie provinces of Canada. Some were captive flocks; others were wild. Some of the flocks migrated; others remained on nesting grounds throughout the entire year.

Probably all that saved the big goose was its attractiveness to game breeders which preferred the larger Canada. The giant subspecies is considered to be the placid race of the Canadas and quickly adapts to new surroundings, becomes tame and gentle, and is easily managed. Many federal refuges have maintained resident flocks for many years with varying degrees of success.

After rediscovery of the giant Canada in 1962, considerable interest developed in restoring the bird throughout its former range. Federal, state, and private wildlife areas began seeking breeding stock to start flocks. Most attempts flourished and it soon became apparent that the potential for giant Canada goose restoration in the Midwest and in Canadian Provinces was almost beyond the scope of imagination.

As the demand for breeding stock increased, it soon became apparent that some standard of quality for choice breeding stock was desirable. To attain this goal, the Bureau of Sport Fisheries and Wildlife established a Canada goose production center at Sand Lake National Wildlife Refuge in South Dakota.

An experimental flock was also established at the Northern Prairie Wildlife Research Center in North Dakota to develop species standards and to test breeding, rearing, and release techniques.

In these few years of intensive management, the maxima population has experienced a phenomenal increase. There are now more than 150 flocks established in the United States from the Great Plains to the Great Lakes.

In Canada the story is equally encouraging. One prime factor that has aided in the remarkable comeback has been the reintroduction of breeding geese into suitable habitat.



Kansas reservoirs and waterfowl management areas are providing desirable wintering areas for Canada geese. More trophy honkers are now spending the winter in the Sunflower State. Photos by Ken Stiebben.

According to Tom Sterling, Ducks Unlimited, and Darrell Eagles, Canadian Wildlife Service, an inventory of wetlands in any part of the prairie-parkland region provides some conception of the existing potential. In a 1,700 square-mile portion of the area, Sterling and Eagles reported that more than 800 high quality wetlands in the 100-acre class and 100 larger areas, ranging up to several thousand acres, were counted.

"Add this to 1,000 miles of intermittent creek channels with their eroded ponds and some 300 miles of river and it is evident there is habitat sufficient for several thousand pairs of nesting geese," the two men have stated in a report.

Private interest and effort in maintaining captive goose flocks is increasing in Canada. By the end of 1967, 64 federal propagating permits covering 600 giant Canadas had been issued in the prairie-parklands. Many city waterfowl

parks and waterfowl areas managed by the Canadian Wildlife Service and other natural resource agencies also harbour expanding flocks.

Ducks Unlimited has established several flocks that have spread into surrounding habitat. In 1964, the organization launched into a second phase of its giant Canada goose program. Under this phase, Ducks Unlimited is supplying two to six pinioned goslings to farmer cooperators living in goose nesting areas. Progeny from these birds are permitted to fly free to nest in nearby marsh habitat. The program has been well accepted to date with 20 cooperators selected from more than 75 applications during the first two years.

Some of the maxima flocks are migratory while others stay all winter near the nesting grounds. In many instances, birds did not migrate while the flock was small but as the number of birds increased, a migration pattern began. It appears migration depends

largely on availability of open water and food during winter months.

As a general rule, flocks of big geese which do migrate remain late on the breeding grounds, moving south in late November. Even then they move only far enough south to find open water and available food. The short migration south is normally non-stop and they arrive on wintering grounds in a few days.

Kansas' reservoirs, located in areas of abundant goose feed, are providing desirable wintering areas for these big geese. As a result, more giant Canadas are making their winter home each year in Kansas. The 1969-70 wintering population was more than double that of the previous winter.

Last winter, maximas wintered on the Cheyenne Bottoms, Neosho, and Marais des Cygnes Waterfowl Management Areas while others were observed at the Kirwin, Quivira, and Flint Hills National Wildlife Refuges. Webster, Fall River, Wilson, Council Grove, Elk City, Marion and Glen Elder Reservoirs and Lake McKinney near Lakin also hosted wintering populations.

Restriction of hunter harvest is another big factor which has assisted in the successful restoration program. Perhaps no single factor has as much impact on a nesting goose flock as does the hunter's gun. As in any management program, there must be adequate protection from overharvest.

On breeding and nesting areas, most expanding giant Canada flocks are protected by establishment of non-hunting zones. This helps hold the harvest within allowable limits. In South Dakota, five counties have been closed since 1966 to provide maximum protection. Altogether, about 40,000 acres in Canada and the United States are closed to hunting.

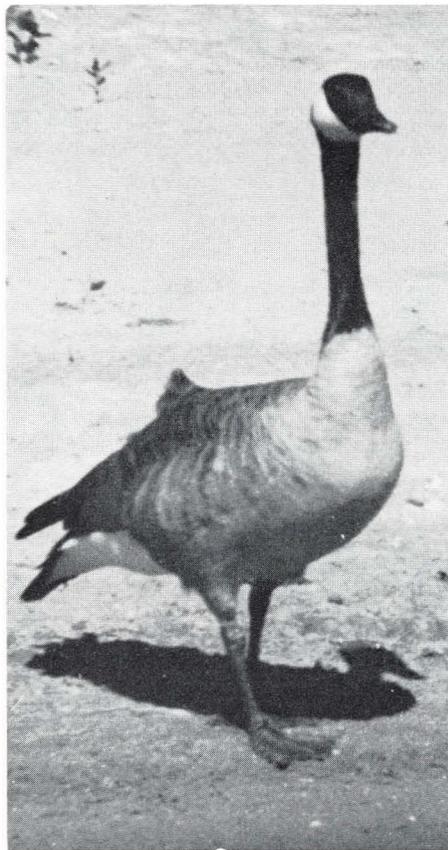
In other areas of the breeding grounds, the opening date of the hunting season has been delayed as much as two weeks to permit smaller Canada geese to move in from areas further north, thus reducing the maxima harvest. Other areas have reduced the bag to one bird per day.

Without question, the production areas are doing their part in restoration efforts. But wintering areas must also share in the effort if full

restoration of giant Canada geese is to be achieved. To reduce the kill on the breeding grounds is to no avail if overharvest is permitted on wintering areas.

Thus, except for 1966, Kansas has shortened the goose season since 1964 to hold the harvest of maximas within desirable limits. In 1966 the goose season was open through December 21 and the resulting harvest of big geese was heavy. In that year, Kansas hunters reduced the Ducks Unlimited Waterhen Marsh breeding flock by 40 percent—proof that Kansas must restrict goose harvests until the restoration program is completed.

The increase in the population of big Canadas has been accomplished with little sacrifice by the Kansas goose hunter. Even though the sea-



The Canada goose is a handsome bird. His mottled buffy plumage is set off by a long, thin black neck. The head is black with a white cheek patch on each side.

sons were shortened, Kansas goose hunters still harvested their share of geese.

According to the federal goose harvest survey, 3,200 geese were bagged in Kansas in 1962; 9,800 in 1963; 19,800 in 1964; 11,800 in 1965; 13,400 in 1966; 17,400 in 1967; 7,800 in 1968 and a record high of 28,400 in 1969.

Kansas goose hunters have little to lose by early closures since most migrant geese, except the maximas, have moved on out of the state by the time the season closes.

On the other hand, they have much to gain in coming years by permitting expansion of wintering flocks of the giant Canadas. By practicing patience, Kansas waterfowlers can look forward to a not too distant season when once again there will be large flocks of big geese winging their way over goose pits in the Sunflower state.

But if the developing wintering flocks are overharvested now, goose hunters will be killing the goose that can lay the golden egg.

Through their cooperation with the Commission, Kansas goose hunters have expressed their willingness to assist with the restoration of the largest goose of them all—the stately *Branta canadensis maxima*.

WHAT IS A GEESE?

“Geese is a low, heavy-set bird which is mostly meat and feathers. His head sits on one and he sits on the other. Geese can't sing much on account of the dampness of the moisture. He ain't got no between the toes and he's got a little balloon in his stomach to keep him from sinking.

“Some geese when they get big have curls on their tails and is called gander. Ganders don't haff to sit and hatch but just sit and loaf and go swimming. If I was a goose I'd rather be a gander.”—An essay submitted to an elementary teacher and reprinted from the *New York Conservationist*.

NOTICE TO READERS

Kansas Fish and Game Magazine is distributed free to Kansas residents, upon written request. Complete name, address and zip code number should accompany any correspondence relative to the publication. Anyone moving to a new address must notify the Information-Education Division, Kansas Fish and Game Commission, Box 1028, Pratt, Kansas (67124) if they desire to continue receiving the magazine.

County Clerks . . . Servants Deluxe

By VIC McLERAN

Kansas sportsmen, whether they realize it or not, have 105 awfully good friends in local county courthouses throughout the state.

These are the county clerks who provide a tremendous service each year by dispensing thousands of hunting, fishing and trapping licenses to vendors throughout Kansas.

They are also the ones who sell many such licenses directly to sportsmen since Kansas law provides that both resident and non-resident sportsmen may, upon payment of certain fees, secure appropriate licenses and stamps from any county clerk in the state.

In an attempt to learn more about the clerk's function, we visited one

such "sportsman's friend" — Marie Warden, Sedgwick County Clerk.

Sedgwick County, with a population of approximately 350,000, annually sells the largest number of hunting and fishing licenses followed by Shawnee and Johnson counties.

Printed in Topeka by the State Printer, licenses are sent to Kansas Forestry, Fish and Game Commission headquarters near Pratt then distributed to county clerks. New licenses are sent to the clerks in November and December. Upland game stamps are handled in the same manner.

From this point on, the county clerk becomes a distributor and salesman for the Commission.

Currently serving a second term as county clerk, Mrs. Warden explained two methods of dispensing licenses to vendors or sub-agents (persons or businesses wishing to purchase licenses for resale.)

"The first involves the vendors posting a bond for the amount of licenses they wish to sell. Licenses equaling the amount of the bond are then released to the vendor. After the licenses are sold, the vendor, or sub-agent, simply reimburses the county clerk's office for the amount. This 'bond' method eliminates the vendor having to pay out a large sum for the licenses.

"Other vendors, generally those who sell fewer licenses, simply purchase outright, the number of licenses they feel they can dispense. Vendors are reimbursed for any licenses which are not sold."

