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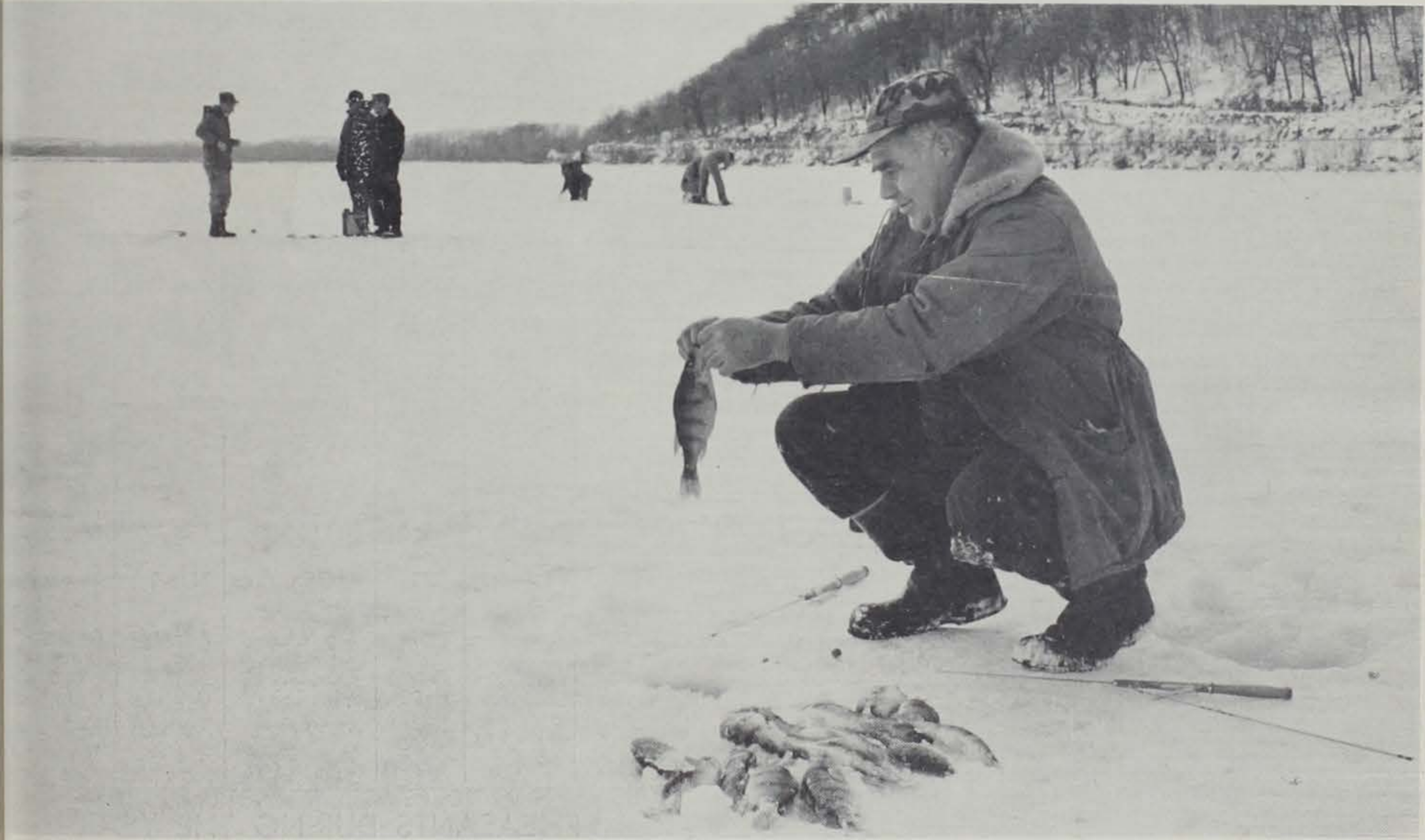


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CONSERVATION

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JAN 11 1963

ICE FISHING-MISSISSIPPI STYLE



Jumbo perch from "the world's best fishing hole," the Mississippi. Jim Sherman Photo.

It's Cold, But Fun! Denny Rehder

Here you are crouching over a six-inch hole on the broad expanse of the Mississippi River, hoping that by chance there will be fish nearby. It's cold and you've just chopped a hole through fifteen feet of ice. With a stubby little rod for tackle and a shiny spoon for a grub for bait, you patiently jig the lure up and down waiting for a strike. And here we go! Strike after strike, the fish just keep coming. You run out of mousies and minnows, and the fish are still biting. You use the bare spoon not wanting to take time to get more. And the fish keep on coming. The whole Mississippi seems to be an endless conveyor belt pouring the entire population of fish out through a little opening in the ice. You may think this is fanciful and overplayed for a description of winter fishing. I did at first, but last winter I saw it happening. I was just to the other guy, which is usually the case when I go out fishing, but to myself as well. And I used to wonder why anyone would desert the warmth of home to go onto the ice to fish.

This ice-fishing is getting to be a real sport for many Iowans during the winter months. From the time the ice first covers the water until it succumbs to spring, you'll find anglers cutting holes and wetting a line. Some local people in the northeast Iowa area of the Mississippi claim that more fishermen use the river in winter than they do in summer. On almost any given morning you can drive along the Mississippi and see clusters of people out fishing through the ice. This fishing trip to the Mississippi was a real eye-opener in many ways. First, of course, was the number of people out fishing. There were clusters of fishermen dotting the river as far as you could see. Then there was the fishing itself. We caught perch all day, but I'd never seen perch like these—twelve to fourteen inches and they were coming so fast we had to give up trying to bait the hooks and just fished them bare. I even saw two fourteen-inch perch come out of the same hole at the same time. All told, our group caught around 250 perch. That's a lot of good eating. In addition to all these points, I enjoyed watching the fishermen themselves and how they coped with the weather, transportation, and so on.

