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Iowa's Pheasants

# NEED A WINTER HOME



Iowa's hardy pheasants can withstand winter weather if good cover is available.

By Richard Nomsen  
Game Biologist

How often have you heard and read about "habitat improvement," "habitat restoration," and "game habitat," during the past

year? What did you think about—or more important, what did you do? Game habitat includes all types of cover such as escape cover, nesting cover, winter cover, cover for food, and cover to rear

young. But, as the title indicates, this article is concerned with winter cover for pheasants.

In much of Iowa's primary pheasant range, the pheasants' existence depends upon the farm-

stead windbreaks during the blustery winter months. When blizzards occur, windbreaks will often mean the difference between survival and death of pheasants on the farm.

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CIRCULATION ON THIS ISSUE 62,855

**COMMISSION MINUTES****State Conservation Commission Meeting Held in Des Moines, Iowa December 5 and 6, 1967**

The purchase of 14 two-way Motorola radio units was approved.

**Fish and Game**

The agreement with the Marshall-Story County Board of Supervisors for the expenditure of \$40,000 for road construction at the Hendrickson Marsh Area was approved.

**Lands and Waters**

The Conservation Commission approved a motion to make aware to the Iowa Water Pollution Control Commission its concern with the various potential pollutants in the Brushy Creek and Volga River Lake Sites and request that they move ahead as soon as possible in these areas to eliminate pollution problems before water is impounded.

A motion to approve the projected five-year state park program, including those specific projects proposed for the year 1972 was made and seconded.

Granted the release of \$50,000 in accumulated BOR monies to the Swan Lake State Park land acquisition fund.

Accepted an option offered by the Union County Board of Supervisors on 2.06 acres of land adjacent to and within Green Valley Lake State Park.

Authorized proceeding as rapidly as possible to develop the north or upper end of Noble's Island for public use in accordance with the original desire of the donor.

**County Conservation Board**

The request of the Des Moines County Conservation Board to acquire 34 additional acres of land at their artificial lake site west of the town of Dodgeville was approved.

The request of the Floyd County Conservation Board to acquire .06 acre of land for the purpose of cooperating with the County

Historical Society in providing a county museum on Main Street in Charles City was approved.

Hardin County Conservation Board received approval to acquire 38 acres of timber land to be utilized as a wildlife habitat area and timber preserve located approximately 3 miles north of Steamboat Rock.

Approval of the Winnebago County Conservation Board's request to acquire 20 additional acres of land as an expansion of their Florence Park Area located 4 miles west of the town of Thompson was granted.

Carroll County Conservation Board received approval of the revised development plan and report prepared for the Swan Lake Park Area located approximately 2½ miles southeast of the county seat town of Carroll.

The request of the Delaware County Conservation Board for approval of the development plan and report prepared for their Plum Creek Park located approximately ½ mile south of Earlville on Plum Creek was approved.

The request of the Sac County Conservation Board for approval to revise their development plan and report for their Grant Park Area, which will consist of installing a four foot high low head rock rubble dam in the Coon River approximately 1½ miles northwest of Auburn was approved.

The Humboldt County Conservation Board received approval of their proposed development plan and report prepared for their multiple use outdoor recreational area known as the Joe Sheldon Park 1½ miles west of Humboldt and located on the west bank of the Humboldt-Des Moines River Dam impoundment.

**Iowa Pheasants—**

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Pheasants are hardy game birds and can easily withstand the rugged Iowa winters if proper cover is available. Unfortunately, the number and quality of farmstead windbreaks are being reduced each year. This is our problem. Now—what can we do about it?

The Agricultural Conservation Program now includes several practices which are available to help landowners improve existing windbreaks or plant new ones. They are designed to protect wildlife and prevent wind erosion as well as improve the appearance of the countryside.

The H-3 practice provides for sharing the cost of planting new windbreaks. They must contain a minimum of three rows and be protected from fire and grazing. A row or two of honeysuckle plus two or three rows of evergreens will provide the necessary protection from cold winter winds and blowing snow—an efficient shelter for wildlife. The G-1 (A) practice

**Conservation Forum**

Dear Sirs:

Recently your editors wrote an excellent article on duck hunting on the Mississippi River from a scull boat.

First of all I want to commend your editors for doing something different and then such a fine job of it.

As you can tell, I hunt from a scull boat down below Davenport about 20 miles and enjoy it over all else.

I am 23 years old and have been hunting this way for about 10 years with my older brother and in all that time I have never read

an article about hunting that way

Again I want to say that it was very good.

Now I want to ask a favor if I may.

Would you please send me that particular issue of the IOWA CONSERVATIONIST so I can show my friends and let you tell them what I mean when I tell them I hunt ducks from a scull boat.

Thank you for your time and patience.

A member of the IOWA CONSERVATIONIST always.