State law allows vendors, most of whom are sporting goods or bait and tackle dealers, to charge a fee of up to 25 cents for handling and processing the licenses.

For the benefit of those sub-agents who may run short and need to purchase licenses during the weekend when the clerk's office is closed, Mrs. Warden retains one bonded employee who dispenses the licenses from her home on Saturdays and Sundays.



In addition to the time-consuming job of dispensing hunting, fishing, and trapping licenses, Marie Warden, Sedgwick County Clerk, maintains a current display of Kansas Forestry, Fish and Game Commission informational materials.—Photos by Vic McLeran.



Dave Binswanger, manager of Giant Sporting Goods, Wichita, purchases a book of hunting licenses for resale. He is one of many such vendors or sub-agents across the state. In addition to vendors, Mrs. Warden sells licenses to individual sportsmen.

"Most of our vendors are reliable persons and we've had problems with only one," Mrs. Warden said.

"Actually, our biggest problem involves people losing their licenses and writing in for duplicates. In order to issue a duplicate, we have to know where the original license was purchased and the approximate date of purchase. Once this information is provided, we can fill out an application form for a duplicate license. This form is then sent to the Pratt office where a duplicate is issued."

A 25-cent fee is charged for resident duplicate licenses while non-residents must submit a \$1.00 fee with the application.

The volume of paperwork and bookkeeping records which the clerks process in handling the licenses is enormous.

"In addition to sending quarterly reports to Commission headquarters at Pratt, we're responsible for the task of balancing books at the end of each fiscal year," explained Mrs. Louis Webb, bookkeeper in the Sedgwick County Clerk's office.

A check for the amount of all licenses sold quarterly, is sent to the state treasurer in Topeka, where it is deposited in the Forestry Fish and Game Commission fund. Since no general tax money is earmarked

for Fish and Game usage, this license money is the agency's sole source of revenue. So, the Commission is actually supported by those who hunt, fish and trap in the state of Kansas. Fine money assessed against those who violate fish and game laws is deposited in the state school fund.

Although a majority of licenses sold by county clerks are dispensed through vendors, some are still sold to hunters and fishermen who buy directly from the office where a savings of 25 cents is realized since the clerk's office cannot by law charge any service fee. Only sub-agents of the county clerk can charge the service fee.

Evidently, outdoorsmen are no different from motorists since they tend to procrastinate when purchasing a license.

"Most who come to the courthouse for their license usually wait until the day before the season opens," said Mrs. Warden.

Records and totals maintained by county clerks reveal some interesting facts about hunting, fishing and trapping in the Sunflower state. The records from 1961 when compared with the same records for 1969 indicate that increasing numbers of Kansans are turning to the outdoors for their recreation.

Resident hunting licenses sold in Sedgwick County in 1961 totaled 23,994 while the number for 1969 was 27,842. An even more significant increase was noted by the sale of resident fishing licenses. The number in 1969 was 41,932 as compared to 31,470 in 1961. This constitutes an increase of about 23 percent.

Evidently out-of-staters, too, are discovering that Kansas is an excellent place in which to fish and hunt since 1969 records show that over five times as many nonresident fishing licenses were issued that year as were issued in 1961. The completion of many large reservoirs and state lakes has undoubtedly contributed to this influx of nonresident anglers.

Also, good quail, pheasant and prairie chicken hunting have evidently appealed to out-of-state gunners since the sale of nonresident hunting licenses has tripled in the last eight years.

With rising prices in the fur market one would envision a corresponding rise in the sale of trapping licenses. Charles Morgan, a clerk in Mrs. Warden's office, said, "We've experienced only a slight increase in the actual number of trapping licenses sold, although percentage-wise, it's noticeable."

Combination licenses which give the holder both hunting and fishing privileges, also are on the upswing, since the number sold has doubled in this eight-year period.

It becomes apparent then that the annual increase in license sales provides an ever increasing workload for county clerks and their employees.

"Since the formation of the Kansas Forestry, Fish and Game Commission, county clerks have been dispensing licenses and doing an excellent job," commented Robert E. Ward, chief of the Commission's fiscal division.

So the next time you purchase that little slip of paper which entitles you to the many hunting and fishing privileges in Kansas, give a big thanks to the man (or woman) who helps make it all possible — your local county clerk.

Walking Cats

By JOHNNY RAY
Fisheries Biologist

From coast to coast, *Clarias batrachus* is causing much attention and concern.

Better known as the walking catfish, this strange member of the catfish family was first imported into Florida from Thailand by exotic fish dealers nearly a decade ago.

Fisheries experts in Florida believe the walking catfish became established in Broward County during 1967 after probably being discarded from home aquariums. By mid-August of 1967, more than 2,500 had been collected in ponds and ditches of southern Palm Beach County and northern Broward County.

In 1969, fisheries surveys conducted by Florida biologists revealed the newcomer from Asia had spread to Palm Beach some 40 miles to the north. How far the fish will spread is not definitely known, but, considering the flat terrain and many large interconnecting waterways in Florida, it probably will spread throughout that state and possibly into other southern states.

The walking catfish resembles a cross between an eel and a bullhead catfish—if such a cross was possible. In Kansas walking catfish are confused with salamanders but unlike salamanders the Asian import does not have legs although it can move on land. Photo by Ken Stiebben.

Not known for its beauty, the walking catfish is described by some people as resembling a cross between an eel and a bullhead catfish. Like our native catfish, this import has chin barbels—four on the upper jaw and four on the lower. The head of the fish is flat, depressed and boney. The pectoral fins appear to be similar to other catfish except they are slightly enlarged on the tips. Both the dorsal and anal fins are long and appear to be almost continuous with the rounded tail fin.

Walking catfish initially imported into the United States were of the albino variety. These albinos are creamy white in color and have vivid, reddish-pink eyes. Since their release in Florida waters, the fish have reverted to original coloration and may be an assortment of colors. Some may be albino; others are flesh-colored while some are grey-brown or olive-brown with some marbling or spots. Fins may or may not show a reddish or yellowish fringe.

Walking catfish are not to be confused with salamander larvae which do not resemble the Asian import.

Salamanders have four legs and external gills while the coloration varies from a pale gray to a light olive-green. All reports of walking catfish in Kansas waters have been larval salamanders.

In addition to being an excellent swimmer, this odd-looking fish is a good jumper and can leap from four to five feet out of the water.

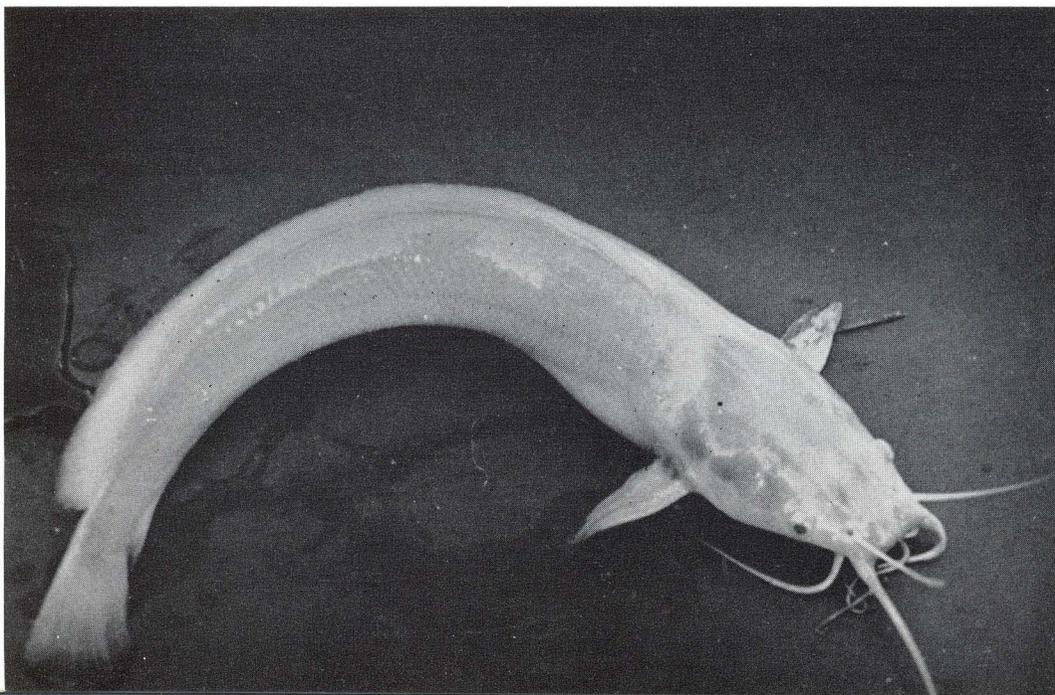
The walking catfish, as its common name implies, has gained fame for its ability to “walk” on land. It moves on land by swinging its body partially on its sides and by using the spiny pectoral fins for pivots. First one fin is used, then the fish swings over on the other side and moves with the aid of the other fin. It moves much in the same manner as a soldier, lying on his stomach, crawls an obstacle course, pulling himself forward on his elbows. Even by using such a crude technique, the fish can move rather rapidly—up to 25 feet per minute. The catfish is a nocturnal walker and moves mostly at night and occasionally on overcast days.

In Florida, the fish have been found in front yards and along roads up to one-quarter of a mile from the nearest water.

Unlike other catfish species native to America, the walking catfish is able to remain out of water for several hours. If it remains wet and does not dry out, it can stay out of water for about 72 hours. It can also survive during droughts by burying itself in pockets of mud and can live for short periods of time in extremely brackish or polluted waters.

Clarias batrachus, as the fish is scientifically known, is unusual in that it has two breathing systems—the gills for breathing while in water and a specialized rudimentary lung located in a pocket behind the gills to provide air when the fish leaves its watery home.

