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NUMBERS, WEATHER AND COVER



George Tovey Photo.

Farm cover areas are heavily used in winter in the primary pheasant range.

A Pheasant Formula

Denny Rehder

There's one for you pheasant hunters. Take a year and think back to pheasant hunting you had. Was it a good year or just average? In other words, what made it the kind of year it was—weather, harvest conditions, or number of birds? If you thought it was the number of pheasants, try on these basic facts for size. When the harvest of any year is analyzed you find that 82% of the pheasants consisted of young of the year, 14% were birds a year old, 2% were two years old, and 1% were three or more years old. What does this prove? *Hunting success is dependent on each year's production no matter how you look at it.* Each year's production is dependent on suitable numbers of brood stock, favorable weather, and suitable nesting habitat. To have suitable numbers of brood stock, you need a regulated pheasant population, and the winter cover and food supply necessary to bring these pheasants into the nesting season in good shape. In Iowa the problem of food supply is of no consequence; we have plenty of food in this state. The cover problem, however, is acute. We need more cover for winter cover and nesting cover. We'll get back to this point.

Now the weather for the nesting season is important. It is believed that the ground temperature is important in nesting success. Extremes in spring weather are always bad. Too much moisture creates a situation similar to last year when pheasants had trouble avoiding the water when they started to nest. Extremely hot and dry conditions are also a problem for nesting. Just a plain uneventful spring brings the best nesting success.

Now if the weather and brood stock were our only concerns, we would be in pretty good shape talking pheasants. But, we have another problem that is not so cut and dried—nesting cover.

Rather, the fact that most of our pheasant nesting cover is "cut and dried" poses the problem. For it is hay ground—alfalfa—that is the preferred nesting cover. Unfortunately the hay must be cut when it is ready, and this time usually coincides with the peak of the nesting season.

On state-owned areas clover has been mixed with alfalfa to delay cutting the hay crop until after the nesting season. Although the alfalfa over-matures, the clover helps to keep the hay of good quality.

Intensified farming practices have taken much of the remaining nesting cover other than hay fields away from the birds. In the primary pheasant range, therefore, road ditches are becoming increasingly

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CIRCULATION THIS ISSUE 52,000

COMMISSION MINUTES

Des Moines
January 2, 1963

GENERAL

Travel was approved for three supervisors to Great Lakes Park Training Institute at Angola, Indiana. One person to Pipe Stone Boat Company in Minnesota, for motor installation study. One person to the Association of Conservation Engineers at Columbus, Ohio. Four people to work at the Omaha Sports Show. Two people to the annual regional foresters meeting at Milwaukee.

A new policy was approved requiring a one year bond for sand and gravel permits.

A report was given on Conservation Officers retirement policies and further study was recommended.

LANDS AND WATERS

Approval was given for the sale of 27 acres for \$1,250.00 in the Des Moines River in the Red Rock Pool area to the U. S. Corps of Engineers.

A permit was approved for a submerged telephone cable across East Okoboji Lake.

A settlement was reached in the Heffern vs. Iowa condemnation proceedings on the 50 acres of land in the Paint Creek area for \$3,750.00.

Authorization was given to Buena Vista College at Storm Lake to place fill dirt on a shore line area, adjacent to the college. Not to include any fill past the natural shore line.

The City of Camanche received a construction permit for bridging a marshy area adjacent to the Mississippi River for use as a marina.

COUNTY CONSERVATION ACTIVITIES

Cedar County received approval for the purchase of seven acres along the Cedar River at a cost of \$250.00 an acre to be used as a fishing and boating access. Cedar County also received approval for acquisition of a seven acre park area, called Red Oak Park, as a gift.

Jasper County received approval for the acquisition of 116 acres at the cost of \$17,500.00 in the south-central part of the

county for the development of a general park area, including a golf course. Polk County received approval for the acquisition of 414 acres adjacent to the Chichauqua Wildlife Reserve.

Hamilton County received approval for a development plan for the area around Little Wall Lake for a boat launching, picnicking and camping area.

The Commission met with representatives of the Highway Commission and agreed to the transfer of jurisdiction of 2.7 acres of land adjacent to Highway 69 in front of the State Forest Nursery.

FISH AND GAME

Approval was given to an option for the purchase of 80 acres at a total cost of \$12,400.00 in the Spring Run area in Dickinson County. Approval was also given for an option to purchase 26.7 acres of land at a total cost of \$2,324.00 in the Spring Run Area in Dickinson County.

Frank Mendell and Leonard Larson of the S.C.S. met with the Commission to explain possible cooperative work on the Badger Creek water-shed located in Warren, Dallas, and Adair Counties. Whereby, the Conservation Commission could cooperate in providing recreation in connection with the proposed 276 acre lake.

The Commission adopted a policy authorizing small lake construction under cooperative agreement with county conservation boards or local tax supported bodies, whereby the Conservation Commission would build the lake, with the local organization, buying and developing the land adjacent to said lake.

The Commission approved small lake sites for further study in Polk, Adair, and Monroe Counties.

PHEASANTS—

(Continued from page 9)

important as the prime nesting location. Delayed roadside mowing in these sections of the state is an important factor, then, in pheasant nesting success.

The feed-grain program with its diverted acres has opened a lot of acres for pheasant nesting. The Farm-Game Habitat program of the Commission offers possibilities for increasing winter cover, through planting small areas. The Farmer-Sportsman Co-op is another Commission sponsored planting program aimed at increasing the natural cover.

In many instances, landowners have asked help in setting up over-all wildlife programs for their property. The Commission has personnel available to assist the landowner in such a project.

These projects are based in sound conservation planning not only for wildlife, but consistent with good soil conservation practices.