D. T.  
Davenport, Iowa.

MARCH 17-23, 1968

**NATIONAL WILDLIFE WEEK—**

Today, men are learning how to fly to the moon, tour the world in supersonic jet liners and beam television waves from one side of the earth to the other. We have discovered how to save lives with miracle operations and live for months at a time on the ocean floor.

But are we learning to take care of the resources that make up this, the only world in which we shall ever live? Are we doing what is necessary to care for our environment? With the rise in air and water pollution, litter, and resource waste, it appears that Americans have not yet realized the urgent need for conservation.

People need to "Learn to Live with Nature." That is the theme for National Wildlife Week 1968. We need to understand the ways to protect our nation's resources and beauty.

Conservation education holds the answers. It means teaching people how to care for the land, protect wildlife, stop poisoning our streams and fouling the air we breathe. It also teaches people to provides for sharing the cost of planting shrubs around existing windbreaks. Several rows of honeysuckle around a windbreak puts cover where it is needed—close to the ground. Sub-zero winds and blowing snow are stopped—providing a safe shelter for next year's nesting birds. The federal cost-share is 80 percent up to \$200 for the G practice and \$350 for the H-3 practice. We now have the financing needed for this job.

However—we still need you!

If we are to succeed, your help is a must—to advertise, inform, create interest and to help with the actual planting. This conser-

take an interest in what others are doing to the environment—the polluters and litter bugs.

Learning about conservation is like all other forms of vital education; it should be required for our young people. Every school should conduct a program that teaches the ways and means of living with nature—not in spite of it.

At the same time, every adult should become conservation-minded, so that there will be enough of this beautiful and productive country left for the next generation. While the schools are teaching the dangers of pollution and erosion, the adult community should be working to keep our country a healthful place in which to live.

Conservation education is for everyone. Begin by appreciating the many natural resources that bless this land. During National Wildlife Week, take time to consider how important it is to "Learn to Live with Nature." Then improve your understanding of conservation.

Conservation project offers unlimited opportunity for the many sportsmen clubs, service organizations, 4-H Clubs, F.F.A. groups, Boy Scouts and interested individuals. Offer your help wherever it is needed.

Habitat improvement is a long term investment—results will not be apparent for several years. But the importance of adequate winter cover is evident and with fewer farms and more intensive agriculture in the future, the value of farm windbreaks as wildlife shelter will increase.

Remember—its much too late for action once the blizzard starts—make plans for planting shrubs and trees next spring.



## WHERE DID THE QUAIL GO —

by

M. E. Stempel  
Game Biologist

"You can run the dog all you want to, but there aren't any quail; the hunters shot them all last fall."

This is a conclusion often put into words. But what do we really know about quail populations and effects of hunting? Let's start with a situation where the above statement could have been made. It is late February and the shooting season is closed, but the quail dog owner has stopped at the home of a farmer-friend to ask permission to run his dog and perhaps find some quail.

The dog owner stopped here because he knew the farmer. Near the house, 21 red cattle grazed the last of the corn stubble.

Nearby, along the crumbling banks of the small dry creek, a dozen broken decayed willow trees had surrendered to the years. Above the narrow creek flat there was a barren pasture. The pasture slopes wore the grey-brown of short sparse grass and weeds along with a beggarly stand of thorn apple.

### The Diminishing Quail Territory

Everywhere in the midwest a high percentage of good quail range has been destroyed, and it was replaced by grain or hay. In 1937, there were 21,187,000 acres of Iowa cropland compared to about 23,000,000 in 1950. As cropland increased the quail decreased in numbers, and this was noticed most in the heavily farmed areas. The losses were striking during years when winters were severe. In 1912, 1936, and 1960 we suffered disastrous winters characterized by over 70 days of snow cover, with drifts often 20 feet deep.

Severe winters proved to be more deadly than shooting, and in areas where quail had survived years of hunting, the harsh weather wiped out many populations. In some areas the quail never came back. However, in territory where some good cover remained, within two years after a bad winter, the quail built up very good popula-

tions. Now we heard the heartening remark: "I saw quail where there were none for years."

### The Hunter

While the hunter harvests a portion of the quail, his take is regulated by abundance or lack of abundance of quail. A year of abundance was 1963. There have been other good years, too, such as 1944, 1958 and 1967. Conversely, there were poor years such as 1953, 1955 and 1960. Though hunting was continued through all these years, the quail numbers continued to decline, then to climb, then to level off, and so on in a similar pattern. Thus we note that shooting has little, if any effect. If this is true, how can it be?

Habits of the hunter will, to some degree, regulate how much he hunts and how many quail he shoots. He takes from one to three birds per covey. But how about the hunters reported to shoot out an entire covey? This is sometimes said of individuals with good dogs. Can they take an entire covey? Perhaps, but it would usually require a lot of time, say two or more hours per quail to get the runners and the strong flyers and the birds that appear to leave no scent.