The walking catfish is highly sensitive and tough. It heals rapidly from



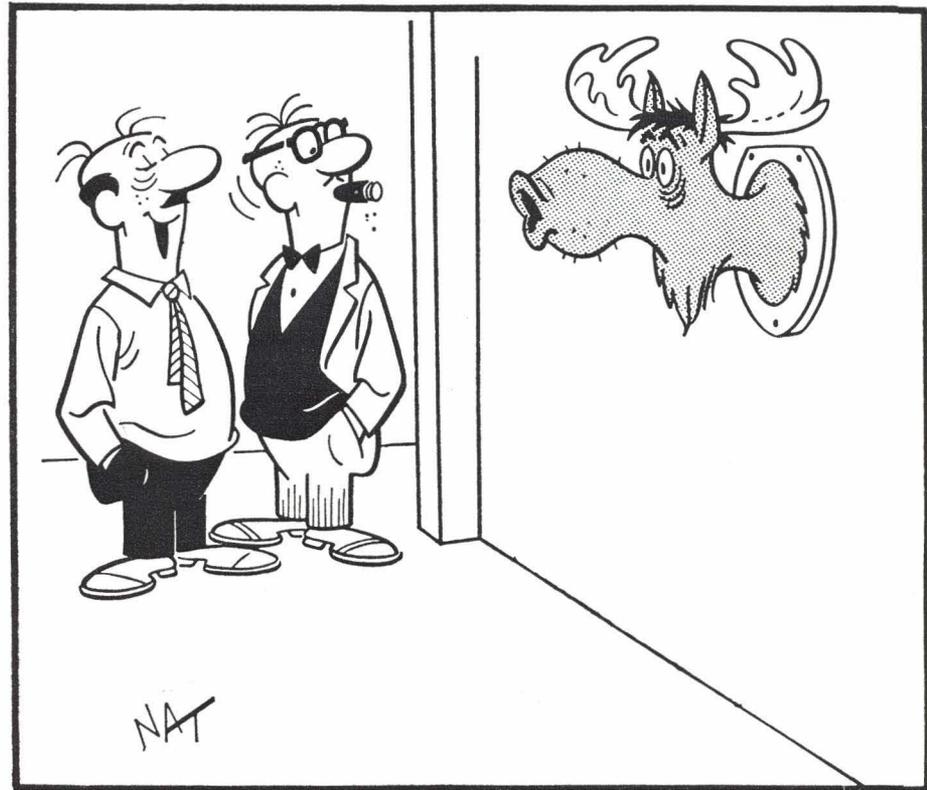
wounds or lesions incurred while walking overland or obtained through handling, predation, or from disease. Within a few weeks, wounds are often completely healed.

While the fish only grows to a maximum length of 18 inches, its size is deceiving when explaining the damage it can cause to more desirable game fish. It is an extremely predatory fish and an aggressive feeder which will eat almost anything. It has been known to consume other fish, water shrimp, clams, tadpoles, frogs, prepared baits, newly-hatched fish, animal foods, vegetation—the list is endless.

This member of the catfish family also tends to attack larger fish and is capable of replacing other fish populations by predation, harassment, consumption of natural food supplies, and by reproduction to the point of occupying all available space in an impoundment. Fisheries studies in Florida revealed that within a two-year period this undesirable alien had replaced 90 percent of the native species in some waters.

According to fisheries biologists, the reproductive capacity of the walking catfish is greater than any Kansas species—including the prolific members of the sunfish family. Adults are capable of producing as many as 5,000 to 20,000 eggs during one spawning. With the low hatching requirements of the eggs, hatching success is thought to be high when compared with most native species.

Most management techniques employed to control fish in impoundments cannot be employed to eradicate the unwelcome import since the fish will simply walk out of the water and move overland to another body of water. For instance, fish toxicant is often used to eradicate gill-breathing fish and salamander larvae for both management and control purposes. The walking catfish would probably succumb to some fish toxicants but once it senses the presence of such substances, it leaves the water. Perhaps the only way to effectively eradicate the walking catfish is to completely enclose the impoundment which is being treated with fish toxicant. This might work for a small



" I SNEAKED UP BEHIND ON THAT ONE. "

pond but is either impossible or impractical on larger bodies of water. Imagine trying to enclose a five-acre pond, a 300-acre lake or a 15,000-acre reservoir.

For the reasons listed, the walking catfish has been unwelcomed in the United States. Many southern and midwestern states have passed laws prohibiting the sale and importation of this fish. Kansas has not passed such legislation although such a bill was introduced in the 1970 legislature.

Will the walking catfish survive and reproduce in Kansas waters? To date, the question remains unanswered although it appears unlikely the species will survive in Kansas ponds and lakes.

Early reports indicated the species could not survive water temperatures below 59 degrees F. but later research shows the fish has wintered successfully in water with temperatures as low as 40 degrees F.

Most waters in the Sunflower State drop below the lethal temperature of 40 degrees F. However, some waters are supplied by heavy underground

spring flow which maintains temperatures above the 40 degree F. mark throughout the entire year. It is therefore possible that the walking catfish might survive in these waters. And, with some waters receiving warm inflow from power plants, the possibility is increased.

In any event, we are not eager to find out through experience and only hope the walking catfish will not find a home in our state.

Kansas citizens can guard against this possibility by making sure that no existing aquarium specimens are released into any stream, pond or lake. If they do, they could be inviting disaster in certain waters.

Individuals now possessing walking catfish in private aquariums who wish to dispose of them should contact a representative of the Kansas Fish and Game Commission.

Whether the unusual, unwelcomed import makes his home in Kansas rests upon the actions of these walking catfish owners.

One can only hope this fish will not "walk" into Kansas' freshwater fishing picture.

Plan Now . . . Plant Later



Untillable "odd areas" next to crop fields are prime locations for establishment of wildlife cover. Trees and shrubs are not only valuable for game habitat but also assist the landowner in reducing soil erosion.

Planting trees has been a tradition in Kansas for more than 100 years. Stately pines and fine old hardwoods offer testimony to the admiration early settlers had for trees.

Since 1865, when the state legislature passed an act providing a bounty of 50 cents an acre for anyone planting and cultivating five or more acres of trees for wood crops and water-wind damage control, Kansas landowners have planted a multitude of trees.

Today, planting trees is still an important activity in the Sunflower State. More than 16 million seedling trees have been ordered and planted in the past 11 years through the Extension Forester's tree distribution program.

While Kansas landowners will have an opportunity to plant trees and shrubs in 1971, a new program is being offered to landowners who wish to improve their land for wildlife.

Developed by the Division of State and Extension Forestry at Kansas State University in cooperation with

A comparison between bare-root and potted evergreen seedlings.

the Kansas Fish and Game Commission, the new program provides wildlife bundles at a nominal cost of \$15.00 per bundle.

In addition to five pounds of mixed native grass seed, each bundle will contain 50 each of three shrub species—American plum, fragrant sumac, and common lilac—and six optional evergreen or deciduous trees.

The bundles are designed to provide two of three essentials for quail or pheasant habitat—woody plants and grass. If planted near grain, the third essential, an ideal "home base" is established for the highly popular upland game birds.

Landowners obtaining bundles are urged to plant the shrubs, trees, and grass in ungrazed field corners or in other "odd," unused areas of the farm near a few unharvested rows of milo or other feed grain. Such plantings, accomplished without interfering with major farming interests, are essential in maintaining and building game bird and animal populations on private land.

Wildlife bundles may be ordered by filling out the application on the adjoining page. They will be shipped by parcel post from late March through April.

As in previous years, 28 species of tree and shrub seedlings, both bare-root and potted, will be available from the Extension Foresters. They must, however, be used for farm windbreaks, shelterbelts, or woodlots, or in plantings to control erosion, provide wildlife cover or used as farm pond plantings. They may also be used for Christmas tree plantings.

Seedlings obtained from the Extension Forester are not to be used for ornamental or landscaping purposes.

Bare-root seedlings, both shrub and tree species, will be available again this year at a cost of \$8.00 per hundred.

Also available are native pecans and black walnuts that have been stratified to hasten germination. Stratified nuts are hulled nuts which have been stored in moist sand during winter to maintain viability and hasten germination. These cost \$2.00 per hundred.

High quality black walnut trees that commonly sell for \$100 to \$150 on today's market—some bringing as much as \$1,500 per tree—are one practical reason for planting trees. While it takes from 30 to 50 years to grow trees like this, walnut plantings can provide a good retirement program.

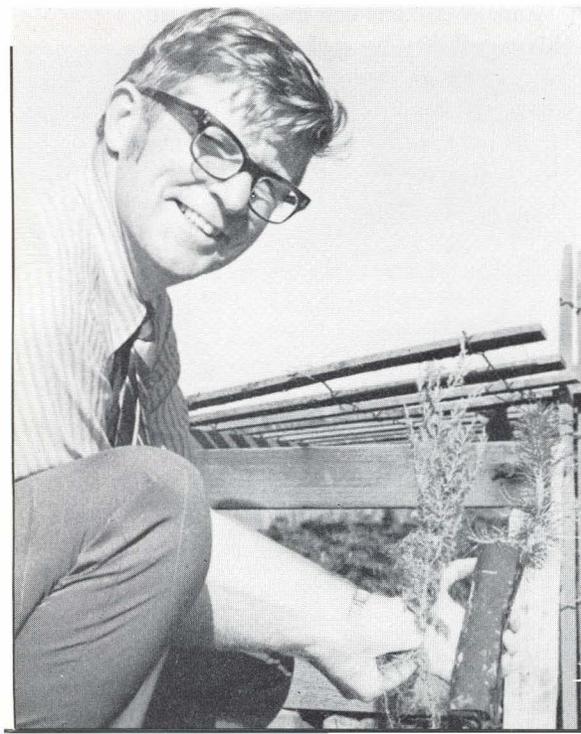
Five evergreen species—Scotch pine, White pine, Ponderosa pine, Austrian pine, and Eastern red-cedar—will be available as potted seedlings at a cost of \$7.50 per 30 seedlings.

All potted seedlings are "standard size" with roots encased in small tarpaper pots. Under dry conditions they offer better survival and initial growth than bare-root seedlings.

Since potted seedlings cannot be shipped by parcel post, they must be picked up at any of several delivery points in the state. Persons placing orders will be notified of the exact time and place of delivery which, depending upon the weather, will probably be made in late April.

Like the wildlife bundles, seedlings can be ordered at county Extension offices from January through April or ordered from now through April by using the special order form. Complete instructions for ordering are given on the form.

Additional information about planting and care of tree seedlings is available at county Extension offices.