(Continued on page 6)

Iowa Conservationist

Vol. 22 January, 1963 No. 1

Published monthly by the State Conservation Commission, East 7th and Court Avenue, Des Moines, Iowa. Address all mail (subscriptions, change of address, Form 3579, manuscripts, mail items) to street address above.

Subscription price: two years at \$1.00
Second class postage paid at
Des Moines, Iowa

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CIRCULATION THIS ISSUE 53,000

COMMISSION MINUTES

Des Moines, Iowa
December 5, 1962

GENERAL

The Superintendent of Engineering gave a report on survey work in Polk County for small lake sites.

Travel was authorized to the Upper Mississippi Recreation Committee Meeting at Winona, Minnesota, January 8, and to the Missouri River Interagency Committee Meeting at Colorado Springs, December 14.

A report was made by the Superintendent of Public Relations on sports show scheduling.

COUNTY CONSERVATION ACTIVITIES

Cherokee County received approval for the acquisition of 14 acres of land on the west bank of the Little Sioux River at a total cost of \$1,000 for use as a fishing access area.

Howard County received approval for the acquisition of one acre of land as a gift from the Riceville Community School District for use as wildlife habitat and shelter area.

Lee County received approval for the acquisition of 11 acres of land at a cost of \$100 per acre located adjacent to the city of Keokuk overlooking the Des Moines and Mississippi rivers for use as a roadside park, camping, picnicking, etc.

Polk County received approval for the acquisition of two acres of land located adjacent to Jester Park for a total cost of \$489.

FISH AND GAME

The Chief of Fish and Game gave a report on the program of the State Hygienic Laboratory at Iowa City.

An easement was granted for an access roadway at Browns Slough in Lucas County.

The Commission approved a ranking list for Fish and Game Officer Candidates.

The Commission passed a departmental rule "any individual who has lived in the state continuously for 30 days shall be considered a resident of Iowa for the purpose of purchasing a sport fishing, small game hunting, com-

bined hunting and fishing, and/or trapping license."

A resolution was passed requesting the Highway Commission to consider marking deer crossings on State Highways.

LANDS AND WATERS

The Commission approved an eligibility list for Lands and Waters Conservation Officer candidates.

The staff was directed to prepare appropriate legislation directed toward acquiring Federal Forest Lands in southeastern Iowa.

The Commission approved 15 Concession Contracts for state parks.

A report was made on a proposed Ding Darling Memorial Shelter Building in Lake Darling State Park.

Approval was given for request for a permit to sand a beach on Ingham High Lake.

Approval was given for a permit for a bridge crossing on Highway 14 in Marion County on the Des Moines River.

Approval was given for a bridge permit at LeClaire on Interstate 80 in Scott County.

Approval was given for temporary road crossing of the Upper Iowa River near Decorah for highway construction.

Approval was given for the clearing of an area in Pilot Knob State Park for use in winter sports.

The Commission received a report on legislation proposed for the coming session of the legislature.

POSSIBLE PREDATION FACTOR

It seems that Michigan state fishery workers have been making some interesting observations on bowfin (sometimes known as dogfish or grindle) in the course of studies of northern pike production.

John E. Williams and Ray Fitch of the Michigan Conservation Department of the Hastings warm-water fishery research station, were credited with being strongly of the opinion that dogfish exercise a beneficial influence on fish populations. This is somewhat at variance with some long-held popular views. Their studies have brought out that dogfish feed on young bluegills. The latter often overpopulate warm-water lakes, especially in northern latitudes.

Over-population by bluegills results in an abundance of bluegills too small to interest anglers. It also results in a shortage of bass and perhaps other preferred species as well. What's needed to produce good bluegill fishing is heavy natural predation on them by larger fish, or some means of artificial control. In this connection, the presence of dogfish in a lake may turn out to be a key factor in producing good fishing.

THE OFFICIAL RECORD FISH FOR 1962

Last spring we advised the people of the state that we were interested in establishing a record list of big Iowa fish. We had heard many reports from anglers concerning their catches wondering how they compared with previous reports.

Every year in the January issue of the CONSERVATIONIST we plan to list the record fish for the previous year as well as the standing record in each species. All those listed below are at present the standing records for the various fishes, since 1962 was our first year at keeping records.

For those readers who may have caught fish larger than our records, we remind them that those listed are the only ones that meet the necessary qualifications to be eligible as records.

The steps to submit your catch for a record are as follows: The fish must be taken by legal means from Iowa waters; fish must be measured from tip of snout to tip of tail (total length); must be weighed on scales legal for trade to within nearest ounce and weight must be attested by signatures of two witnesses. Photo of angler and fish should be submitted with the following data to the State Conservation Commission, Fish Records, East 7th and Court, Des Moines: name and address of angler, date, name of stream or lake and county where caught, total length, weight, method of catch, and the signatures and addresses of two witnesses to the weighing.