Then, if all that is true, can these men not take a lot of quail by simply making many trips after the same covey? As an example of this possibility, let's see what actually does happen. In 1959 when quail were plentiful, on seven farms in Wapello County 27 parties asked to hunt quail. In 1960 when birds were fewer after the destructive winter, the hunting decreased by 75 percent. Hunters take the easiest shooting, then they quit hunting.

### We Can Continue to Hunt Quail

Iowa and other midwest states have quail shooting seasons. This is possible because hunters take most of their quail from the segment which would otherwise be lost to disease, age or to accident. How do we know? An example of this is in Ohio where quail hunting has been illegal for years; nevertheless, populations varied just as they varied in states where quail could be shot. A limited shooting season was tried in Ohio. A study of the wings of those taken revealed that only a few quail were over a year old just as is true in Iowa.

Quail are secure from weather or from hunters, in the best cover which is a mixture of dense grass, weeds, thorns and brush. This should be backed up by trees and ditches whose banks have overhanging sod, and dry crevices. Here, January's icy 40-mile winds fling shtlike snow pellets harmlessly against cover. Deadly, creeping cold of a winter night never penetrates into the small feet resting on the dry, crumbly earth beneath the overhanging sod of the creek bank. A quail flies into this secure cover as easily as he flies

## The Geode—Iowa's State Rock

The year 1967 was a great one for the geode (pronounced gē-ōde). During that session of the legislature, the geode was proclaimed Iowa's official state rock.

Particularly fascinating to rock hounds, geodes are found in banks and cliffs, sand and gravel bars, and streams. Virtually every stream in southern Iowa from Ottumwa to Keokuk, and the Des Moines River into which they flow, will have a harvest of geodes.

Technically described as a hollow concretion lined with crystals, the geode is normally found as a nodule, often hollow, in sedimentary rocks. In Iowa these sedimentary rocks are predominantly limestone. The inner surface of the geode shell is often covered with layers representing successive stages of deposition of agate and other minerals which have settled out of solution. Predominantly quartz, they may also show crystals of calcite, sphalerite, and dolomite. Other inclusions found in Iowa geodes may be deposits of millerite, goethite, barite, pyrites, marcasite, ankerite, aragonite, chalcedony, kaolin, limonite, and

on occasion amethyst quartz or pink calcite, and other minerals.

Not all geodes are collector's items. Many are solid quartz inside and hence, strictly speaking, not geodes inasmuch as geodes are defined as hollow concretions. The variations in size of geodes is tremendous, many of these round rocks being smaller than a golf ball and some larger than a beach ball. At the extremes, geodes may range from microscopic sized specimens to those weighing in the neighborhood of 400 pounds and over.

Occasionally, geodes are found to be partially or completely filled with oil. Collectors prize the abundant and often spectacular 2-inch to 4-inch sizes that are most likely to contain additional minerals. Also prized are the scarce anhydros, or water filled geodes, which when found are usually not cracked open but left intact.

A newly proposed theory on the formation of geodes is that some prehistoric creature or plant, when caught in the formation of the sedimentary rock that surrounds the geodes, decomposed leaving a cavity that later filled with mineral bearing water. On crystallizing out of solution, these minerals then formed first the chalcedony shell and later the inner crystals of the geode.

Whatever their origin, the geode is a fascinating creation sure to please the collector and layman alike. Additional minerals may often be observed by close scrutiny with a magnifying lens or microscope.



The Geode—Our state rock.

## FOR MORE GAME— THINK SMALL

Whether for "home consumption" or as a means of supplementing farm income, wildlife is a valued part of the rural scene, says Remington's game department. But many species have not fared well in the face of big farming with big fields, big equipment and big cleanup. Many landowners would like to improve the lot of pheasants, rabbits and quail, but they are stymied by the same bigness in thinking. Many farmers look upon game management as involving a major redesign of their fields, and they despair that big farming and game can go together.

It's generally true that the best conditions for upland game are into a barren pasture. If we want better quail hunting, we must see that the birds have such cover.

Once in the dense cover, he runs or hides from the hunter in tangled bushes or twining grass which is backed up by the tall saplings. Remember when you flushed that covey into such cover last fall? Did you shoot all of that covey?

found on lands that duplicate patch farming conditions of fifty years ago. But that doesn't mean that improvements are out of reach on modern-day farms that feature bigness and uniformity. Game management can be a lot of little things as well as a major overhaul of land use and practices.

Line fences, access roads, drainage-ways and field borders are part of the farm landscape—large or small. How these are handled can make a notable difference in conditions for wildlife. If you're a big-field farmer looking for low-cost, even no-cost, ways of jazzing up the game supply, take a fresh look at these peripheral sites.

If it has been your practice to mow such idle areas, consider this: Mowing costs time and money and in most cases serves no good purpose. Very few weeds are controlled by regular cutting, but the removal of such linear strips of cover can mean the difference between having a covey of quail on the site and not having one.