APPLICATION FOR TREE SEEDLINGS

Name _____
 Address _____
 _____ ZIP _____
 County _____

Mail this form and payment to:
 Kansas State Forester
 Kansas State University
 2610 Claflin Road
 Manhattan, Kansas 66502
 Phone: AC 913 532-6636

1. Payment must accompany your order. Make checks or money orders to KANSAS STATE FORESTER.
2. These trees will be used for farm windbreaks, shelterbelts, woodlots, erosion control plantings, wildlife or farm pond plantings, or Christmas tree plantings, and are **not** to be used for ornamental or landscaping purposes. Contact your local nursery for ornamental plant materials.
3. Orders can be accepted only for plantings to be made in Kansas.
4. Claims for adjustments or shortages must be made by July 1, 1971.

BARE-ROOT SEEDLINGS (\$8.00 per 100)

1. Orders for bare-root trees must be for 50 trees, or a multiple of 50, of each species selected.
2. Nut orders must be for 100 nuts, or a multiple of 100 nuts, of each species.
3. Red terracing flags (for marking rows, etc.) must be ordered in units of 100.
4. **Price includes delivery via parcel post.**
5. Shipments will be made from late March through April.

POTTED SEEDLINGS (\$7.50 per 30)

1. Circle pickup point most convenient for you. **You will be notified of time and date to pick up your trees.**
2. Orders for potted trees must be for 30 trees, or a multiple of 30, of each species.

PICKUP POINTS (Circle the one where you wish to pick up your trees)

Tribune	El Dorado
Colby	Manhattan
Garden City	Topeka
Hays	Hiawatha
Hutchinson	Erie
Salina	Lawrence

SHRUBS

No. _____

____ Fragrant sumac
 ____ Nanking cherry
 ____ Multiflora rose
 ____ Lilac
 ____ Honeysuckle
 ____ American plum
 ____ Tamarix

EVERGREEN TREES

____ Scotch pine
 ____ Austrian pine
 ____ White pine
 ____ Ponderosa pine
 ____ Eastern redcedar
 ____ Spruce

**RED TERRACING
 FLAGS**

____ **WILDLIFE BUNDLES**

DECIDUOUS TREES

No. _____

____ Russian olive
 ____ Black walnut
 ____ Pecan
 ____ Chinese elm
 ____ Redbud
 ____ Cottonwood
 ____ Green ash
 ____ Honeylocust
 ____ Russian mulberry
 ____ Osage orange
 ____ Silver maple
 ____ Bur oak
 ____ Hackberry

STRATIFIED NUTS

____ Walnuts
 ____ Pecans

No. _____

____ Scotch pine
 ____ Austrian pine
 ____ Ponderosa pine
 ____ White pine
 ____ Eastern redcedar
 ____ Rocky Mt. juniper

Total potted trees _____ at \$7.50 per 30 = \$ _____

Total seedlings _____ at \$8.00 per 100 = \$ _____

Total nuts &/or flags _____ at \$2.00 per 100 = \$ _____

Total wildlife bundles _____ at \$15.00 each = \$ _____

By VIC McLERAN

Adaptability seems to be a key word in describing the raccoon, since his ability in adjusting to new circumstances and surroundings make him at home throughout the Sunflower state.

One of our most common wild neighbors, the 'coon as he is commonly called, can be identified by the black "burglar's" mask across his face and the five to seven black rings which encircle his tail.

The average Kansas raccoon weighs about fifteen pounds although specimens weighing 25-30 pounds have been recorded. The North American record is a 62-pound, six-ounce specimen shot by Albert K. Larson of Nelson, Wisconsin, on November 4, 1960.

By contrast, the much smaller raccoons of the Florida Keys weigh only four or five pounds.

Length varies, but most Kansas 'coons average about 30 inches in length including the 10-inch ringed tail.

The best raccoon habitat in Kansas consists of woods containing large hollow trees and a nearby water source. Hollows are utilized as dens. Water in some form is a requisite since much of the raccoon's food is obtained from creeks, rivers and ponds.

An omnivorous feeder, the raccoon's appetite is prodigious and he would never make it as a dieter. **Foods include: fish, crayfish, frogs, turtles, reptiles, birds, small mammals, insects, eggs, fruit, vegetables, grain, nuts, berries and almost anything else which is available.**

The raccoon's taste for watermelon and corn make him a pest in areas where such products are grown.

Procyon lotor, as the raccoon is known scientifically, has been the subject of an interesting argument for many years. The animal's habit of immersing food in water led many biologists to believe he was washing the food. Even the second part of his name, "lotor" means washer. Another theory claimed the 'coon didn't have adequate salivary glands and, for this reason, needed to moisten his food. However, most mammalogists now

contend the animal is a "dunker" and a "feeler" but not a washer. They say the 'coon's sense of touch is highly developed and he simply enjoys touching and toying with objects.

The animal's yearly cycle begins in January or February when adult males, or "boars," seek receptive females for breeding.

The female, or sow as she is called, has selected a den earlier. Preferably, this is a hollow, high in a tree, but if this isn't available, splits in limestone ledges, abandoned farm buildings, unused drain tiles, hollow logs and a number of other sites may be used. In western Kansas, where hollow trees are scarce, raccoons often use ground dens made by badgers or skunks. Even in eastern Kansas, they will utilize an old woodchuck hole if suitable hollows can't be found.

Utilization of the many different types of den sites is an example of the raccoon's versatility which has enabled him to survive and even multiply in areas where less adaptable species have perished.

Born in April or May following a 60-day gestation period, young raccoons are both blind and naked. Their eyes open two or three weeks later. The young remain in the den and continue to nurse until eight or ten weeks of age at which time the mother begins to take them on foraging trips at night. Although basically nocturnal, raccoons are occasionally seen on cloudy, overcast days.

During these trips the animals can often be heard as they move along the creek with a churring sound which is similar to a cat's purr but much louder. Another call is the tremolo, an owl-like sound which is often confused with the screech owl's call. When frightened or angry, raccoons give a loud piercing scream or squall which stimulates all other raccoons to action.

Young 'coons remain with the mother through the summer and into fall. In late autumn, young 'coons which were born that spring seek dens in which they will spend the winter, either singly or in groups.

Raccoons become rather lethargic during cold weather and, particularly

in the North, spend most of the winter sleeping. However, they are not true hibernators. In Kansas, the animals are active most of the winter except for prolonged periods of extremely cold weather. In southern states where mild winters are the rule, raccoons seldom den up.

The raccoon is high on the mammal scale of intelligence, a fact which makes him an amusing though mischievous pet. If taken young, the animals tame easily but must be released eventually since they usually become aggressive with maturity. For this reason, the Kansas Forestry, Fish and Game Commission urges that young animals be left in their natural habitat.

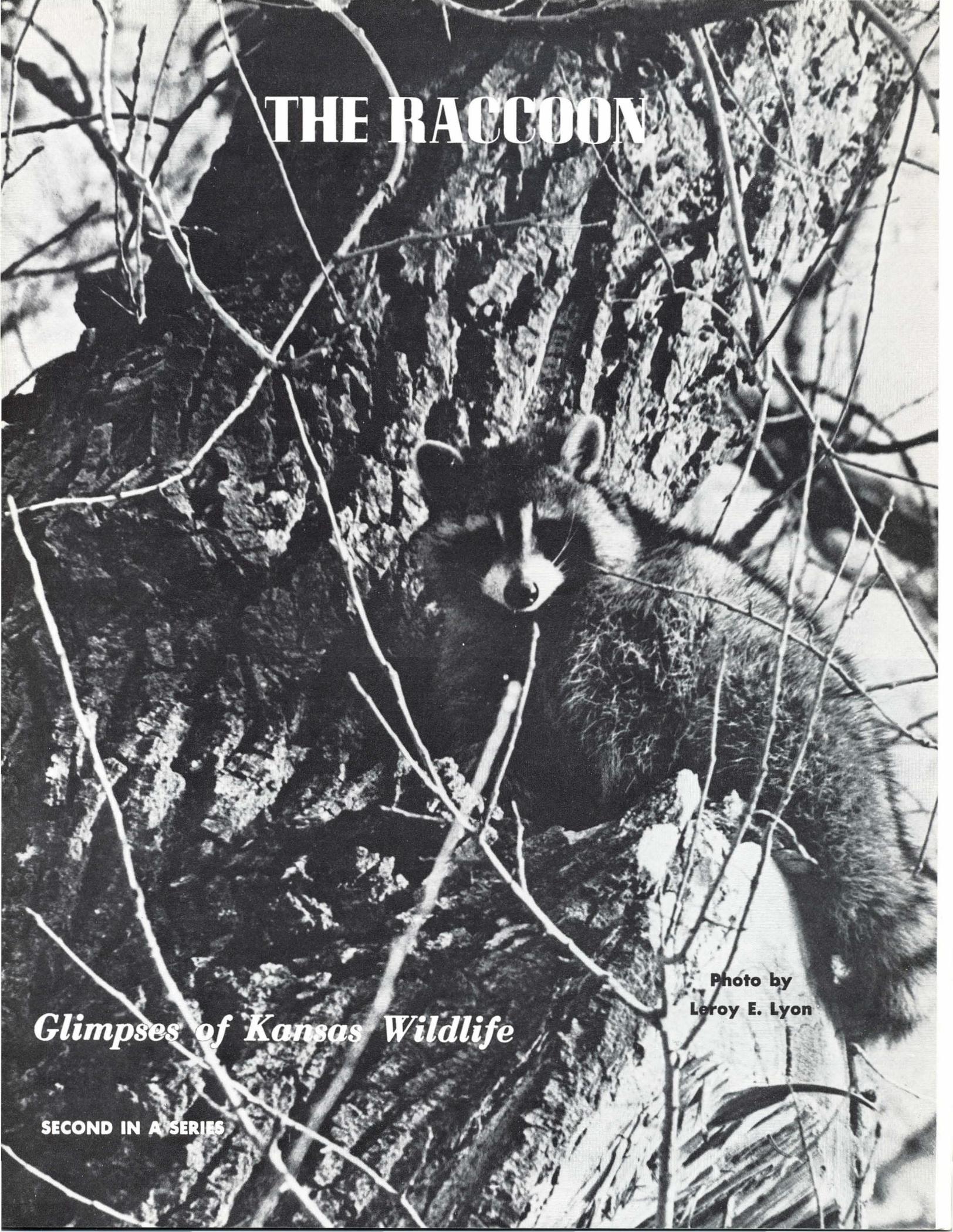
'Coon hunting at night with hounds is popular, especially in the eastern part of the state where animals are most numerous. A valid Kansas hunting license is required and there is no bag or possession limit. The season is open year-around due to the abundance of the animals. If an individual sells the hides of the 'coons he has shot, he must also have, in addition to a hunting license, a valid trapping license.