1962 RECORD FISH

Species	Weight	Length	Where Caught	Date	Angler
Bluegill	1 3/4 lb.	11 in.	Lineville Gun Club Lake	Sept. 19	Mrs. Grant Dillon, Lineville
Bass (large-mouth)	7 lb. 4 oz.	22 1/2 in.	Cold Springs Lake	April 29	Clyde Hans
	6 lb. 2 oz.	22 in.	Browns Lake	Aug. 18	Atlantic Harold Hall, Sioux City
Carp	20 lb.	35 1/2 in.	Buffalo Creek Jones Co.	Sept. 10	Joe Kula, Anamosa
	10 lb.	28 in.	Turkey Creek Cass Co.	April 29	Geoffrey Scholl, Anamosa
Channel Cat	21 lb.	33 1/2 in.	Little Sioux River	May 7	Mrs. Agnes Ament, Cherokee
	15 lb. 3 oz.	31 in.	Rock Creek Lake	July 14	Mrs. Jeanni Gurley, Cedar Rapids
Flathead Cat	40 lb.	40 1/2 in.	Des Moines River	May 20	Harold Steuerwald, Boone
	14 1/4 lb.	32 in.	Raccoon River	May 6	Deane Nut Lake City
Northern Pike	10 lb. 5 oz.	32 in.	West Okoboji	Aug. 19	Gilbert Gresslin, Spencer
Sheepshead	46 lb.	38 1/2 in.	Spirit Lake	Oct. 11	R. L. Farrar, Clarion
Walleye	10 lb. 4 oz.		Cedar River	Oct. 26	Chas. Such, Cedar Rapids

PHEASANTS DURING THE YEAR

January—After a weekend snow storm many pheasants are found to be starving. appearing. Groups agitate no shooting of hens.

February—Pheasants still starving. August—Dry season with young pheasants reported or dying. Groups agitate for reduced bag limit.

March—Conservation Commission criticized for not feeding pheasants. September—Pheasants now die of strange disease. Groups tate for completely closed season.

April—Almost all pheasants now starved with the exception of several thousands killed on the highways. October—Pheasant season over and enjoys one of its best years.

May—Farmers report serious crop destruction by excessive number of pheasants. Groups agitate for shooting hens in fall. November—Conservation Commission criticized for short season and reduced bag limits.

June—Farmers report pheasant hatch poorest in history. Groups agitate for short season in fall. December—First reports of pheasant starvation. Commission roundly criticized for not listing pheasants.—Reprinted from *South Dakota Conservationist*.

July—Pheasants seem to be dis-



Young Red Fox.

Jim Sherman Photo.

IOWA MAMMALS

Eldie Mustard
Game Biologist

RED FOX

Vulpes fulva

Identification: Red foxes range in length from 36 to 42 inches including the tail of 13 to 15 inches. Weights vary from 6 to 15 pounds with dog foxes (males) larger than vixens (females). Red foxes can be distinguished from other fox and coyote by its white-tipped tail.

Range: Throughout Iowa.

Habitat: Prefers dry, broken, open upland areas with patches of cover, however, may be found anywhere in pastures, cornfields,encerrows, draws, and edges of marshy areas.

Reproduction: One litter of 1 to 5, usually 4 to 5, pups per year following a gestation period of about 52 days. Mating occurs primarily in January-February, with young generally born in March or April. Female prepares den which she may dig or lean up one previously used by fox or other animals. Ground dens are most common and may have a hole up to 75 feet long. The male feeds the vixen and helps care for young which remain with parents through summer while learning to hunt.

Habits: The red fox is almost omnivorous in its feeding habits and eats a great variety of animal and vegetable matter. Among items commonly used are rabbits, hares, mice and other rodents, insects, birds, turtles, snakes, carrion, and fruits. Much of the poultry comes to the red fox in the form of dead birds which have died and farmers have thrown in the fields to dispose of them. The den is not used extensively in the winter for shelter and the red fox commonly sleeps in the

open. The ancient adage, "Smart as a Fox," probably originates from the animal's ability to outwit dogs and man when pursued. The long, flowing tail is used as a foil when dog foxes fight for vixens and is also used as a cover for warmth when the animal is resting.

Status: One of the most cursed and discussed animals in Iowa, the red fox has a host of enemies and friends. He is blamed almost universally by sportsmen for low pheasant, rabbit and quail populations even though studies by game biologists have found that the fox has little effect on established game populations even when he uses them extensively for food. Rather than predation, biologists have determined that changing habitat, lack of cover, reproduction failure, or combinations of these are generally the underlying cause of low game populations. Within recent years fox hunting with high-powered rifles has become a major winter sport after other hunting seasons have closed. The ardent fox hunter literally sees red when someone tells him they have dug up a den and killed the vixen and pups because, to the fox hunter, the fox deserves a much more sporting chance. It is almost a cardinal sin to shoot a fox in front of foxhounds because a live fox can again furnish sport and the excitement of the chase whereas a dead fox is gone forever. Rabies outbreaks usually occur in foxes when populations are high and the disease may practically eliminate all foxes in a given area. Fox populations, for their own good, must be kept down by hunting and trapping. Iowa presently has a continuous open season. Fox fur, when fashions dictate, is used for trimming, neck pieces, and jackets.

COYOTE

Canis latrans

Identification: Adults from 44 to 54 inches including tail of 11 to 16 inches long. Weigh 20 to 50 pounds with females smaller than males. Coyote is about size of a collie dog. Carries tail down when running.

Range: Throughout Iowa.

Habitat: May be found anywhere, but prefers irregular terrain with open areas, brush, and woodlands interspersed.

Reproduction: One litter born per year in spring after a gestation period of 60 to 63 days. Litter size of 5 to 10 with usually about 7 pups. Male helps female rear pups which leave adults in fall to seek their own home ranges. Some coyotes mate for life.

Habits: Coyotes may either dig a den, use a natural den, or an enlarged hole of another animal as their home. The coyote is nearly omnivorous. About three-fourths of its food consists of rodents and rabbits with the remainder composed of carrion and a variety of vegetable matter. The coyote, because of its high rate of reproduction, adaptability, and cunning, continues to survive despite man's often erroneous attempts to exterminate it.