We're back to our original point now—*hunting success is dependent on each year's production no matter how you look at it.* If we are concerned with the needs of our pheasant population, granted, we can't do anything about the weather, but there is a lot to be done about guaranteeing those birds that if the weather is right, they'll have the necessary cover to nest safely.

The paddle-like hind toe on diving ducks helps them to go much deeper below the surface for food than can other species.

Immediately after a swim, otters dry their coats by shaking themselves vigorously and rolling over and over in snow or grass.

**HUNTER CASUALTIES IN IOWA
OCTOBER, NOVEMBER AND DECEMBER, 1962**

	Fatal	Non Fatal	Total
Intentional Firing			
Victim moved in line of fire	1	1	2
Victim covered by shooter swinging on game	0	7	7
Victim out of sight of shooter	0	5	5
Total	1	13	14
Unintentional Firing			
Shooter stumbled or fell	1	3	4
Trigger caught on brush or other object	0	2	2
Riding in vehicle with loaded gun	0	3	3
Weapon fell from insecure rest	1	1	2
Horseplay—did not know gun was loaded	2	3	5
Crossing fence or other obstacle	0	2	2
Loading or unloading weapon	3	2	5
Defective weapon	0	3	3
Gun discharged while handling	0	10	10
Dropped gun	0	1	1
Total	7	30	37
Total casualties for October, November and December was fifty-one (51)			
Casualties by Weapon Used			
Rifle	4	12	16
Shotgun	3	26	29
Handgun	1	5	6
Total	8	43	51
Casualties by Game Hunted			
Pheasant	3	19	22
Rabbit	1	4	5
Squirrel	3	5	8
Duck	0	1	1
Deer	0	2	2
Coon	0	2	2
Pigeon	0	1	1
Trapping	0	1	1
Target	1	4	5
None	0	4	4
Total	8	43	51

Summary

Fifty-one (51) casualties.

Eight (8) were fatal.

Twenty-one (21) were victims of their own weapon.

Seven (7) were intentional firing.

Forty-four (44) were unintentional firing.

Ten (10) were non-hunting accidents.

NONE OF THE ABOVE SHOOTERS INVOLVED HAD HUNTING SAFETY TRAINING.

A PLACE TO SHOOT

Whether a rifle shooter, a pistol shooter, or a shotgun shooter, you have a vital interest in "a place to shoot." Gradually, but certainly the outdoor shooting ranges of the country are being eliminated. What's more, something must be done now or it will be too late!

With increasing leisure time is natural and beneficial for people to turn to those activities which permit individual participation. Organized shooting helps build healthy minds and bodies, develops self-discipline, initiative and team spirit, and it molds people into better sportsmen and better citizens. It is a form of recreation which may be enjoyed by—young and old, male and female. It is a family and community activity. Civic leaders must be convinced of the importance of shooting so that they will set aside any land-use area which to become an integral part of the community and which fulfills the basic recreational needs of the citizens.—National Rifle Association of America.



River Otter.

Jim Sherman Photo.

IOWA MAMMALS

Eldie Mustard
Game Biologist

MUSKRAT

Ondatra zibethicus

Identification A rich dark brown animal with a long, laterally flattened tail and webbed feet. Total length ranges from 16-25 inches with a tail from 7-11 inches. Muskrats from 1.5-4 pounds.

Range Throughout Iowa.

Habitat Marshes, lakes, creeks and rivers, or essentially where there is water and a food supply available.

Reproduction Breeding continues from early spring to fall with several litters born annually. Litters vary from 1-11, usually 7 kits. Female is bred again while nursing and there is about 30 day gestation period.

Habits Muskrats sometimes eat animal food such as mussels, frogs, crayfish, and fish. Vegetation, growing in or near the water, forms the mainstay of their diet and includes stems and fleshy parts of such plants as cattails, arrowhead, rushes, and various grasses. Their dens are of two types: the familiar muskrat house found in marshy areas, and bank dens along streams and creeks. When an area becomes overcrowded some of the muskrats will move, often for miles, looking for a new home.

Status The muskrat has a precarious existence at best, for in addition to being trapped by man it is also preyed upon by snakes, owls, foxes, weasels, dogs, and hawks. In addition to the predators, life is made uneasy for muskrats when water levels fluctuate and flood or expose their dwellings. A very high reproductive rate enables the muskrat to maintain itself in spite of its adversaries. It is a number one catch of trappers and could be termed the "bread and butter" of the trapping industry. Iowa has a trap-

ping season to harvest the annual surplus.

BEAVER

Castor canadensis

Identification Largest rodent in North America with lengths ranging from 3-4.25 feet including a flat tail 9-12 inches long and up to 6 inches wide. Large beavers may exceed 70 pounds but average about 45.

Range Throughout Iowa.

Habitat Primarily along streams where cottonwoods and willows grow.

Reproduction Beavers probably mate for life and females are first bred when about 2.5 years old. Breeding occurs in winter and there is a gestation period of about 90 days. Litter size ranges from 1-6, usually 3-4 kits. Young remain with parents until they are in their second year, then they are driven out or leave.

Habits The primary food of Iowa beavers consists of cottonwood and willow twigs and bark, generous side orders of corn where available, and various parts of many aquatic plants. Iowa beavers are found primarily along rivers and their dens are built by excavating in the bank. The dam is an integral part of a beaver colony and is constructed where it is necessary to maintain an adequate water level to cover the entrance to the lodge or den. When alarmed, the beaver's flat tail is slapped against the water and the result is a resounding noise. This apparently serves as a warning to other beavers. Beavers have certain anatomical and physiological adaptations which enable them to remain submerged for periods up to 15 minutes.