A desperate fighter and an extremely strong animal, the raccoon is capable of killing a dog larger than itself. If the dog or dogs can be lured into the water, the raccoon can easily drown several.

The meat of the raccoon is edible and considered excellent eating by many. Baking, broiling, frying and barbecuing are popular methods of preparing the meat but care should be taken to remove all fat from the carcass prior to cooking since it can taint the flavor of the meat.

Man with his auto is a major mortality factor since thousands of raccoons are killed annually by autos along roads and highways where animals prowl in search of food.

The raccoon's future, for the most part, is secure in Kansas. An abundance of suitable habitat coupled with the animal's adaptive ability, assure us that Kansas coon hunters will be able to "follow the hounds" for many years.



THE RACCOON

Photo by
Leroy E. Lyon

Glimpses of Kansas Wildlife

SECOND IN A SERIES

Words of the Environment

By LEROY E. LYON

Words are building blocks—stepping stones by which meanings are communicated to other people.

Sometimes, however, words can be stumbling blocks, for a word may be used that is unfamiliar to a listener or reader.

When this occurs, communication is halted until the meaning of the unknown or unfamiliar word is discovered.

With today's concern for the environment and the quality of life, the public is confronted with a confusing array of terms, although some of the words have been around a long time.

Admittedly, knowledge of en-

vironmental problems is dependent upon an understanding of the catch words and phrases which have suddenly become popular in our society.

While space doesn't permit inclusion of all the words and detailed definitions of those words, here are some basic definitions of words currently being used (and misused) in the press and by a host of people from all walks of life!

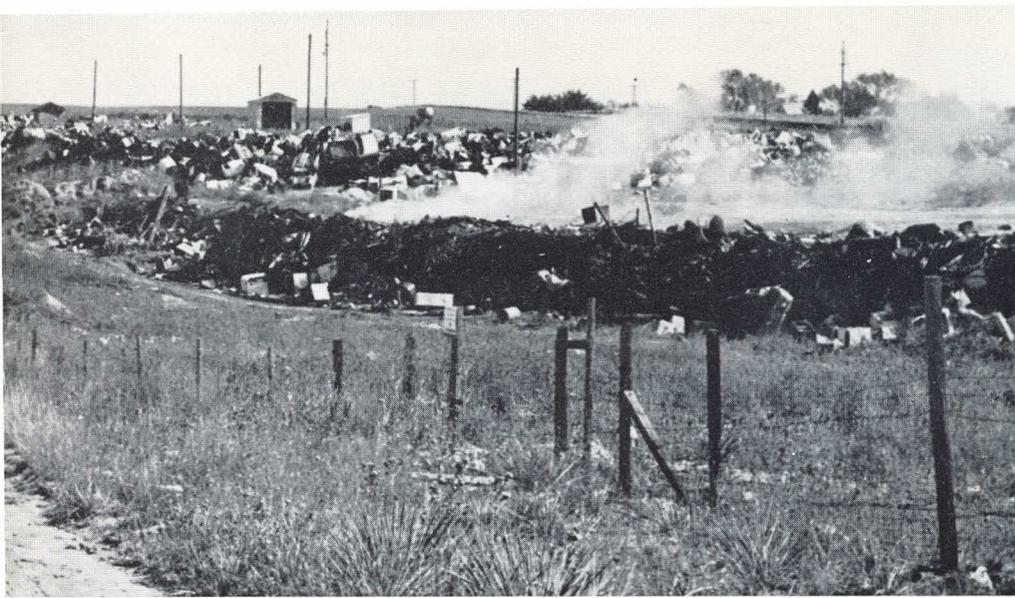
CONSERVATION — Not a new term the word conservation was first coined during President Theodore Roosevelt's administration (1901-1909). One of the most misused words

in the English language, conservation is more than resource preservation.

In his book, "Wildlife Conservation," Dr. Ira N. Garbielson says, "The term 'conservation' when applied to the two classes of renewable and nonrenewable resources, carries quite different meanings. The conservation of the inorganic, or nonrenewable, resources, such as coal, iron, copper, and oil, means sparing use with no waste. The conservation of organic resources implies use but only to an extent that will permit a continual "renewal."

For far too long, Americans have regarded streams as being the perfect dumping grounds for an assortment of trash, waste and filth created by a community of humans. Kansans are as guilty as anyone else—as shown by this photo which was taken recently along a stretch of the Arkansas River near Belle Plaine.





Solid waste means rubbish and garbage—newspapers, beer cans, broken glass, plastic bottles, junked cars—all the things we throw away. Disposal means picking them up, transporting them to their final destination, and then burning, burying, or otherwise treating them.

ENVIRONMENT—Quite simply, environment means “surroundings.” It is the aggregate of all external conditions and influences affecting the life, development, and ultimately the survival of an organism.

ECOLOGY—The word ecology was first used in 1869 by a German zoologist and is based on a Greek word, *oikos*, meaning “place to live.” Simply defined, ecology is the study of living things in relation to each other and to their environment. The word ecology is highly popular but is often used incorrectly. Ecology is a branch of science and is not to be confused with ecosystem. Thus, regardless of what some writers may claim, pollution may damage a river ecosystem but not the river ecology.

BIOTIC COMMUNITY—No living thing exists by itself but is a part of a community of living things. A complex of living things, occupying the particular area, is known as a biotic community.

ECOSYSTEM—A biotic community coupled with the interwoven nonliving parts of the environment—soil, water, sunlight, and air—is an ecosystem. All living and nonliving things acting upon each other form an ecosystem. Simply defined, it is an ecological community. (See page 17 for a more complete definition.)

ECOCATASTROPHE—This is a new word coined after the Santa Barbara oil blow-out. An ecocatas-

trophe is a cataclysmic disruption of an ecosystem. Consequences of an ecocatastrophe may be felt immediately, or generations later.

ECOLOGICAL SUCCESSION—Relationships within an ecosystem are never static but growth and death, change and replacement, go on continuously. Ecological succession, then, is the process by which there is a natural change within an ecosystem.

BIOSPHERE—The biosphere is that thin zone of air and soil on earth—perhaps the only one in the universe which will support life. Earth is probably unique among the planets around our sun to have such a livable zone, but we may be changing that condition rapidly. Also called the ecosphere.

TROPOSPHERE—The innermost part of the 12-mile layer of air encircling the earth. It extends outward about five miles at the poles and ten at the equator. All life depends on this thin layer of air surrounding the earth. Harmful gases and tiny particles are being spewed into this vital air zone at an alarming rate.

POLLUTION—Pollution is the addition of substances into nature which have an adverse effect upon life. There are many forms of pollution—it occurs in air, water, land, or even as noise. Most concern is centered around air and water pollution since it is becoming apparent that these substances, quite necessary for perpetuation of

life on this planet, are rapidly being fouled beyond a usable level and beyond their capacity to purify themselves.

PARTICULATES—Pollutants in the air can exist as solid matter, liquid droplets, or gas. Both solid and liquid matter are called particulates which simply means particles in the atmosphere. Dust, smoke or fumes are solid particulates; liquid particulates are mists and sprays. Particulate pollution results from many kinds of industrial and agricultural operations and from combustion products, including automobile exhausts.

AMBIENT AIR—The unconfined space occupied by the atmosphere—the outdoor air.

THERMAL POLLUTION—Thermal pollution is pollution by heat, the most common source coming from generating plants which use water for cooling machinery. Warm water may offer a variety of threats to aquatic life. Dissolved oxygen content is lower in warm water, and fish may die of oxygen starvation. Warm water also encourages choking algae blooms which may act as a barrier to feeding and reproduction of fish.

EFFLUENT—This is an outflow of sewage, water used in industrial plants or other liquid wastes into a stream. Treatment of effluents comes in three stages: (1) Primary, which does no more than remove solid wastes; (2) secondary, which removes 80 to 90 percent of organic matter when combined with primary treatment and; (3) tertiary treatment which, combined with primary and secondary treatment, removes 98 percent of organic material and can make water suitable for reuse as drinking water.

PESTICIDES—A pesticide is any agent, usually chemical, used to kill pests. Those designed to kill insects are called insecticides; those to kill plants are herbicides. Fungicides, another group, are used to kill fungi, molds and rusts. Because many of the synthetic chemicals used in pesticides are broad-spectrum poisons, pesticides have been called “biocides,” or killers of life.