A brushy fenceline is of no liability to farming and cutting it out won't add a nickel to farm

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# THINGS TO THINK

By Wayne Lonning  
Photographer



Remove guns from closed cases—it might save a bluing job.



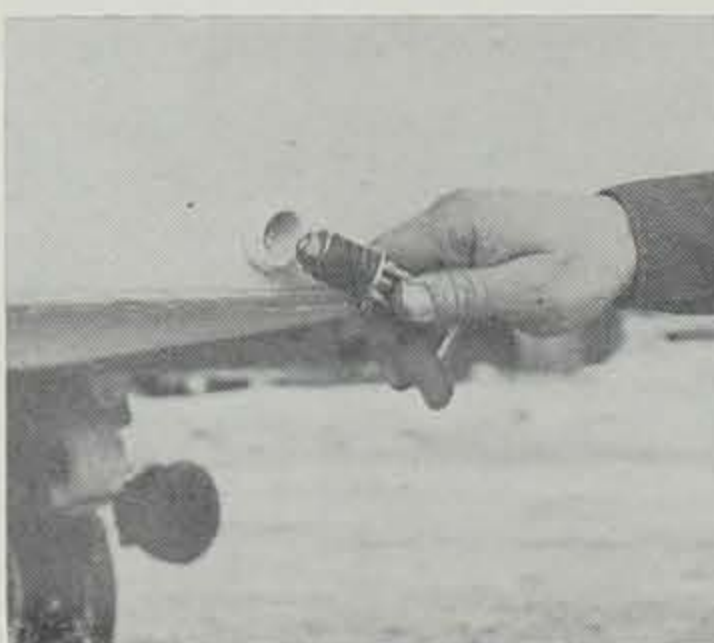
Make sure it's unloaded, then clean thoroughly and oil.



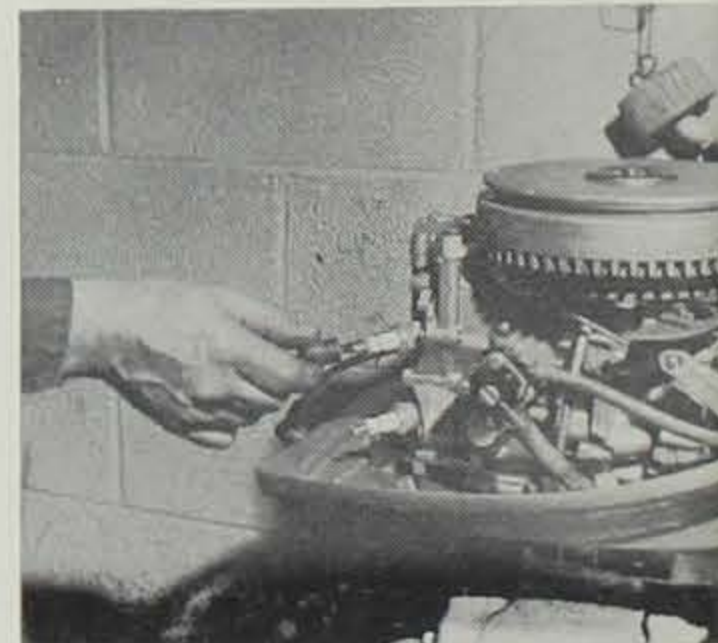
Be sure bows are unstrung . . . if you don't have a bow rack, hang your bow by the string as shown.



Take reels apart, then clean thoroughly and lubricate. Watch for worn or broken parts.