Status Much of the early exploration of the United States was done by persons seeking beaver to trap. They were trapped extensively and were extirpated from many areas including Iowa. Wildlife management practices, including live trapping and re-

stocking in suitable areas, along with protection, brought the beaver back to Iowa. Beaver are a source of contention when they dam up drainage ditches and flood farmland, occasionally cut down ornamental trees, or make too great an inroad into an individual farmer's corn. Wildlife teems around a beaver pond and during periods of low water the ponds act as reservoirs. Beaver fur makes very desirable and beautiful coats when the guard hairs are plucked. Iowa has an annual beaver trapping season to harvest this wildlife resource.

RIVER OTTER

Lutra canadensis

Identification Long-bodied with a broad rounded snout, short legs with webbed feet, and a tail which merges imperceptibly into body. General color brownish or grayish to almost black when wet. Males range from 38-55 inches with a 12-19 inch tail and weigh 10-30 pounds. Females about one-third smaller.

Range Formerly on most major and permanent streams in Iowa; presently only in extreme northeastern Iowa counties along the Mississippi River.

Habitat All types of inland streams and permanent tributaries to these.

Reproduction Males may mate with more than one female but spend most of the time with one. Breeding occurs in late winter and early spring and there is a variable gestation period of 288-380 days, probably due to delayed embryonic implantation which is characteristic of many of the weasel family. The 1-4, usually 2-3, pups are born in February-April and remain with family for about 8 months.

Habits An excellent swimmer and diver, the otter is fast enough in the water to catch fish. Otters are playful and apparently enjoy swimming and gliding down bank slides together, just for the fun of it. Food items include fish, crayfish, frogs, turtles, earthworms, muskrats, a rare beaver, insects, snakes, rabbits, and waterfowl. Some vegetation is also taken, at least in summer. The den may be an old beaver lodge, a cavity in the bank, in a hollow log or tree. Otters, especially the males, may travel widely.

Status Over-trapping and water pollution may have combined to practically extirpate the otter from Iowa. There is some evidence the range may presently be expanding in Iowa, but this remains to be seen. Trappers occasionally accidentally catch otter in northeast Iowa as do commercial fishermen fishing under the ice with nets. The otter, because of its rarity, is a protected species in Iowa and there is no open trapping season.

SNOW INSECTS

David H. Thompson

Many animals, or signs of animal life, remain hidden or go unnoticed until the ground is covered with snow. Among the most surprising to appear against its whiteness is a miscellaneous hodgepodge of insects. For a few of these, especially Snow Fleas, our northern winters are their regular season of activity. Other kinds are found alive and more or less active on the snow—some occasionally, some rarely, and some accidentally. A sunny day in February is a good time to look for them.

Snow fleas usually catch our eye as dark specks hopping about on a melting snow bank. On bright days their bodies absorb enough heat from the sun to keep them active. At night they lie frozen in the snow until next day.

The snow fleas come nearer to making the whole world their home than any other insect. They are native to every continent as well as the far Arctic and Antarctic, where they are the only insects excepting a few bird parasites. On Alaskan glaciers, a half-mile from the edge of the ice, they have been found feeding on the pollen of trees and the spores of ferns which had blown onto the snow.

Snow fleas jump but they are not true fleas. They belong to a primitive group of inconspicuous, grotesque, wingless insects called Springtails—so-named because of a spring-like device on the tip of the abdomen which can be bent under the body and snapped downward to hurl the animal into the air—sometimes several inches or a foot away. Most kinds are less than one-sixteenth of an inch long. Springtails often outnumber all other animal life in damp soils and the leaf mold of woodlands. Sometimes multitudes of them can be seen skipping on the surface of stagnant water. Others may become nuisances in damp basements, in mushroom beds, or in the buckets used to collect sap for making maple sirup.

On bright winter days, Stoneflies are frequently seen crawling about on snow, tree trunks, rocks and bridges along streams. Their underwater young, called nymphs, develop for almost a year beneath rocks in the rapids and riffles of our cleaner rivers and creeks. Several kinds of them emerge as half-inch-long, dark-colored, slender adults—even while the shores are still edged with ice. They have two pairs of wings but they seldom fly. During the coldest part of the year when other insects are inactive, they feed, mate, and the females lay their eggs in water.

An oddity of the insect world—a wingless Scorpion Fly—creeps about on snow in winter and early spring. It has long slender legs

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W INSECTS—

(Continued from page 11)

resembles a young grasshopper. They are rare in this region and are occasionally found in great numbers on snow in eastern United States.

The Snow Fly has a body shape long, hairy legs which make it look like a six-legged spider. Actually, it is a wingless relative of crane flies—those long-legged, wing insects often mistaken for giant mosquitoes and seen at streams, meadows and at open windows. The adults crawl onto snow in bright sunlight when the temperature is near zero. After mating the male works her way down into the snow close to a tree trunk and sits her eggs. Like other true flies these hatch, pass through a larval and a pupa stage before the generation of adults emerge. The first insect sign of spring to most visitors to the forest is most likely to be a Mourning Cloak Butterfly flitting among the trees. For hours on balmy February days they rouse from their winter slumber in tree holes and under loose bark, then go back in hiding with the chill of evening. Honeybees, come out on sunny days and the sap oozing from broken maple twigs.

IT SAYS HERE

FRESH FISH

If you keep fish out of water for periods when weather is hot, wrap a sack or cloth and lay over them. Fish life is lengthened if you keep their gills wet. Laying them under a boat seat also help keep them alive and longer.

HANDY SHARPENER

As hooks become dull and you caught without a hone, use the cutting surface on a match book box. A few strokes will help on a new point and may save a fish.

The mourning dove feeds its young with food prepared from its body. The food, called pigeon milk, is regurgitated by both the male and the female parent birds.