Perhaps the most serious and subtle form of pollution today is from organo-chlorine pesticides. Some of

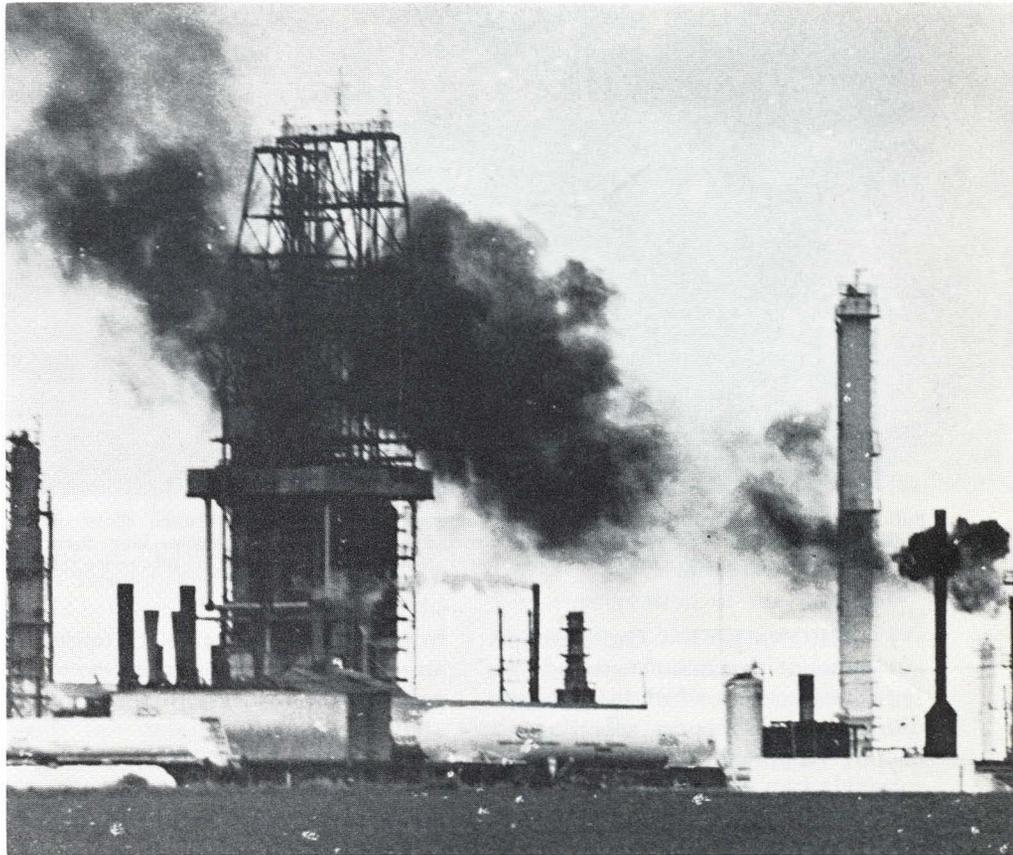
these persistent or "hard" pesticides, while not the most toxic available, do not break down readily but retain their killing capacity for a long time. Some, such as DDT, are retained in the body and will remain there for several years. Use of any of the "hard" pesticides imposes a serious responsibility on the user.

BIOLOGICAL MAGNIFICATION

—DDT and most other chlorinated hydrocarbon pesticides are "cumulative" in that an organism may store increasingly large quantities of the chemicals as it is exposed to them. This accumulation is called biological magnification. This accumulation, coupled with the relative persistence of "hard" chemicals, may result in a higher residue level in an organism than is found in the organism's environment.

As an example, studies in Missouri showed that earthworms concentrated dieldrin and aldrin at a rate of 4.8

Effluent is simply an outflow of sewage or other liquid wastes into a stream. Municipalities and industries are prime sources. Photos by Ken Stiebben.



While some sources of air pollution are visible, other harmful substances, unseen by the human eye, are being spewed into our air at an alarming rate.

times the average residues in the soil. Predatory *Poecilus* ground beetles were found to accumulate 31 times the average amount of residues in the soil. It would only take 20 beetles of the *Poecilus* variety which contained the high levels of pesticide residues to kill a young quail. Food study habits of young quail up to two weeks of age show that about 33 beetles of all types are consumed per day by one quail, on an average.

HABITAT—Habitat is the type of site which a plant or animal normally requires to live and grow. It is the home place of any organism—plant or animal. Biologists are concerned with the destruction of habitats since animals have adapted to a certain type of habitat for centuries and most are ill-equipped for a sudden change. Unfortunately, wildlife habitat is vanishing all over the state as more land is cleared for a variety of uses. It is estimated that a million and a half acres of prime wildlife habitat are being lost nationwide each year to make room for highways, airports, housing, industry and agriculture.

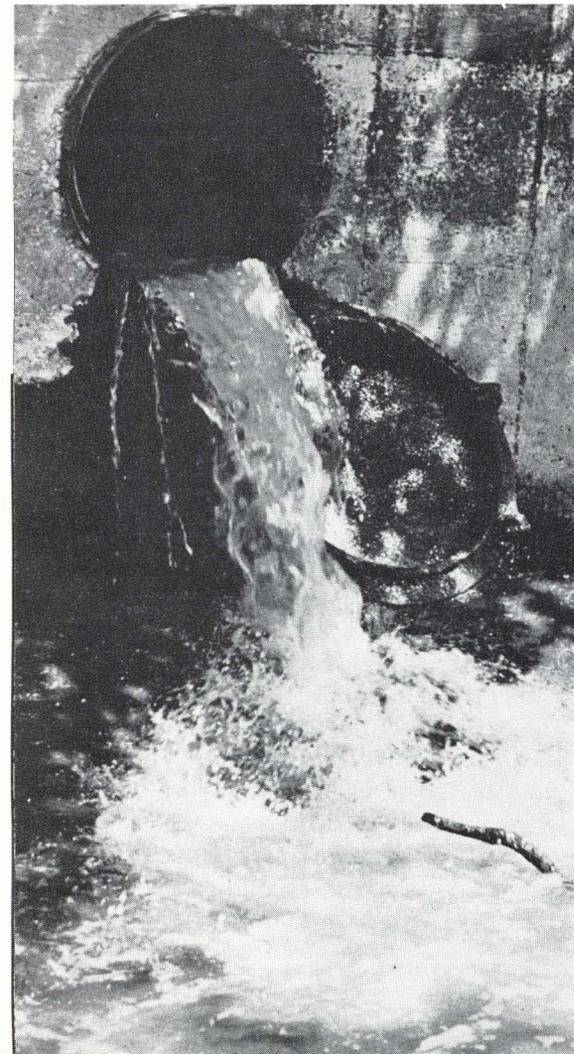
POPULATION EXPLOSION —

At the root of our environmental problems is the rapid increase of human population. Every three years, a population equivalent to that of the United States is added to the planet earth. Until this rate of increase is stopped, conservation efforts can have only limited success. More people simply means more pollution, more use of mineral resources and more pressures on the land. This also means less green space for recreation and less habitat for wildlife.

These are just a few of the words which suddenly have become the "in" topics of conversation.

But becoming familiar with the highly popular words is not enough. As never before Americans need to make a massive commitment and take action to reverse the trends which are causing environmental deterioration.

Only through the efforts of many concerned citizens can the serious environmental problems be solved.



An editorial by-lined, "Uncle Dudley's Episodes," and entitled, "Ecology—What's That?," recently appeared in an issue of "Nation's Agriculture," published by the American Farm Bureau Federation.

In his meager way, the author scoffs at the destruction of nature caused by man's lack of consideration for the consequences.

Statements put forth by "Uncle Dudley" falsified, misconstrued and taken out of context to the point the entire writing is a farce, require no direct rebuttal. There have, however, been many writings recently in similar but less ridiculous veins, that give cause for concern. Of most concern is that two words in common use today, "ecology" and "environment," are becoming trite before their reality is fully understood and respected.

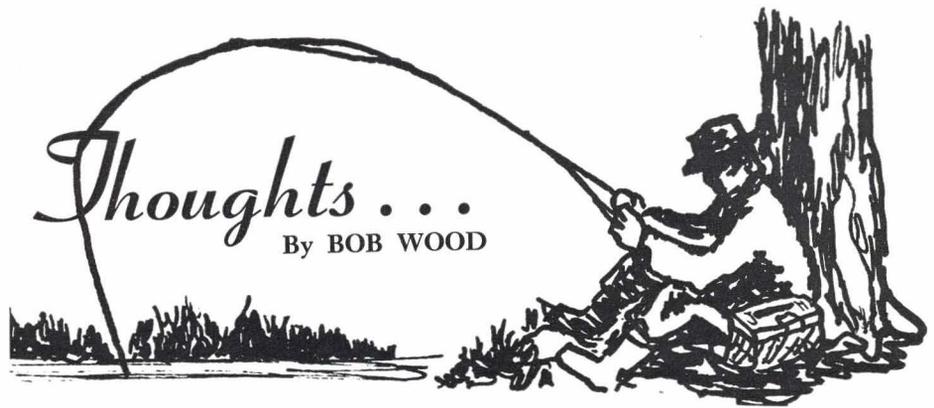
By literal definition, ecology is the study of organisms and their homes. In a biological sense, ecology is the study of living organisms and their interactions with themselves and their nonliving surroundings.

Environment, on the other hand, is defined by Webster as, "the aggregate of all the external conditions and influences affecting the life and development of an organism."

To many, the mere scope of these definitions is staggering.

During the past year or two, we have experienced a great surge of public anxiety over how man is changing living conditions on earth. To date, much oratory but little action has been put forth to allay that anxiety. "Ecology" and "environment" have been referred to repeatedly, separately, and synonymously—but rarely explanatorily. Those at whom this ecological discourse has been aimed, and in many cases those doing the aiming, have made little effort toward an understanding of what they hear or speak. They applaud with much fervor but quietly continue status quo.

To better understand how man affects earth, one must realize all organisms, man included, are part and parcel to one or more biological exchange systems. These entities are called *ecosystems*. In



essence, an ecosystem is a natural unit in which living organisms are inseparably interrelated with themselves and with nonliving parts of the unit. Interactions between the unit's living and nonliving parts produce a stable system in which energy and materials are exchanged in a circular path. All interactions are vital to the system's survival and alteration of an integral part thereof has the potential of destroying the stability of the entire system.

A complete ecosystem can be found in a pond. Aquatic plants and animals living entirely within the pond, rely on no other pond for survival. Should some foreign matter destroy the plant life, no oxygen will be produced. Eventually, aquatic animals dependent on oxygen in water will also die. With no plants or animals, no organic nutrients are added, reducing the pond's ability to renew plant and animal growth. Thus, the ecosystem's stability is destroyed by elimination of only one of its parts.

Though simplified to illustrate our point, the principles involved are *ecologically* sound. An ecosystem is the *environment* of its parts. Man is in a position to alter all ecosystems, *but not independently of himself*. Earth is man's pond.

In 1942, the late Aldo Leopold, one of the world's foremost ecologists, lucidly spoke of man's ignorance of his relationship with his environment.

"Mechanized man, having rebuilt the landscape, is now rebuilding the waters. The sober citizen who would never submit his watch or his motor to amateur tamperings freely submits

his lakes to drainings, fillings, dredgings, pollutions, stabilizations, mosquito control, algae control, swimmer's itch control, and the planting of any fish able to swim. So also with rivers. We constrict them with levees and dams, and then flush them with dredgings, channelizations and floods and silt of bad farming.