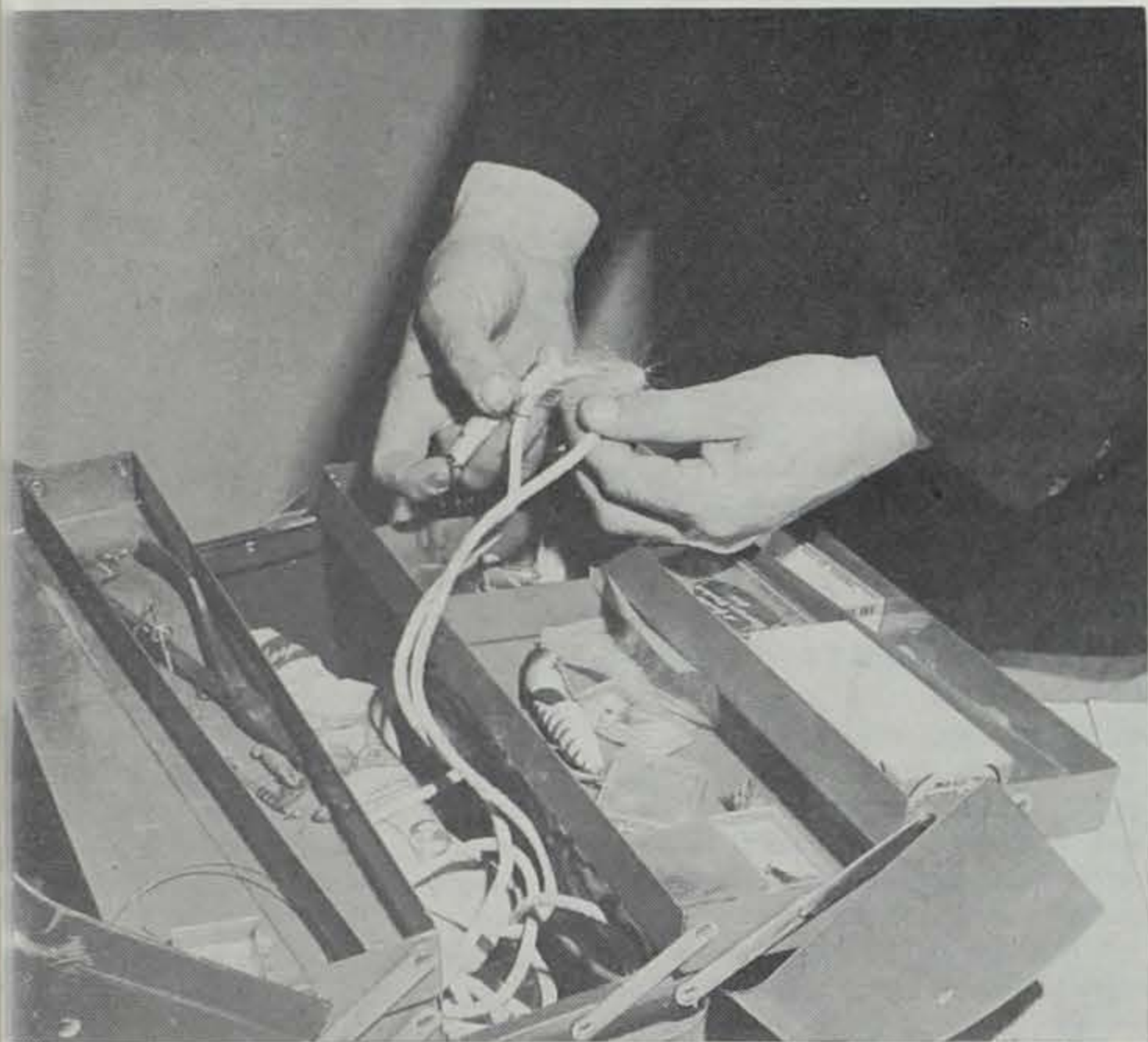
Did you pull the drain plug on your boat? If it's stored outside this is a must.



Pull the spark plug wires on your outboard motor.