Status: Much sought after by hunters who derive a great amount of recreation in trying to spot and outwit the coyote. Some animals are trapped with the coarse fur used primarily for trimming garments. Coyotes sometimes conflict with man's interests and kill small livestock and poultry. In these instances attempts are usually made to eliminate the coyote doing the damage. Widespread trapping and poisoning have been used in attempts to exterminate them, but in some areas ranchers have found that after the coyotes are gone the rodents, which the coyotes formerly used for food and thus partially controlled, caused much more damage than the coyotes. Wholesale efforts to exterminate coyotes are not usually in the best public interest and should not be attempted. Iowa has a continuous open season on coyotes.

GRAY FOX (Tree Fox)

Urocyon cinereoargenteus

Identification: Length ranges from 36 to 44 inches with a 12 to 14 inch tail. Weights vary from 7 to 13 pounds and males are slightly larger. Blackish stripe down tail with rusty feet.

Range: Throughout Iowa.

Habitat: Brushy, woodland areas.

Reproduction: Mating usually occurs in February-March with the annual litter of 1 to 7, commonly 4, born after a gestation period of about 63 days. The den is in a hollow log or tree

in a rock pile usually in wooded area. They are cared for by both parents until weaning when the male usually leaves the family. The female stays with her pups until fall when they disband.

Habits: Presence of the gray fox in an area may be unsuspected due to its nocturnal and rather solitary habits. The gray fox is fairly adept at climbing trees and may do so to escape dogs or on other occasions. It will also hide in foliage or even jump from limb to limb. Due to its cat-like appearance and its tree-climbing ability, some amateur naturalists believe the gray fox is a member of the cat family. This is not true, he is a member of the dog family. The gray fox is omnivorous as is the red fox, but prefers animal matter. Food items eaten by the gray fox include: rabbits, mice, other small mammals, grasshoppers and assorted insects, birds, reptiles, carrion, and fruit and other vegetable matter. Individuals often have several den sites in winter which they use for rest and sleep.

Status: The gray fox is not the sporting animal that the red fox is because of its nocturnal habits and the fact that it goes to a den too readily. Trappers are usually much more successful in taking the gray fox than are hunters. Pelts from gray fox are used for trim and collars. Iowa has a continuous open season. Although less well known, the gray fox has essentially the same relationship to man and his interest as the red fox.

SPEAKING OF THE WEATHER

In the thin air of the ionosphere winds have been clocked at 1,100 miles per hour!

The record for twenty-four hours of rainfall goes to Baquio, Philippines, on July 14, 1911, with 46 inches of rain.

The largest known meteorite is in South West Africa; known as the Hoba West, it weighs 110,000 pounds.

The largest known meteorite in the United States is on exhibit at the Hayden Planetarium. It fell in Oregon and weighs 30,800 pounds.

If you think you know what fluctuating temperatures are like, you should have been in Rapid City, South Dakota, January 22, 1943.

6:00 a.m. -4°	11:45 a.m. 35°
9:20 a.m. 54°	12:30 p.m. 16°
10:30 a.m. 12°	4:00 p.m. 56°
11:00 a.m. 55°	5:00 p.m. 8°
11:30 a.m. 10°	

The largest known single hailstone (not an aggregate of many hailstones) fell July 6, 1928, at Potter, Nebraska. It was 17 inches in circumference and weighed one and one-half pounds.

WHAT HAPPENS TO PLANTED PINE AFTER 20 YEARS?

C. R. Witmer, Area Forester

One question frequently asked of Commission foresters is, "What can I expect in dollar return per acre from planted pines?" Most people who are considering tree planting are naturally interested in this aspect.

Although older pine plantations are not numerous in Iowa, there are enough to give us a picture of what planted pines will do over at least a 20-year period. One such plantation is on the Shimek State Forest in southeastern Iowa planted in 1939.

Results show that the volume of products removed in 1954 and 1958 thinnings combined with the volume of trees growing on the five-acre red pine planting after the 1958 cut was equal to 52 tons per acre. At the current price of \$6 per ton at the pulpmill in southeastern Iowa, the volume growth in 20 years would equal \$312 per acre or an annual return of \$15.60 per acre. This, remember, was on land that was not feasible to use any longer for row crops.

The original plantings were made on old field sites that had been abandoned because of low productivity. Four species were planted, namely: red, jack, white, and western yellow pines. The pines, except for the western yellow, have all shown great promise

of becoming a valuable crop. The western yellow pine has been heavily attacked by a needle cast which destroys the food production of the tree and causes it to degenerate. The high rainfall and humidity of this part of the state is optimum for the growth of this disease.

The remaining three pines are all quite far from their native habitat with only the white pine being native to Iowa.

Studies were made on a red pine plantation which covers five acres. It was planted in 1939 on an old field of Weller silt loam with a gentle southern exposure. The trees were hand-planted at a spacing of 6 x 6 feet. The red pine showed itself to be readily adaptable to conditions in southeastern Iowa and good future performance was expected. The red pine and white pine have become species used extensively for reforestation in the last ten years.

Not knowing the potential of red pine when the plantings were started or the time required to reach maturity, it was decided to establish test plots in the planting area. Normally, a thinning system is adapted so production will be geared to a specific product. The testing system was set up so as to use a number of thinning

(Continued on page 8)

Lookin' for a Home

With some people clucking over their bird feeders, it seems only appropriate at this time of year to take a gander at those persons who are building bird houses for next spring. Judging from the numerous inquiries received at the office, a lot of people are spending these winter months building bird houses to pass the time.