WINTER GUN FUN

Jack Kirstein

Indoor target ranges afford some of the greatest shooting of the year. Long after hunting seasons close, many boxes of ammo are expended by ardent gun buffs for fun and practice.

In the warmth of their homes, they go on shooting. This is the time of sharpening shooting eyes.

The majority of home shooting is done with .22 caliber fodder. This does not mean that you can't use that favorite big-bore blaster of yours. Any gun may be used if the proper precautions are observed.

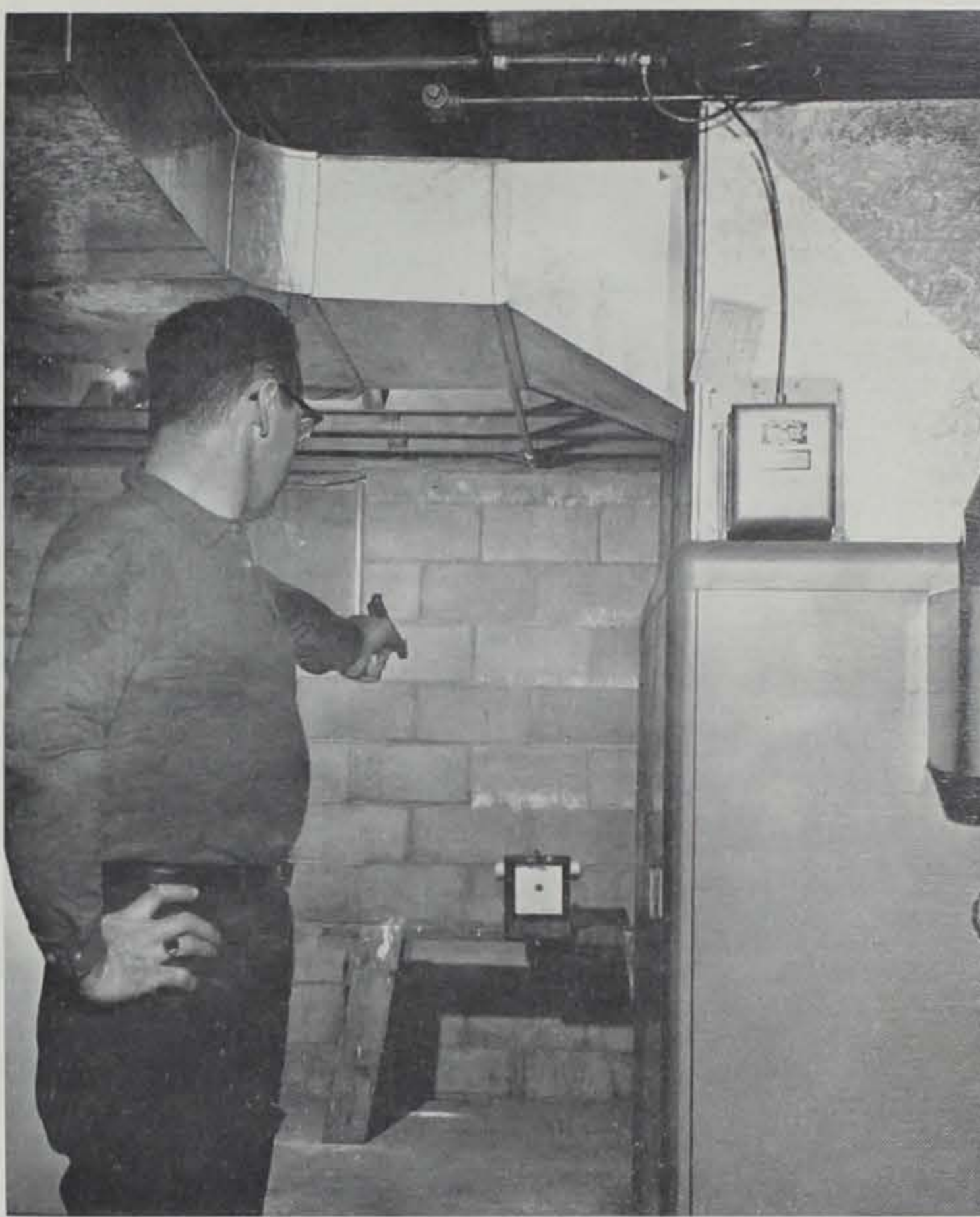
Your first consideration must be to the legality of shooting in your home. Many city ordinances specifically prohibit the discharging of firearms and air-powered guns inside city limits. If this is true in your situation, then it will be necessary to get written authorization for your range.

Your choice of a gun to shoot on this indoor gallery limits the place you can use to shoot. With air-powered guns any unused area can be utilized. The choice of cartridge-firing guns will require added sound-proofing in favor of family and neighbors.

The ideal gun for indoor ranges, designed for this use, is the pellet-shooting air-powered gun. Available in rifle or pistol, in .22 or .177 cal, they are extremely accurate at short ranges. Fine for beginners, they allow him to learn sighting and trigger squeeze without acquiring the flinch habit from heavy kick and noise. The pellet is flattened and stopped by the backstop without ricochet such as with BB's or other hard-coated projectiles.

The low-powered air-gun will not penetrate a floor or wall into a living area if fired accidentally. It can, however, break glass, pottery, and cause serious injury to people and pets. It should be treated with the respect due any firearm.

Your targets will be scaled down from their outdoor counterparts. Many stores sell targets designed for air-guns at 25 feet. These will suit your indoor range. They may be used with any kind of backstop



Basements offer ideal locations for an indoor range.

Jack Kirstein Photo.

and are inexpensive. Air guns are cheap to shoot, a box of 250 pellets costing less than two dollars.