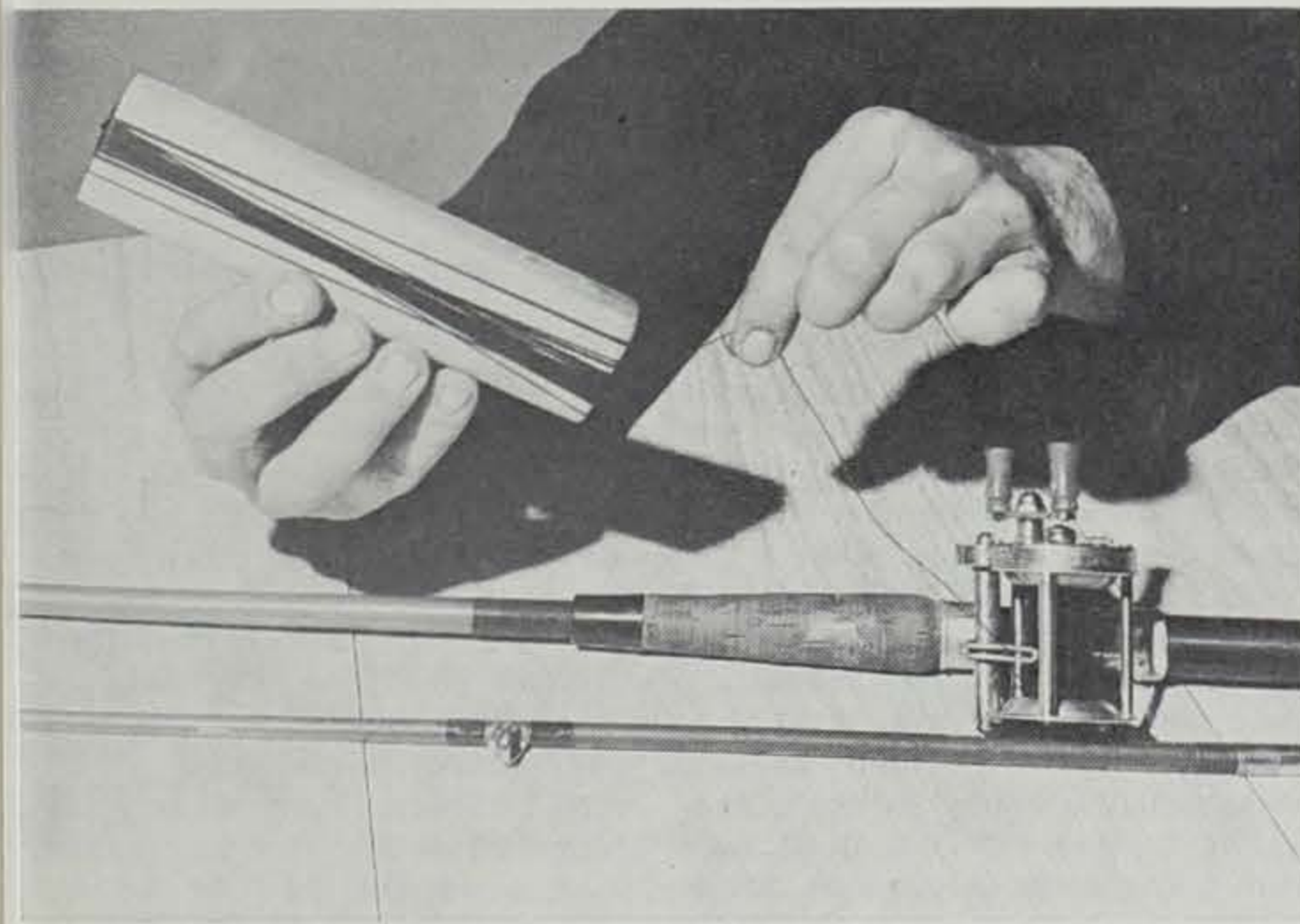
# ABOUT OR DO THIS WINTER



Be ready for spring fishing. Organize your tackle now.



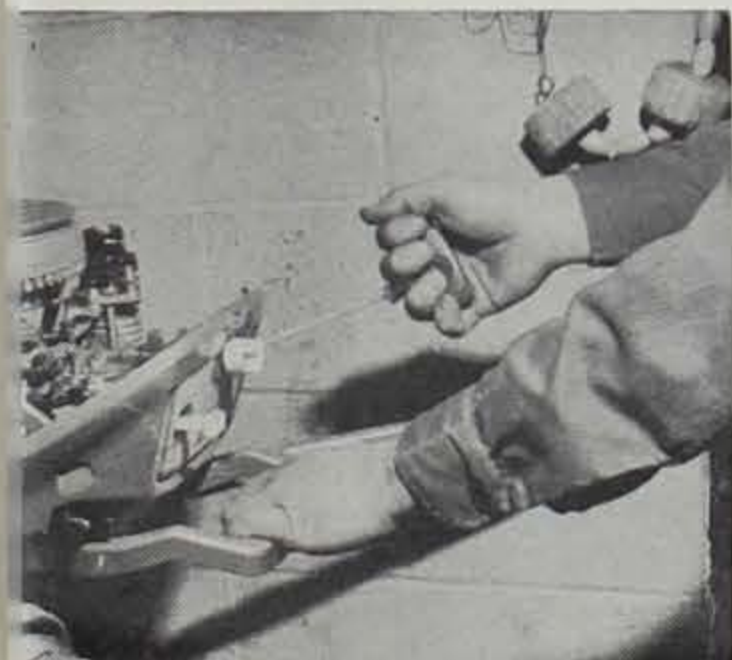
Is this thermos empty? Check camping and picnic gear now.



Spool line on a wood block and give it a chance to dry without rotting.



What better time than now to plan a summer weekend and vacation fun.



Then . . . pull the starter cord 4 or 5 times. This will keep inner parts lubricated.



Batteries should be removed from unused camping lanterns and flashlights.



# OUTDOOR EDUCATION FOR OUTDOOR RECREATION

By Arnold O. Haugen  
professor, wildlife biology  
Iowa State University  
leader, Iowa Cooperative Wildlife  
Research Unit, Ames, Iowa

## THE SITUATION

In colonial days when most people had to solve their own problems, when they either lived by their wits or perished, outdoor education was a hand-me-down proposition. Youngsters learned tricks of survival and comfort in the outdoors from their parents or from a woodsman neighbor. Living on and from the land as they did, "woods sense" came naturally. Survival depended on how well they had been reared by their parents. In a sense, their learning about the outdoors was comparable to the learning of a brood of young wild turkeys. The ability of these creatures to get along depends on the "woods sense" their mothers impart to them.

In the pioneer era, there was little time for leisure, just long hours of hard work. Some of the activities we enjoy today as recreation was a means of livelihood for them. Hunting and fishing are examples. They lived in an era when even the closest neighbor was miles away, when activities that resulted in littering were also few, when pollution of air and water was limited because settlements were few and scattered, and when resources of all kinds seemed inexhaustible. The land and other resources had really just been put to use, and misuse had not yet become noticeable. Hindsight now tells us that their foresight was

very limited when it came to resource use.