As an aid to you construction engineers in miniature, we present below a list of accepted dimensions for most of our common birds—at least those who are interested in letting someone else take the trouble of setting up housekeeping for them.

Species	Floor in Inches	Depth in Inches	Entrance Diameter in Inches	Center of Entrance Above Floor in Inches	Height Above Ground in Feet
House wren	4x4	5-7	1*	3½x5½	5-10
Carolina wren, Bewick's wren	4x4	5-7	1½-1¾	3½-5½	5-10
Prothonotary warbler	4x4	8-10	1½	6-8	3-5
Chickadee	4x4	8-10	1½	6-8	5-15
Nuthatch, Downy woodpecker, Titmice	4x4	8-10	1¼	6-8	5-15
Bluebird, Tree swallow, Violet-green swallow	4x5	7-9	1½	5½-7¼	4-15
Crested flycatcher, Ash-throated flycatcher	6x6	8-10	2	6-8	5-15
Hairy woodpecker, Golden-fronted woodpecker	6x6	13-15	1¾-2	9-12	8-20
Red-headed woodpecker	7x7	16-18	2-2½	12-14	12-20
Flickers, Saw-whet owls	7x7	16-18	3	12-14	12-20
Screech owl, Sparrow hawk	8x10	13-15	3¼	9-12	12-20
Martin	6x6	6	2½	2¼	15-25

*Or may use rectangular slot one inch high, three inches long. Woodpeckers, owls, sparrow hawks need two inches of wood chips or sawdust on floor.



Jim Sherman Photo

Tufted Titmouse.

OUTDOOR FUN INDOORS

Denny Rehder

"Hey, Coff, what say we go out and try to scare up a fox this afternoon." (It's -8°, the wind is blowing and snow is forecast.)

"Whaddaya mean it's too cold? Look in your billfold; there's a fishing license and a hunting license—you're what's known as a sportsman." (It's much nicer to sit here with feet on coffee table reading through the catalog and dreaming of that seven-pound bass from last summer's fishing.)

"You say that right now you're interested in having your outdoor fun indoors? All right, I'll be right over!"

Outdoor fun indoors? How so? It's easy; come on down to the basement and we'll get started. We'll knock a bird feeder together and you can sit inside, look out the window, and watch the birds come to feed.

Let's take that piece of plywood you've got there and put a little fence around it to keep the feed from blowing off. Then we'll tack it to the window sill, throw in some sunflower seed and small grain from the hardware store and watch for the birds.

The south side of the house is best. It's sheltered from the wind, in the sunshine, and close to those honeysuckle bushes. The birds like some bushes or shrubs next to the feeder for protection and a place to perch. If we put it right outside the window it will be high enough to discourage cats and dogs.

Finished? Then let's go inside and see what happens.

Well, there's your first customer—a squirrel. Notice how he

stuffs the food away; he has feeling that this is not quite natural.

There you go! A blue jay discovered the program and he's a little concerned about that squirrel getting all the goodies. He bug that squirrel until it decides it's had enough and leaves.

There he goes . . . and look at the sparrows. Don't worry about them, they're a good sign. They always find feed first and attract the other birds in the neighborhood. They are real clowns, more fun to watch than most of the other birds. Notice how they fight among themselves even though there's more feed than they could ever handle.

Watch that nuthatch that just landed. He'll take a sunflower seed and hide it in the bark of a tree close by. He tries to carry away as much as he can to eat later. Chickadees will do the same thing.

If you rig up some wide-mesh hardware cloth and place suet behind it, you'll attract woodpeckers. The downy, hairy, and sometimes the red-headed woodpecker are visitors. Flickers show up many times for suet.

Some fruit placed on the feeder will attract the cedar waxwings. They're roamers and may visit your feeder a couple of times during the winter.

You can expect to see cardinals, chickadees, nuthatch, woodpeckers, brown creepers, blue jays, cedar waxwings, evening grosbeaks, goldfinches, slate-colored juncos, tree sparrows, and of course the pigeon, English sparrow, and starling.



White-Breasted Nuthatch.