"The willingness of the public to accept and pay for these contradictory tamperings with the natural order arises, I think, from at least three fallacies in thought. First, each of these tamperings is regarded as a separate project because it is carried out by a separate bureau or profession, and as expertly executed because its proponents are trained, each in his own narrow field. The public does not know that bureaus and professions may cancel one another, and that expertness may cancel understanding. Second, any constructed mechanism is assumed to be superior to a natural one. Steel and concrete have wrought much good, therefore anything built with them must be good. Third, we perceive organic behavior only in those organisms which we have built. We know that engines and governments are organisms, that tampering with a part may affect the whole. We do not yet know that this is true of soils and water.

"Thus men too wise to tolerate hasty tinkering with our political constitution accept without a qualm the most radical amendment to our biotic constitution."

Thirty years passing have made Leopold's commentary no less contemporary.

Blooded Hounds

By VIC McLERAN

With his nose to the ground, the bloodhound strained at his leash and surged forward, whining eagerly.

As the track got hotter, the animal pulled ahead more vigorously and his handler had difficulty restraining the large red hound.

Watching silently from a hedgerow 200 yards away, I was getting my first look at the bloodhound in action. Laying this trail had been part of a test designed to illustrate the breed's fantastic tracking ability. Upon locating me, the dog bounded up, begging for attention.

Raising and training the big hounds have become a way of life for Fred Crandall, Kingman County rancher.

Starting in 1942, with one dog, Crandall has built up a kennel which currently houses more than 20 registered bloodhounds, 15 of which are brood females. Crandall, one of less than a dozen registered breeders, markets about 150 puppies annually and is constantly behind in filling orders. Selling for \$150.00 at eight weeks of age, most of the pups end up as household pets.

"The appearance of bloodhounds on several television shows recently has stimulated interest in the breed, and orders are pouring in," Crandall explained.

"Kingfish the Wonder Dog," formerly featured on CBS's "Hee Haw," is the second generation product of dogs which Crandall sold to a California breeder.

Proof of the breed's rising popularity can be seen in registration records of the American Kennel Club. In 1969, 662 of the animals were registered as opposed to 300 registered five years ago.

Law enforcement agencies and rescue squads purchase the animals for man-trailing purposes. In southern



Sad but lovable is the mature bloodhound's appearance. Actually the loose folds of skin and long ears aid the dog in tracking since they swing forward to funnel or trap the scent. Photos by Vic McLeran.

states where prisoners work on road gangs, county sheriffs utilize bloodhounds for tracking escapees.

State penitentiaries and prison farms throughout the nation also utilize bloodhounds for the same purpose.

Surprisingly enough, Crandall's largest single customer is the police department in Rome, Italy. Several years ago, he received a letter written in Italian which he couldn't decipher. Puzzled, but unable to find anyone who could read Italian, Crandall let the incident pass.

Later, however, he was approached by FBI agents who informed him that the letter had been from the Rome Police Department requesting two bloodhounds for use in tracking fugitives. Since that time, the Italian agency, working through the FBI, has purchased 30 dogs from Crandall.

Crandall's price for a trained animal varies depending on the dog's age and the amount of training he has received.

The training procedure is rather simple.

"The dog's exceptionally keen nose coupled with his love of tracking makes training fairly easy," Crandall said. A young pup is leashed and introduced to an assistant who feeds him some hamburger. The assistant then moves away from the dog leaving an easy trail for the youngster to follow. Knowing that hamburger and attention await him when he finds the assistant, the pup eagerly takes to the trail. Upon locating the assistant, the pup is fed the hamburger and given a great deal of attention. Later, the hamburger can be eliminated and attention will suffice, since by that time, the animal has developed a love of tracking. As time goes on, the trail is made increasingly more difficult and different people are used in laying the trail.

Crandall explained that when a bloodhound puts his nose to the ground, the loose folds of skin around his head and the extremely long ears swing forward to form a funnel or cup which traps the scent.

Contrary to common opinion, the bloodhound does not attack what it is following. It merely follows for the love of trailing.

"What they're really seeking is attention," Crandall noted.

Some of the best bloodhounds in the country have produced more convictions for police departments than the best human detectives. There is one bloodhound responsible for more than 600 actual convictions.

Another hound, the famous "Nick Carter," once picked up a trail which was 105 hours old and followed it to the suspect who was subsequently convicted.

Some dogs have successfully followed trails for more than 50 miles. One bloodhound covered 138 miles on the trail of a fugitive.

Although the animals reached their highest form in England, they have been worked much more successfully in the U. S. Due to good blood lines still found in England, Crandall occasionally purchases an English dog for the purpose of introducing new blood to his line.

The bloodhound, says Crandall, has been around for quite some time since this breed is actually the founder of all other scent-hunting hounds.

Although no one has been able to pinpoint the dog's origin, records indicate the animal's presence as far back as 300 B. C. Monks of early England are credited with keeping the dog's blood pure. Most of these ancient monasteries kept a pack of hounds and the animals were given such good care that they were referred to as "blooded" hounds, meaning pure and of the highest order. The name bloodhound, then, is a contraction of "blooded hound" and has nothing to do with the dog's desire for blood.

In the early 1600's, English hunters developed the bloodhound as we know it today. It was used primarily on deer, but later its tracking talents were put to work running down outlaws in the wilds of Scotland and England.

Upon arriving in American Colonies, the bloodhound was employed to track down runaway slaves. Later, however, the dog was used in pursuit of criminals and recently has been utilized heavily in finding lost persons, such as hunters and hikers in vast wooded areas.

Crandall and his dogs are occasionally called upon to assist in locating lost persons in Kansas, and he some-

times loans his animals to the Kansas State Industrial Reformatory for use in tracking escapees. Leighton Trickel, Kingman County Sheriff, has used Crandall's dogs and says, "he raises the finest bloodhounds I've seen anywhere."

Large animals, a male bloodhound will reach a height of 27 inches and weigh up to 120 pounds. Females average about 24 inches with a weight of 90 to 100 pounds.

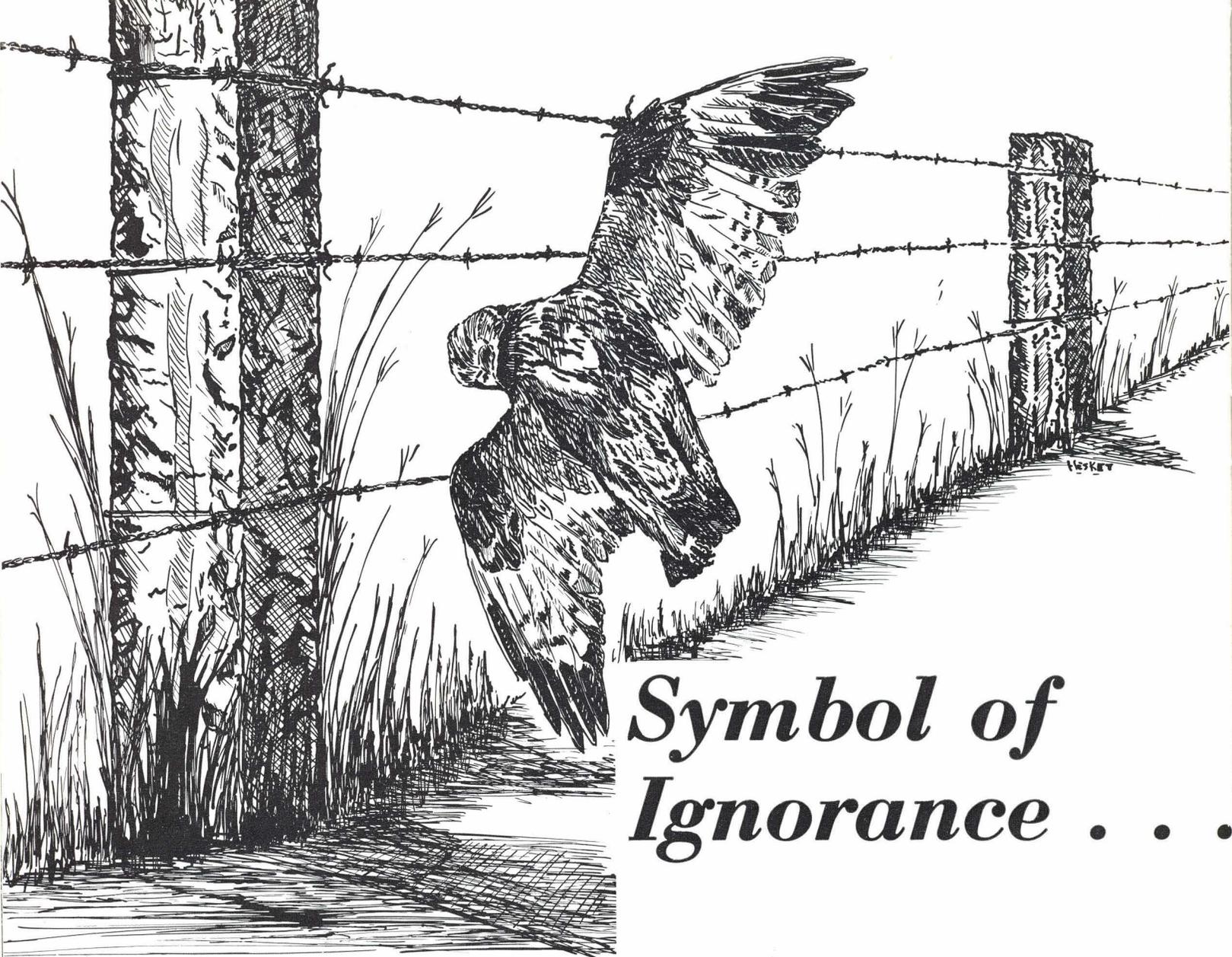
The Crandall Kennels produce two distinct color phases—red or black and tan, with the former being the most popular. Although there is no difference between the male and female as far as pet stock or training goes, the female is preferred as a house dog.

For many years, centuries even, the bloodhound was purchased only for his nose and tracking ability. Now, however, the dog is also recognized as a big lovable hound that makes a good pet. It's these two qualities—ability and affection—which prompt the saying among bloodhound owners that, "once you've owned a bloodhound, you'll never own another type of dog."