## Children of Urban Areas

Children today grow up under vastly different conditions than those of the last century. Now, nearly three-fourths of our people live in urban areas. Crowding of people at times and places almost remind one of cattle on a feedlot. The mess we have made of many of our resources, the littering and pollution, and the seemingly unconcern for our decreasing and sometimes wasted resources challenges us to come up with a program to save people from their own thoughtless deeds.

Because roughly three-fourths of our children now are born in cities and are reared on concrete and asphalt, and since a high percentage of their parents also have been reared in cities, there is no longer a personal "feeling" for the land and other resources. Parent-to-offspring education on the value of land and other outdoor resources is shockingly inadequate. And, many of the old beliefs and practices once advocated are no longer applicable under present-day intensive use procedures.

City people, through their votes, now control and in the future will exercise even greater control over the use and conservation of outdoor recreation resources. These conditions make it doubly important that we **strengthen our outdoor education program.** If we should fail to adequately educate youngsters about proper outdoor resource management and conservation, we will be failing our

responsibility in life. In a sense, our city-bred population of youngsters is like a brood of turkey chicks hatched in an incubator, raised in a wire pen without a "knowing wild mother" and then turned loose in nature where there is a strong likelihood that they will invite disaster from lack of "know-how" to survive.

## The Task Before Us

The task of education in and for the use of the outdoors is a colossal one. With an expected doubling of our population and the tripling of the amount of leisure time by the year 2000, our problems will continue to multiply. The increasing demand for outdoor recreation is putting a severe strain not only on resources and facilities, but also on trained management and education personnel. At the same time, research effort seems to be getting farther and farther behind in providing facts needed for good management. Recent experiences indicate that the increasing number of people who wish to spend more of their leisure time in the outdoors will need "leading-on" outdoor education experiences if they are to get lasting rewards from their activity. Education is also needed to help reduce thoughtless destructive activities of those who use the outdoors either for leisure time activities or as a means for making a living.

One of the greatest challenges before us involves the training of teachers in outdoor education and recreation for staffing universities, colleges, high schools and camps. There is need for a scholarship and assistantship program to entice students with outstanding ability to enter the field of outdoor education-outdoor recreation and to assist those with most promise to stay in school to earn a doctoral degree in this field. The availability of such graduates will do much to strengthen our teaching concerning outdoor recreation resources. How can we most successfully instill a sound outdoor resources philosophy in such leaders of tomorrow? We need help from many fields in the humanities and natural resources for this task.

How can we best train outdoor recreation managers so they will not over-develop and destroy our few remaining natural features or destroy existing quality recreation facilities in their eagerness to increase facilities for outdoor recreation? How can we best teach leaders that quality is equally as important as is quantity in outdoor use?

Some developers, if given free rein, would extend roads into just about every remaining bit of wild area and would encourage intensive use to a maximum. Educators must point the way to avoid sacrificing all our wilder areas for outdoor recreation. They must encourage people to seek better quality in outdoor experiences. They

must create a desire to preserve natural features and wildland areas for the use of future generations. The dollar signs and turn-style attendance counts that glitter in the eyes of some developers must be toned down to reflect satisfaction in terms of quality recreation with due consideration for generations to come. This is a place where a bit of self denial will have real virtue. Recreation resources need the Good Samaritan treatment, too.

## Improving Outdoor Skills

Leaders in outdoor recreation have a great opportunity to improve the physical well being of people. They have a real opportunity to (1) promote wise use of the out-of-doors, (2) to make experiences in the out-of-doors a pleasure as well as physically and mentally rewarding for everyone and (3) to help people make wise use of their leisure time. Through a planned program they can acquaint people with the many pleasures and benefits of a wide range of outdoor recreation activities and help them gain proficiency and a knowledge of safe practices in the various recreational activities.

Activities that will help people get more lasting benefits from outdoor recreation include: Field and target-archery, bait and fly casting, bowling on the green, rifle marksmanship, skeet shooting, swimming, hiking, mountain climbing, horseback riding, bicycling, golfing, tennis, boating (sailing, canoeing, rowboating, motorboating), water skiing (including safety), skiing, tobogganing, lapidary, nature study, predator calling and stalking game for hunting and nature photography. These are recreational activities that have "leading" values that can be rewarding throughout much of one's life, regardless of the sex or age of the participant.

As the efforts and results of outdoor education increase, resource development for recreation is expected to increase on the state, county, city and private level. Paralleling this increase will be an increasing need for resource-use consultation services. This will necessitate that each have at least one outdoor recreation resource use center to which people and organizations can go for help and information. A university center where people can go to consult with staff specialists is a must. Such a center is also the logical place for workshops and in-service training sessions for personnel involved in outdoor education and recreation activity.

## Need Program Now

A research program in outdoor education and recreation should be initiated without delay. There is great need for information on how to encourage people to want quality experiences, to change attitudes on outdoor use, to make

(Continued on page 16)



Education in and for use of the out-of-doors is important to all age groups. Myrtle Miller photo.