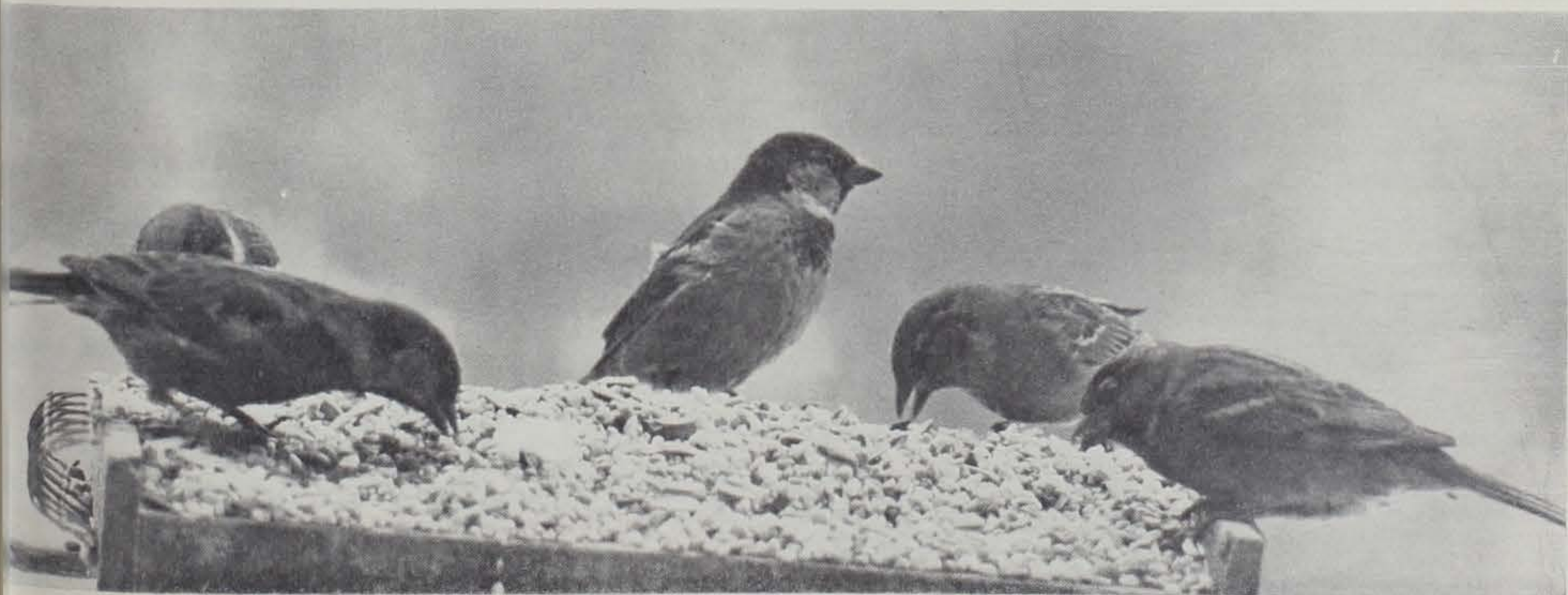
Downy Woodpeckers.



Slate-Colored Junco.



Black-Capped Chickadee.



... and Sparrows!

Photos by Jim Sherman.

ICE-FISHING

(Continued from page 1)

and the mechanics of ice-fishing. Take the weather. Most of the people on the ice were dressed warmly in insulated underwear, warm outer clothing, and insulated boots. Some wore gloves, although they usually came off when the fish were really biting. There were several windbreaks or shelters of some kind or another although the traditional ice shanty was not common. Little pop tents or even corrugated cardboard served to shelter the fisherman. Hand warmers or little stoves helped keep the angler warm and comfortable.

There were some eye-catching rigs for getting around on the ice. One fellow had a panel truck with chains on the tires. Inside he had a place to sit and fish out the back, a stove for heating coffee, and for adding a little heat to the interior. He really had the system.

Digging through the ice can be tiring with a regular spud or ice chisel. Some used an auger that worked like an oversize brace. Others went further and mounted a motor on their augers to drill through the ice in jig time.

Northerns, walleye, bass, and a host of panfish are all caught regularly through the ice. The fishing regulations for the Mississippi and other boundary waters are liberal. There is a continuous open season on all fish which enjoy a season in the state. There are no catch or possession limits except on largemouth and smallmouth bass, catch 10 with possession at 20; walleye and sauger, catch 10 with possession at 20; and northern catch, 5 with possession at 10. There are lots of fish—an understatement when you watch the numbers of fish taken through the ice and then during the following summer.

Called by many the "world's greatest fishin' hole," the Mississippi River is certainly a producer. Catching a mess of fish through the ice is real fishing, real sport, and real eating. The taste of those perch is still fresh in mind, so it's back again this winter for some of that fine ice-fishing, Mississippi style.

The African Gray Parrot is famous as a talking bird. In captivity, this bird has been known to survive as long as eighty years.

A frog's tongue is fastened to the front of his mouth. This oddity gives him the advantage of added length.

The red fox eats small amounts of grass quite regularly. It is also fond of fruits including blackberries, raspberries, strawberries, service berries, blueberries, wild cherries, apples and persimmons.



Good ice transportation. Those doors are open for an obvious reason—to get through quickly if the car breaks through the ice.



How's this for comfort? Complete with a little stove for coffee and heat, this outfit offers good protection.



This home-made "spudder" takes the muscle out of making many holes for fishing.



Some fellows bring along all the comforts of home when they head onto the ice.

Photos by Jim Sherman

CONSERVATION NEEDS EDUCATION

Carol Buckmann

Being familiar with nature and understanding the responsibilities of preserving our natural environment are imperative before one becomes deeply concerned with conservation. Becoming acquainted with the world around us comes through education, for knowledge of nature's laws is directly responsible for their violation.

The way to become familiar with Iowa's wild animals is a trip to the Wildlife Research and Exhibition Station near Boone. At the exhibit area, all the wild animals and game birds native to Iowa are on display. Paid solely from license fees, this newly remodeled station had its official opening in the spring of 1961.

Visitors are welcome to browse from 10 a.m. until sunset, April through November. Guides are available to answer questions and can be arranged for various groups upon request.

Another educational facility is the Hunter Safety Program. A cooperative agreement between the Conservation Commission and the National Rifle Association, this program provides firearm training to all interested people. There is no charge for the instruction. This service is provided by sportsmen and other civic-minded individuals strictly on a voluntary basis.

The Hunter Safety teaches safe handling of firearms and archery equipment, safe hunting practices, effect of game laws and proper good outdoor manners. Classes or groups are usually organized as a civic or community activity by public-spirited clubs or individuals.

Local conservation officers are key men in their respective counties and help arrange for field instructors to present instruction in a minimum of four hours. Many schools arrange for training as an extra-curricular club activity.

Along the line of fire prevention, Smokey Bear's suit is provided to local volunteer firemen for use in Iowa schools upon written notice. The school fire prevention program is handled by firemen, the fire prevention officer or the district forester of the Conservation Commission. This program is seasonal and for most schools' purposes it is scheduled for the fall and winter.