After a visit to Crandall's Kennels, you have to believe it.



Puppies are always appealing and Fred Crandall's young bloodhounds are no exception. Crandall says most of his pups end up as household pets.



Symbol of Ignorance . . .

By MERLE GARY HESKET

This year will probably be no exception. Unless it is, many birds of prey—hawks, eagles and owls—will fall victims to hunters' guns.

With the arrival of each hunting season, numerous investigations are made of dead or wounded birds of prey. It seems to make little difference as to what species is killed—it may be a residential red-tail or a migratory roughleg.

Sparrow hawks, smallest of the falcons, are especially vulnerable to irresponsible dove hunters' guns since their migration corresponds closely with the dove season.

During waterfowl seasons, marsh

hawks are blasted from the sky as they forage for food over marshlands. Not only are these beneficial birds killed—they are often hung on fences where they are openly displayed as symbols of justice for conservation.

Admittedly, birds of prey hanging from fences are symbols—symbols of ignorance. It proves the lack of ecological understanding and underscores how far our intellectual concepts have progressed.

Throughout history, protection has been based on man's selfish utilization. Animals which directly benefit man as food, or those which aid in protection of food, have been heralded while those which occasionally com-

pete for food are classed as villains. Far too few attempts have been made to understand the ecological values of these "villains."

Predation is a natural and healthy function of life among all creatures of land, air and water. If man is to control natural competition, then he must learn to control his own destruction. Quail, hidden in the depths of a hedge or plum thicket, can escape the talons of a Cooper's hawk. They cannot escape if bulldozers uproot the trees or destructive sprays turn protective branches brown. Ecological understanding must replace impulsive stupidity.

Recent interest in falconry has created another delicate problem. Falconry was an ancient sport of nobility which began in Asia and later spread into the European culture. To the falconer, the possession of a gyrfalcon was the height of personal status. It has been estimated that only 1,000 pairs of gyrfalcons are left in the world—and smugglers are presently exploiting the last North American species in Alaska and Canada.

Regulated falconry, on the other hand, could be a valuable educational tool. It would place new emphasis on these magnificent birds and would create a desire for their preservation. The ultimate direction this interest will take depends largely on the foresight of legislators and conservation agencies.

Sound laws and co-operative en-

forcement should be an equalizer, a fast disciplinary action dictated by a majority of society to protect or preserve an important part of the society or its environment. Proper law enforcement only provides conformity by the majority until education catches up.

Kansas law protects all birds of prey with the exception of the Cooper's hawk, the Sharp-shinned hawk, Goshawks, and the Great-Horned Owl. Thus it is apparent that education has not caught up. The average man with a gun cannot identify the unprotected species so he continues to destroy beneficial and endangered species alike with "good-deed" concepts.

The Bald Eagle, our national symbol, has been protected by State and Federal laws since 1940. The Golden Eagle, a similar plains species, has been under protection since 1962.

Like the Bald Eagle, the American Osprey, is declining due to habitat encroachment, indiscriminate shooting, and insecticides.

Each of these three species migrate through Kansas during the hunting seasons and several are found shot each year. During the winter of 1968-69, a total of 20 Golden Eagles were found killed in central Kansas.

One bird may appear insignificant to the average individual, but the last Greater Auk on earth probably appeared unimportant to the sailor who wrung its neck.

We will continue to witness beneficial and endangered birds of prey on Kansas fences as long as one species remains unprotected. Our concepts must change towards predatory wildlife.

We must erase our symbols of ignorance.



Found mainly in Southwest and mountain states, golden eagles have been declining in numbers for many years. They are somewhat smaller than the bald eagle, America's national bird, and sometimes are confused with the young of the bald eagle. (Photo by Merle Gary Heskett.)

Why DO They Hunt?

By DICK DIETZ

What motivates man today to take his gun and head for the woods or fields in search of game? One obvious answer is that he enjoys it.

But perhaps that's an oversimplification. He enjoys what? The shooting of a firearm? He can do that at clay targets or on the rifle range. The taking of game? Then how do you explain the deer hunters we all know who return empty-handed year after year yet keep going back, The companionship of fellow hunters? The escape from a desk or a machine, from business pressures, from air-polluted cities? Now, perhaps, we are getting a bit closer.

What hunting actually is, of course, is a basic re-enactment of man's earliest method of gathering food to survive. Today, modern agricultural and food-marketing practices have virtually eliminated this need. Yet, he continues to hunt. Why?

Some will suggest that hunting is symbolically masculine and that hunters take up the sport to assert or prove their manhood to themselves or others. But there are just too many citizens with little apparent need to prove such a point, who are also ardent hunters, to make this assumption valid.

Man, as a species, responds to challenge. Unquestionably, meeting his earliest challenge, that of mere survival, provided exhilaration. Obviously, he still seeks this type of challenge and, obviously, many still find it in the practice of hunting.

Deeper down, however, there is something more. It is a basic need and desire for close association with nature. And it manifests itself in the very breadth of the average hunter's outdoors activities. Not all fishermen are hunters, but it is hard to find a hunter who doesn't eventually take up fishing. Fishing gives him a reason to be in the woods when hunting seasons are closed. Neither are all bird watchers hunters. But many hunters wind up becoming bird watchers, too. In man's seeking for a return to nature, he who hunts is perhaps he who merely seeks the furthest.

Man springs from, and is inherently attached to, the land and the forests. Take him away from these and he will strive to retrieve or retain a part of them. In our greatest concentrations of concrete canyons, he will set aside land for parks. Others will commute miles and hours from their city jobs to maintain a small plot of grass and trees. Still others will drive an hour to reach their pet grouse cover, or all day to reach the domain of the whitetail deer, or fly across a continent to reach a particular spot in the Rockies.

Man will continue to visit his city parks, to tend his patch of grass, to seek the solitude of the forest, to hunt.

Why does he do the latter? Perhaps the reason is not so complex after all. It is the same as his reason for doing the others.

It is his nature.



Readers' Response

CONTENT PRAISED—"The story of predation has been told many times in many ways, but Vic McLeran's explanation of it is superb. It is so excellent that I wish it were possible for this to be put into the hands of every school teacher or educator, every young person interested in the out-of-doors, every hunter, and every farmer.

"Is it possible for you to make this available to those of us who would have an opportunity to place this into the hands of teachers, youth group leaders, naturalists, etc.? Presently, I am volunteering much of my time for work with young people, and know this would be fine material to put into their hands.

"I miss Marv Schwilling's column. Is he still in Kansas? We were sorry to have him leave Nebraska several years ago.

"You are publishing a fine magazine. Although it is not as showy as some, nevertheless, it has better content and information."—**Mrs. John Lueshen, President, Inland Bird Banding Association, Wisner, Nebraska.**

The request to make Mr. McLeran's article, "Predation . . . Bane or Blessing?" in the Autumn 1970 issue, available for general distribution as an informational bulletin is being investigated by the Information-Education Division.

Mr. Schwilling is still on our staff—an article by him appears in this issue.—**Editor.**

SUPER EXCELLENT ARTICLE—"I have just finished reading your article, "Bucks and Bows," which appeared in the Summer 1970 issue of KANSAS FISH & GAME. You are to be congratulated for a super excellent article.

"I am an avid archer and archery dealer in Fort Collins and have the privilege of introducing many new, first-time archers to the sport. I would

like for all of them to read your article as it is so accurate in such a concise manner. Much has been written, as you know—my gripe of 99 percent of it is that it is too wordy, too technical, and sometimes downright unbelievable.

"I would like your permission to reproduce your article for handout material to our customers. I have in mind only a simple mimeographed handout."—**Bob Wolf, Wolf Brothers, Proprietors, Fort Collins, Colorado.**

Articles appearing in KANSAS FISH & GAME may be reprinted without permission, provided proper credit is given. However, we do like to know of use in other publications.—**Editor.**

CHINAMAN, NO?—"I have been told the Chinese read from back to front. So, the backs of our books would actually be their front. Therefore, I have to assume you are a Chinaman (no offense, please). Or perhaps Mr. Heskett doesn't know an owl from an eagle . . . or more probable is that the printer didn't read your article before printing the cover.

"I want you to know that I enjoy your magazine very much."—**Edward E. Burns, Kansas City, Kansas.**

I'm not a Chinaman and Mr. Heskett is extremely knowledgeable on bird identification. The State Printer also does an outstanding job in printing KANSAS FISH & GAME, but an

error was made somewhere along the line in the Autumn 1970 issue. Despite the cover explanation on page 3, the bird on the front cover is a great-horned owl—the bald eagle is featured on the back cover.—**Editor.**

DISAGREE WITH METHOD—"I take your magazine and enjoy it very much. I have learned a lot from it, but I don't agree on your way to clean a squirrel. If you will carry some plastic bags with you when hunting a squirrel, you can simply slit a squirrel about two inches across the back, pinch up the skin length ways of their body and cut straight down. Then insert two fingers from each hand and pull. The hide will pull right off the head and front feet and to the rear feet and tail, then simply cut off head, feet, and tail and remove entrails. This whole process should take less than two minutes.

"I killed a mallard hen with a tag and am sending you the number. If this duck happens to have been one caught and tagged up north, I sure would like to read about it in your magazine."—**L. D. Barrand, Topeka, Kansas.**

Bands found on birds harvested by hunters or found on birds dead from other causes should be reported. Bands should be removed from the birds, flattened and sent to the Kansas Fish and Game Commission's Game Division, Box 1028, Pratt, Kansas 67124. Information should accompany the band which provides the date the bird was shot or found, the location (stated in distances from the nearest town), species of bird, and the name and address of the person sending in the band. Or a local state game protector may be contacted. In either case, bands from migratory birds will be forwarded to the U.S. Fish & Wildlife Service, and the person will be notified by that agency of the place where the bird was banded. It usually takes about six to eight weeks to obtain a reply.—**Editor.**

KANSAS FISH & GAME invites all readers to submit their comments, suggestions, and gripes to **READERS' RESPONSE**. In each issue the magazine will publish as many letters as space permits. **KANSAS FISH & GAME** reserves the right to edit and condense letters.—**Editor.**

S L LOEWEN
TABOR COLLEGE
HILLSBORO KS 67053