Danger to others is the main reason for prohibiting your shooting in any area. You should provide yourself with the safest possible place for your range. Below-grade locations are good, combining an area less used by the family with concrete and dirt protection beyond the backstop. As the caliber and power of the gun increases, give more care to stronger backstops and targets.

Large-bores also have been known to cause other problems when fired in the home. Muzzle blast sets up shock waves in the air. As the house is closed, there is no way for the air to absorb or equalize the shock waves. A great deal of shock is transmitted through the air to rooms separated from the actual firing area.

This transmitted shock wave can do great damage to delicate mechanisms inside home thermostats used to control heating and cooling systems. Don't disqualify the outside calibers, but know something of what it takes to safely stop those high-powered slugs and do something about it. Sound-proofing of some type is desirable for large caliber guns. The flat report of the .22 cal cartridge in .22 short or .22BB or CB caps is not objectionable to most people. With larger and louder cartridges, have someone listen outside the house during shooting

to be sure your range does not trouble your neighbors.

Backstops and targets available at sporting goods stores range from bell-ringing targets for air-guns up to bullet traps using heavier metals for the retention of the fired slug. You can make a backstop, using a large pasteboard shipping carton and stuffing it with layers of magazines. You can shoot .22 calibers safely into this kind of trap. A foot or so of magazines compressed will handle .22's for some time. Check the condition of your trap by pulling out one of the rear magazines occasionally to see that the slugs have not chewed all the way to the back of the box.

Lights should be placed along the side of the room or suspended from the ceiling over the target to provide bright but glare-free coverage of the target. Subdued light is preferable at the firing point.

A set of range rules should be established including: number permitted to fire at one time, other guns unloaded until on firing point, and housekeeping to be done by those using the range.

To provide more enjoyment of the range for family sport, some events could include splitting playing cards on edge, shooting at peppermints suspended from a string either swinging or stationary, and shooting through a dime-sized hole in cardboard without hitting the card.



"After this, can you wait till it thaws?"

PLANTS POISONOUS TO ANIMALS

Roberts Mann

Originally, the title of this bulletin was intended to be "Poisonous Plants Eaten by Wildlife," but in all the available literature we found no information and few comments on that subject. One authority, admitting that not much is known about wildlife preferences and aversions for food, correctly states that browsing animals prefer soft succulent leaves to leathery ones, and often pass by plants with bitter or sticky, milky juices; but then he adds: "Some poisonous plants seem to be avoided instinctively." We question that.

In 1946 the University of Illinois published Circular No. 599 about "Illinois Plants Poisonous to Livestock," but it contains no information about their toxic effects upon wildlife. Most cases of livestock poisoning by plants occur in early spring before grasses have become plentiful, or in summer and fall when pastures are dry and brown.

A classic example is the white snakeroot responsible for the death of Abraham Lincoln's mother. It is a leafy waist-high plant that grows in woodlands and bears numerous heads of little white fuzzy flowers in late summer. It is extremely poisonous. If eaten in large quantities the animals die. When browsed continuously in small amounts, they develop "trembles" and their milk may cause death to nursing calves and lambs, or the fatal "milk sickness" to humans.

Bracken is another example. This tall fern with large coarse fronds is found in open woods and abandoned fields, especially upon sandy and gravelly soils. It is poisonous to cattle and horses that browse it when pastures are poor. Deer nibble on other ferns, and bracken is abundant in northern



Whistling Swan.

Jack Kirstein Photo.

woods, but apparently no one knows whether they eat bracken, white snakeroot, mushrooms and other poisonous plants, nor what happens if they do.

On the Great Plains and in the Southwest, locoweeds—several kinds of poisonous vetches—cause serious losses among horses, cattle and sheep in dry seasons when good forage plants are scarce where locoweeds are abundant. Being legumes, they produce pods of seeds but those are harmless

and provide food for quail, turkeys and rodents. Antelope and big game animals feed on the foliage to a limited extent and the authorities say, "Whether or not locoweeds are poisonous to such wildlife is not known."

The large, glossy brown seeds of the buckeye and horse chestnut trees have been known to poison cattle and hogs but are relished by squirrels. They have poisoned children that ate them but, after roasting, were used as food by Indians.

Birds have a digestive mechanism including enzymes that apparently render certain poisons harmless. They are fond of berries such as those on poison ivy, the little blue ones on English ivy, and the white ones on mistletoe, that are poisonous to people; as well as the crimson berries on Japanese honeysuckle and bittersweet nightshade, that are nauseous to us. It takes a lot of strychnine to kill a bird. However, wild ducks and turkeys are killed sometimes by eating the blue-green algae that form a thick scum or "bloom" on the surface of stagnant ponds.

Most deadly of all native plants are Jimson weed and water hemlock. In the latter its poison is concentrated in the tuberous roots. The foliage is harmless but when cattle browse it in spring they sometimes pull up and eat the tubers—with fatal results.

Only a hungry dog will eat Jimson weeds,

WHISTLING SWAN FOUND IN IOWA

Carol Buckmann

A whistling swan was found winter near Rice Lake in north Iowa. The swan had apparently been wounded, but has recovered and is now residing at the Wildlife Research and Exhibit Station near Boone.

Whistling swans are the wild swans to migrate through Iowa. They have a wingspread of 83 inches, weigh around 16 pounds and are 52 inches long, making them the largest Iowa waterfowl. They are never very abundant and their appearance is considered unusual.

A solitary group of birds, they migrate in groups of four to eight, usually traveling at night preferring the company of their own kind. Lighting with other varieties of water fowl is not their nature and they do not rise to sky with the masses of migrating ducks and geese.

The migration period is in spring, around late March or April and return from the Far North breeding grounds in late October and early November. Whistling swans do not nest in Iowa.