Most district foresters serve as forestry merit badge examiners and also conduct forest and nature programs at various scout and other youth group camps. The state forest nursery at Ames is open to the public week days for groups wishing to visit the nursery should make prior arrangements with the nursery superintendent.

The Holt State Forest, north of Boone, is used as a stu-



School children on tour form a regular part of the program.

dent training area by the Forestry Department of Iowa State University. It is anticipated that students of the Forest Department will be using new facilities such as a 100 foot fire tower and lumber storage sheds in conjunction with forestry education.

At various saw mill locations, once yearly a saw mill operation school is held by the State Extension Forester in conjunction with the District Forester of the Conservation Commission. Forestry field days are held periodically with the Iowa Forestry Industry, American Forest Products Industries and Conservation Commission Forestry Section cooperating. County Agricultural tours are carried on to show conservation practices on crop land, pasture land and forest land.

District foresters provide films from the commission library to schools upon request and give talks on career days. There are 125 films in the library relating to various phases of conservation with current listings being available from the Public Relations Section. Persons ordering films discuss their program with local conservation officers who obtain the appropriate film or films.

Along the parks line, at the Ledges State Park, self-guiding nature trails are set up with markers at different plant varieties to aid identification. Wau-bonsie and Fort Defiance have pamphlets with numbers on the trail corresponding with the plants.

For organized groups such as scouts, group camps in Springbrook, Dolliver and Ahquabi state parks are available by reservation through the park officer. Park officers conduct nature tours and studies in most of the parks on request.

Of historical interest, there are the prairie areas. Other historical

park areas include Fort Atkinson; Plum Grove, home of Iowa's first territorial governor; Abby Sharp Cabin, site of the Spirit Lake Massacre; the mill-site at Lennon Mills; restored mill at Wild Cat Den.

At the Spirit Lake Hatchery, scheduled groups get a briefing in the conference room with slides and a short discussion on how the hatchery fits into the whole recreational picture. Then the group goes through the hatchery and hears a talk tying the fish hatchery program into the broad field of conservation and the part it contributes to the state's conservation picture. Although the primary emphasis is on fisheries, basic fish and game management are also included.

Such a tour program was first started at the Spirit Lake Hatchery since there are facilities for slides but it's being expanded to include all the main hatchery installations.

Another educational feature is the CONSERVATIONIST magazine available for one dollar for 24 monthly issues. It's sent free of charge to schools, state officials and county boards of education and other states in exchange for their magazine.

The Public Relations Section distributes over 70 various pamphlets and folders relating to phases of conservation upon request. Many are used by schools as teaching aids. News releases are sent each week to radio and TV stations as well as newspapers while officers and other employees are available for public speaking.

A traveling wildlife exhibit has been touring Iowa since 1948 and is seen by about 300,000 people each year. The recently remodeled truck starts out in May visiting schools until summer dismissal. During the summer months,

the exhibit is shown at fairs, celebrations and other events.

Live mammals, birds, fish, reptiles and other animals are included in the exhibit. When in use, panels on the sides of the trailer are raised so the animals may be seen and shaded. State conservation officers are with the exhibit to answer questions and distribute literature concerning Iowa's recreational opportunities. Other exhibits include fairs and sports shows, and the Iowa State Fair.

Each summer, three hours of on-campus or undergraduate credit may be earned at the Teachers Conservation Camp held at Springbrook State Park group camp or six hours of credit may be earned by staying six weeks for both three-week courses. Sponsored by the State Conservation Commission, State College of Iowa and the Department of Public Instruction, the camp is offered to teachers or college students planning to teach after graduation.

During one three-week course, students travel approximately 1,000 miles to various areas to view conservation in action. Much of the work done is in the field where students learn from direct experiences guided by able resource people.

The total cost is \$104.64 for undergraduates and \$110.64 for graduates with scholarships available in many counties to teachers and students wishing to attend.

In order to gain a full appreciation of conservation, it is important to understand its principles. Acquiring this understanding firsthand is the key to the broad concepts in this field of conservation.

The record for rainfall in a single minute was set at Unionville, Maryland, on July 4, 1956, with 1.23 inches of rain.

The lowest temperature ever recorded comes from both Oimekon and Verkoyansk in Russia—a minus 90 degrees.

Snow slides or avalanches have been clocked at speeds up to 300 miles per hour.

More than 83 feet of snow fell during one season at Paradise Ranger Station in Mt. Rainier National Park, Washington.

The highest temperature ever recorded comes from Azizia, Tripolitania, North Africa—136 degrees!

The longest dry spell in the United States was at Bagdad, California, from 1912-14 with 767 consecutive days with no drop of rain.

After she gives birth to a litter of rabbits, the mother cottontail spends most of her time a short distance from the nest, returning only to feed her young.

FUR

David H. Thompson

Man is the only warm-blooded creature that is able to survive freezing temperatures without growing his own coat of fur or feathers. Far back in prehistoric times he learned to live in regions with cold winters by wrapping himself in the skins of animals. Strictly speaking, we do not endure the cold. Like the Eskimo inside his suit of fur, we really live in a small tropical climate that we carry around with us.

Mammals are commonly covered with two types of hair, a thick, soft underfur and a layer of longer, coarser guard hair which forms a protective outer coat. Air trapped among the fibers of the dense underfur insulates the skin from winter cold and holds in the body heat. For example, the Arctic fox lives on the wind-swept Greenland icecap, often at 60 degrees below zero Fahrenheit, without affecting its internal temperature.

The guard hair is somewhat oily and readily sheds water. In our local muskrat, mink and beaver, which swim long distances under water, even under ice in winter, the underfur and skin remain warm and dry. Animals living in warm climates have mostly guard hair with scant underfur. The opposite is the case in cold climates. Our woodchucks and ground squirrels, which burrow down below the frost line and become cold-blooded during the winter months, need little insulation and have only coarse hair.

A mammal's hair grows, is molted, and then renewed at least once each year. Among the commercial fur-bearers which are trapped or reared on fur farms for their valuable skins there is a season when their fur is at its best. The shedding of the underfur begins in spring and continues throughout the summer. At this same time, the old guard hairs gradually drop out and are replaced by new ones, giving a thin, sleek summer coat. With the onset of cold weather, the new underfur develops and the pigment granules stored in each hair root migrate up into the hair shaft. When the underfur is fully grown, the guard hair stands on end, the pelt is said to be prime and ready to be harvested. All of the hairs are now dead and from this time on the fur begins to fade and fray and lose value.

The big brown snowshoe hare which we sometimes see on our summer vacations in northern Wisconsin or Michigan grows a white furry coat in autumn, then changes back to a brown one in the spring. Likewise, in fall, a few of our weasels turn from brown to white except for the black tips of their tails. Then their skins are sold as ermine. Farther north, all of them turn white and,



HE GOT HIS DEER!

Denny Rehder

Deer cannot be legally taken by car! Obvious as this may seem, residents of county homes and other public institutions have been getting some mighty good eating thanks to a number of unfortunate Iowa motorists.

The poor fellow in the photograph had had his new car less than a week when he met this buck. Over 680 drivers like him found out last year that the interception of a deer by a car results in an average \$150 damage per car. This adds up to a \$100,000 loss to some Iowa motorists.

Deer kills by car have been increasing right along with our increasing deer herd. Most of the kills occur during the late fall and winter when the rutting season is on. The best times to make contact with a deer are early morning and late evening.

There isn't really a lot you can do to avoid meeting up with a wandering deer. They many times jump onto the roadway directly in front of your car, making it virtually impossible to avoid a collision. When driving in known

farther south, none of them. It has been learned that with 18 hours of artificial illumination per day they stay brown the year around. With only nine hours of light they turn white, even in summer.

Fur has played a long and fascinating part in human history. Its first mention as an ornament seems to be the description of the protective coverings of the "holy of holies" in the portable tabernacle as recorded in the Book of Exodus of the Old Testament.

More than gold, timber or rich soil, the demand for fur was responsible for the opening up of the interior of the North American continent. Beaver pelts were

deer country with timber or other cover close by, it pays to slow down and exercise some caution. Some areas are well-known as deer crossings and it only seems logical to be careful when crossing one of these favorite runs.

But, don't take the attitude of one person who remarked to a friend as they were driving, "You never see deer in this country, no cover."

He drove less than two miles before he hit one. Auto kills have been reported from every county in the state.

I heard a fellow say he still can hear the sound of folding metal and shattering glass from the time he met a deer in northeast Iowa. "It's frightening; I never fail to remember the sound of that impact when I get into the car to take a trip."

If you do hit a deer, notify a Conservation Officer to remove the deer. It is unlawful to transport the deer yourself, except to get it to the side of the road if it's blocking traffic.

sought most of all. Their fur made the felt for the tall beaver hats so popular both here and abroad. Chicago got its start as a fur-trading post because the portage at this point was a connecting link between the Great Lakes-St. Lawrence water route and the rivers that stretch westward to and beyond the Mississippi.

The snowflea travels by using his tail as a springboard. He bends his body then suddenly lets go, catapulting himself aloft.

The wandering albatross has the longest but narrowest wing of any bird. His wingspread measures eleven feet four inches.

WHAT HAPPENS—

(Continued from page 4)

systems to see the effect on rate of growth and products produced.

In 1954, when the trees were 15 years old, five one-quarter acre plots were established. Four plots were to be thinned and the fifth retained as a check plot. Four various extremes of thinnings were initiated as follows: removing alternate rows of trees, removing every fourth row, selecting trees for removal by stem spacing, selecting trees for removal by crown spacing. After this first cutting was made the remaining trees were pruned to optimum height. The primary product obtained in the 1954 thinnings was fence posts which were treated for use on the state forest.

In 1958, when the plantation was 20 years old, a second thinning was made and again data on height, diameter, spacing, trees per plot, value of products, insects and disease present were recorded as in 1954. The plots were again treated by various thinning methods and the primary product removed was pulpwood. Selected good quality trees were pruned to one full 16 foot log. It can be assumed from current data that this plantation is just reaching its stage of most rapid growth. Studies and yields records will be continued as periodic cuts are made in the stand until one full rotation has been reached.

This area has done much in 20 years it has been established. An area abandoned has been returned to crop productivity, because actually trees are a crop. The soil has been protected and fertility built, a wildlife habitat has been established, and a beautiful stand of pines is present for all to see on the drive from Farmington to Fort Madison on Iowa Highway No. 2.

This is only one stand, but there are many plantations now growing in Iowa which will follow similar management systems. In recent years, Christmas trees have become an early product. A market did not exist when the red pine plantation was established.

Your Commission foresters are available to give free advice and assistance to landowners who are interested in tree planting or in aging their timberlands.

Frogs and toads use their vocal sacs to help them swallow. The balls are pulled down and the frog is forced on down the throat.

The cries made by bats to direct them in flight vibrate 50,000 cycles per second, far above the range of the human ear.

The flying squirrel doesn't glide. Glides of up to 100 feet have been recorded.

The average weight of a grown buffalo bull is around 2,000 pounds.