Whistling swans do not whistle as their name suggests. Instead, the call resembles that of a basset hound. A calling flock varies in volume and suggests a flock of Canada geese, but is higher pitched and more musical.

Shallow lakes, sloughs and marshes are their favorite haunts where they feed on underwater plants. Here their long necks are in handy as they root in the water vegetation loosening the bottom where the plants grow. This seems to have an invigorating effect on plant growth.

The adult whistling swans are pure white except for black feet and beak. A small yellow area in front of the eye is distinctive. Young are mottled with brown, bills grayish-pink, and gray.

Hunters often mistake them for snow geese, an apparently unforgivable excuse since whistlers are twice the size of snow geese, long, thin necks. Snows have primaries absent in whistlers' shorter, stockier necks.

Like many great northern birds, the numbers of whistling waterfowl, the numbers decreased. Before becoming protected by law, their down was highly prized, the flesh and were eaten, and they were hunted down with rifles.

Their large size made them venerable to hunters as it prevented them from a fast take-off. They made them easy targets. They were over the water quite a distance before they could build up speed before taking

Man Is a Gun's Best Friend . . .

Storing guns in carrying cases can be the cause of expensive repairs later, if the case does not permit air to circulate around the gun, removing moisture. Many gun owners have had occasion to reblue or replace parts of their favorite firearms due to heavy rusting in plastic, cloth, or leather cases.

Best protection for a gun is to clean it, lightly oil the outside, oil or grease the action and inside of the barrel. You may prefer to use some of the convenient silicone spray solutions for this in place of oil. They permit an occasional handling without leaving finger marks to rust later.

Store the gun in an open spot where it will be seen at times, permitting you to stop any rusting

before it can cause trouble. An additional light layer of oil may be added during the moist summer months, if you are aware of the need.

Double check the action to be sure you are storing an empty gun. Gun accidents can happen at any time, so store the gun on a rack if possible, out of the reach of children. Store ammunition in a separate location.

This would be a good time to make any needed repairs before they are forgotten. Modifications, such as adding a ventilated rib, installing a choke, altering a stock, and others, require much time in the gunshop. Have these changes or repairs made now, and your gun will be ready when the next hunting or shooting season opens.

THE SHAPES OF ANIMALS

David Thompson

The shape of an animal tells a deal about the kind of life leads. Unlike common plants that stay rooted to one spot, animals are active creatures that are active under their own power. They crawl, walk, run, climb, dig, swim or fly. They hunt food, make homes, procreate, young, flee from their enemies or fight them. Certain body parts and types of legs, wings or other features go along with each habit of life. Animals, when they are at rest, give the impression of being ready to do something or go somewhere.

For example animals that specialize in jumping, such as the frog, flea, grasshopper and kangaroo, have long, powerful legs. The climbers may have grasping feet of the opossum or raccoon; the hooked claws of squirrels, cats, woodpeckers and many insects; or the suction of the tree frog's toes, or the housefly's feet, by which they walk up a window pane or slide down across a ceiling. The diggers—the mole, woodchuck, badger and the underground young of a 17-year cicada—have short, stout forelegs equipped with heavy claws for digging earth.

However, most animals are not highly specialized. Usually, they can travel in various ways and perform many different tasks. They are a jack-of-all-trades, able to do a little of everything.

Animals have a functional shape of their own, and we describe it with such words as grace, rhythm, smoothness of contour and symmetry—no matter whether they are as large as a

100-ton whale or as small as a microscopic water flea. What flower can thrill us so much as a glimpse of a bounding deer, a hunting fox, a soaring hawk or merely small fish swirling in an aquarium?

Their charm comes from a simple basic design widespread among free-living animal life. They have a head end and a tail end; an upper side and a lower side; a right side and a left side. In the higher animals the organs of sight, hearing, smell and taste are located in the head end. Animals as low as the earthworm also have a head end which leads the way and is sensitive to outside stimuli even though it has no eyes, ears or special sense organs. Animals are usually bilaterally symmetrical, the right side tends to be a mirror image of the left side. This balance makes it easier for them to steer a course and not so apt to go around in circles like a bird with a crippled wing.

Streamlining and speed go together. The ideal torpedo-like shape is seen in the whizzing flight of the chimney swift, the racing greyhound, the migrating salmon that fights its way upstream for hundreds of miles, and the porpoise which can outdistance fast ships. On the other hand, just as the man who runs the 4-minute mile is differently built from the shot put champion or the wrestler, the slow-moving animals are imperfectly streamlined. They may even be lopsided like the creeping snails or, like some of the anchored sponges, be entirely lacking in definite form or symmetry.

Perhaps the strangest of all transformations in shape is found among the marine flatfishes which



Jack Kirstein Photo.

In our continuing quest for the state's largest tree (in circumference), we have a new topper. This cottonwood measured 23 feet, eleven inches, to top our previous high of 23 feet, eight inches. It's located northeast of Ida Grove. Have you found a bigger one?

include the flounders, halibuts, are often seen feeding on suet at turbots, soles and others. These

start life like any other young fish, swimming along in the conventional upright position with one eye on each side of the head. At an early age they begin to lean over more and more to one side or the other. At the same time the eye on the lower side begins to migrate across the top of the head, or even through the head, to the upper side. Some species lie on their left side, others on the right, and a few don't seem to care which side is up.

WOODPECKERS—

(Continued from page 12)

heavy bones give necessary weight for effective blows without making them punch-drunk. The bones between the beak and the skull have spongy connective tissue serving as a shock absorber.

But a woodpecker's tongue is his most remarkable tool. In some species, such as the yellow-shafted flicker, it extends four times as long as his beak and can be flicked in and out with a spring-like action. Flickers use their sticky tongues as bait to attract ants, and spend most of their time on the ground cleaning out any ant hills in sight.

The downy woodpecker's tongue is armed with recurved barbs for spearing borers. Yellow-bellied sapsuckers have a bristly brush to help pick up sap. They cut a series of holes in the bark and lick the sap. The sap often ferments, resulting in some tipsy sapsuckers flying into nearby trees.

Sizes of woodpeckers range from the small downy, around six inches, to the pileated woodpecker, 19 inches from beak to tail tip. Downy's are the most common Iowa woodpecker in the winter and

are often seen feeding on suet at feeding stations. Hairy woodpeckers resemble their cousins, the downy's, almost feather for feather except they have no black bars on their white outer tailfeathers and the bill is longer.

The pileated woodpecker, flashiest and largest of our woody's, was seen by the early ornithologist, Alexander Wilson, to remove thirty feet of bark from a dead pine in less than a quarter hour.

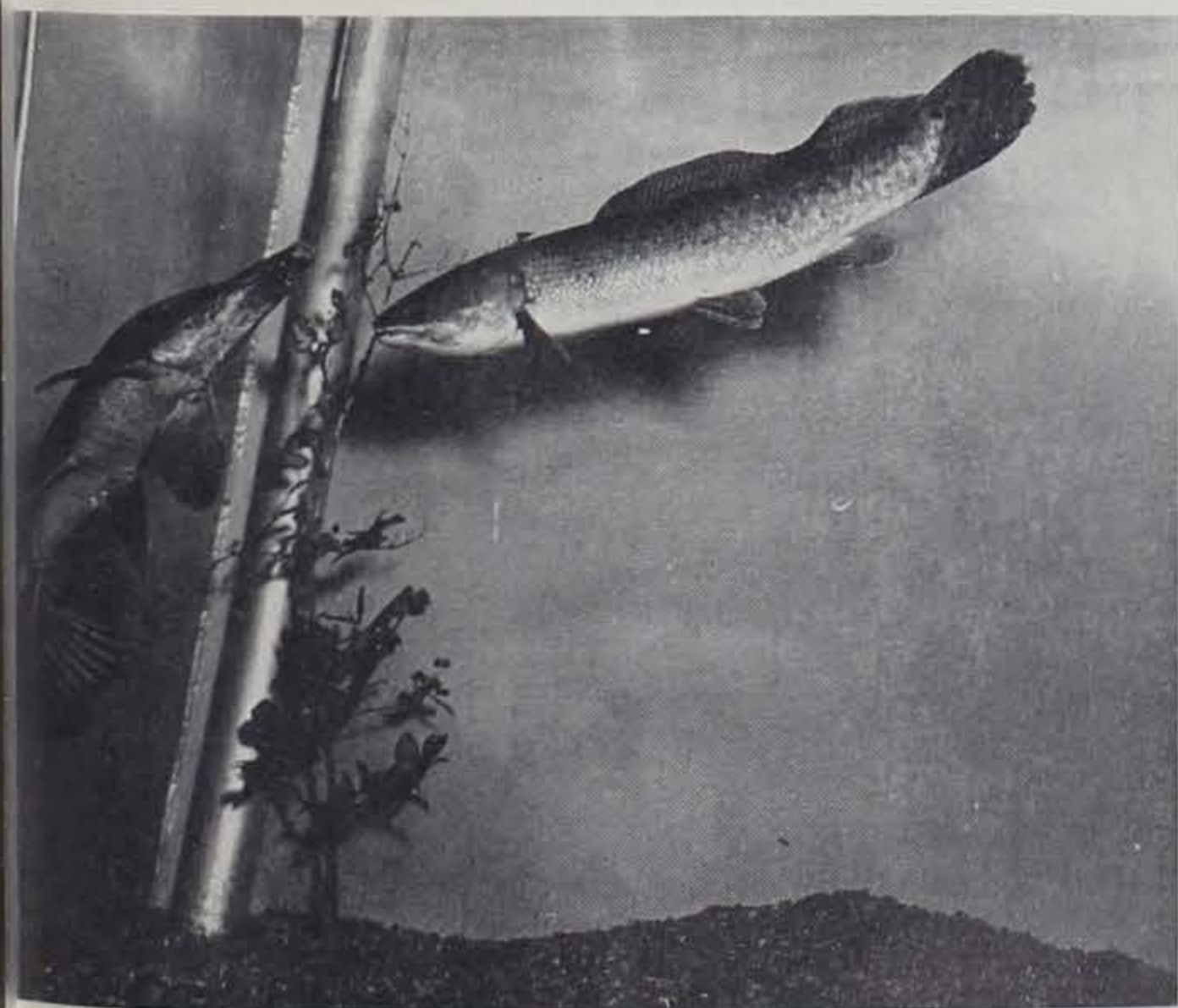
Trees harboring ants are peppered with incisions and the ground beneath covered with splinters by this woodpecker's powerful beak. These attacks keep insects from spreading to other trees.

Once a common resident in heavily timbered areas, pileated woodpeckers are now restricted to heavy timber and remote regions along the Mississippi River. High on the list of reasons for its decline is the removal of dead or decaying trees from the forests. Pileated woodpeckers depend on these trees for their survival.

The openings of their large, rectangular holes are drilled twelve inches long, four inches wide, and eight inches deep. These holes served a major function to early pioneers when they became lost, since the holes generally faced east.

In the winter, pileated woodpeckers live on hibernating insects, and hoards of acorns and nuts they have stored by pushing them into the bark.

There are many varieties of woodpeckers in the state of Iowa. The total number of species for the forested regions of the world is 179. North America is populated with twenty-two species, each with its own specialized equipment for searching out insect pests in trees.



Jim Sherman Photo.

For the shapes of this gar, left, and dogfish, right. Although we class them as fish, we must admit they are admirably suited to their environment.

Reeves Pheasant—A New Experiment

Eugene D. Klonglan
Game Biologist

A prospective new game bird—the Reeves pheasant—has already been introduced onto the Iowa scene by the State Conservation Commission. Ten cocks and twelve hens were released on the Cedar Creek Unit of the Stephens State Forest in Lucas County northeast of Chariton in early January.

These strikingly colored birds—the cocks have a white head, throat and neck with encircling black "Lone Ranger" mask, and a body and long tail of a copper or bronze hue with bold black and white markings; while the hens are of a duller brownish cast with less noticeable markings—represent the first step in an experiment to determine the suitability of this species to Iowa environs. The 22 liberated birds—both sexes of which are slightly larger than their ringneck counterparts—are 1½-year old adults remaining after available laying pens at the Wildlife Research and Exhibit Station near Boone were filled for the coming season. The primary aim of this particular stocking is to check on ability to survive through the winter in the wild.

This "timber" or "woods" pheasant is a native of the wooded hills of central and northern China. It is found from about 30° north latitude to above 40° north latitude. Iowa thus lies at a level equivalent to the northern part of the Reeves native range.

The Reeves in its native habitat is primarily a bird of the forest, and not of grasslands like the ringneck pheasant, though they reportedly will venture into brushy areas and clearings. Their diet in the wild apparently consists primarily of acorns and other mast, berries, seeds and insects. The forested river valleys, timbered pasture lands and other woodland areas of southern Iowa appear to have habitat resembling in several respects that in which the Reeves pheasant occurs in China. The typical oak-hickory forests of the state should be productive of foods preferred by Reeves in their native land.

The climates of southern Iowa and the part of Asia where the Reeves is found are basically similar, with hot summers and cold winters. Rainfall amounts during the summer are not greatly different. The biggest difference lies in winter precipitation—there is not much snow in their China range. However, Reeves pheasants held over the past winter in open range at the Wildlife Research and Exhibit Station appeared to experi-



How can a bird with such a tail maneuver through the woods? The Reeves uses the tail as a rudder and its ability to zig among the trees, reminds one of the ruffed grouse of northeast Iowa. Jack Kirsstein

ence no difficulty, though it was one of the most severe winters on record. It must be remembered, though, that plentiful food was furnished to these penned birds, and it remains to be seen whether they could fend for themselves under similar conditions in the wild.

Inasmuch as sufficient supplies of acorns, berries, insects and other wild foods are difficult to obtain, the penned birds are usually fed a ration consisting primarily of scratch grain, mainly corn, similar to that fed to ringnecks. Upon release of the birds to the wild in Iowa, the fact that it is next to impossible to get more than a mile or two from the nearest patch of corn, even in our heavily timbered areas, may well work to the Reeves advantage. This means recognizable food will be available during the difficult period of adjustment to which all pen-raised birds are subjected upon release.

The Reeves is quite a fast and strong flyer, apparently having no equal in this respect among the pheasants. They are capable of covering considerable distances in flight—some reports say several miles. This ability enables them to range widely in search of preferred food and cover, if necessary. The spectacular tail, which may reach 4 or 5 feet in length in the cocks, is usually spread out in flight and can be used as a "brake" to stop and turn abruptly, even at full speed, to avoid trees or other obstacles in their path. These flight abilities and the enormous tail should no doubt present quite a problem to shooters, particularly

those who even now may be "inclined" to shoot behind ringnecks and get nothing but tail feathers.

The voice, or call, of the Reeves, is hardly what would be expected from such a striking bird. It might be described as a "trilling chuckle," more like a high piping note of a songbird. It is repeated rapidly several times and is much more "musical" in nature than the voice of a ringneck pheasant. The cocks do not crow in the manner of ringnecks, which eliminates for them one of the best methods we have of censusing pheasants—the spring crowing cock count. It will probably be necessary to rely on sight records, either from random observations or special "drive" counts on foot through the habitat.

Most of the year the Reeves pheasant remains in small flocks, perhaps family groups, separating in spring into breeding pairs and trios. They normally roost in trees at night. Hens lay a clutch of eggs similar to that of ringnecks—about a dozen eggs of a putty or olive-brown color. The cocks are more pugnacious than ringnecks, their quarrelsome tempers being coupled with considerable power. A fight between two of the cocks is quite an exhibition, though in view of the tremendous spurs they possess it is fortunate they are so agile that serious injury seldom results.

Whether the Reeves will ever produce good hunting in Iowa is as yet unknown. It has been successfully established in parts of France, England, and elsewhere in central Europe, but releases in Ohio and other areas in the United

States have failed as yet to induce huntable populations. Releases will be made on the present rather localized scale until a definite idea as to their adaptability to Iowa conditions can be obtained. It will be recalled that at the beginning this was labeled an experiment, and over-optimism certainly not in order at this time. Remember, it was many years from the time the first ringneck pheasants were released in Iowa until the first hunting season for them was opened!

THINGS YOU MAY NOT KNOW

The tail of the jumping mouse is six inches long, about two-thirds of the total length of the animal.

The mistletoe bird of Australia feeds its young while hanging upside down.

The four-horned antelope of India and Burma is the only mammal in the world with horns. Only the males have horns.

Rhinos breed only once in every two or three years and usually have a single calf.

The toothless whales have no true teeth, but they have instead a number of sheets of whalebone or baleen attached to the upper jaw.

The loon has exceptional diving ability. Their legs are placed far back on their bodies that they can't walk erect on land but they slide on their breast.