### Foxes Have Little Effect on Pheasants

South Dakota's three-year-old predator-prey study shows foxes have no significant effect on pheasant numbers, the Game, Fish and Parks Commission was told here.

Fred Prierwert, chief of game for the South Dakota Department of Game, Fish and Parks, said the result so far in the five-year study generally corroborate predator-prey relationship studies made in other states.

South Dakota's \$50,000 a year study is termed the most comprehensive ever carried out.

The study was set up to determine if intensive control of predators might boost the state's lagging pheasant population. The issue has boiled for years in South Dakota.

The department in 1964 established four study units in the fox-pheasant study. Each unit includes two 100-square mile areas, with foxes extensively controlled in one of the areas and uncontrolled in the other, termed a "check" area.

Although there were variations from year to year, the three-year results show pheasant population changes varied little between areas where foxes were controlled and the check areas where there was no control.

Carl Trautman, Brookings, assistant chief of game in charge of research, said the fact that the pheasant population did not substantially increase in the fox-reduction areas over that of the check areas indicates that other factors, such as habitat, control pheasants.

During the same three-year study period, foxes declined 85 percent on the reduction areas due to intensive predator control. But fox numbers also dropped on check areas. Trautman said the decrease, amounting to 60 percent, was due to natural causes.

The jack rabbit population increased a total of 435 percent on the areas where foxes were controlled, compared with 163 percent on the uncontrolled check areas.

Small mammals, principally mice, also increased on both the reduction and check areas.

Trautman said fox food habits have changed considerably on the study areas as rabbit and mouse populations increased and while pheasants remained relatively stable.

In relation to what foxes were eating in 1965, he said, analysis of fox stomachs showed a 51 percent increase in consumption of mice, a 78 percent increase in rabbits and a 60 percent decrease in pheasants.

"It appears that the fox is an opportunist and preys on the

species that are most abundant and most readily available," Trautman said.

Prierwert said more study is necessary on the predator-prey question.

"With accumulation of more data, we will be reasonably certain of our conclusions and should be able to settle the question of the effectiveness of predator control in relation to the pheasant population," he added.

In addition to the control and check areas, a third area was established in each of the units in 1966 to have intensive control of all predators, including skunk and raccoon. Trautman said limited information is available from the study of the third area.

### DON'T LITTER

The shoreline looks lovely from the middle of the lake when you're on a boat. It's not quite so nice for the people on shore. They have a view of the leftovers carelessly tossed overboard by boaters. Please join the Keep America Beautiful movement—keep waterways as well as highways clean.

A picnic on a private patio is always followed by a clean-up. Too often a picnic in a public park, beach or roadside rest is only followed by litter and fruit peels. Good clean-up is good outdoor manners. Support Keep America Beautiful, Inc., in its countrywide effort to conserve our scenic beauty.

### For More Game—

(Continued from page 11)  
revenue. But letting it stand can make a field habitable to pheasants and rabbits where otherwise they couldn't survive.

If you have firebug tendencies, remember that scorched earth and game crops don't go together. Brush piled in a fence corner will afford good game cover for years. And a grown-up ditch bank can serve multiple needs of nesting and protective cover for a variety of farm game.

All in all, say the Remington experts, good game management can be thinking small and acting shiftless. Improving the farm for wildlife involves a lot of little things and mostly they are things better left undone.

## IOWA'S 1968 FISHING SEASONS AND LIMITS

January 1, 1968, to December 31, 1968

INLAND WATERS OF THE STATE					BOUNDARY WATERS	
Kind of Fish:	Open Season	Daily Catch Limit	Possession Limit	Minimum Length or Weight	Mississippi River, Big Sioux River, Missouri River and Inland Waters of Lee County	
Carp, Buffalo, Quillback, Gar, Dogfish, Gizzard Shad, Sheepshead, Sucker, Redhorse, Chub, Sunfish, Bluegill, Crappie, Silver Bass, Bullhead, Rock Bass, Yellow Bass, Warmouth, Minnows and Sand Sturgeon	Continuous	None	None	None	Same as inland waters.	
Rock Sturgeon	Closed				Closed.	
Paddlefish	Continuous	2	4	5 lb.	Same as inland waters except no catch or possession limit on Mississippi River.	
Perch	Continuous	25	50	None	Same as inland waters except no catch or possession limit.	
Trout	Continuous	6	12	None	Same as inland waters.	
Catfish	Continuous	8	16	None	Continuous open season, no catch or possession limit.	
Largemouth Bass	Continuous	5	10	None	Largemouth and Smallmouth Black Bass. Continuous open season. Aggregate daily catch limit 10; aggregate possession limit 20.	
Smallmouth Bass	Continuous	5	10	None	Continuous open season. Aggregate daily catch limit 10; aggregate possession limit 20.	
Walleye and Sauger	April 27 Feb. 15*	5	10	None	Continuous open season. Aggregate daily catch limit 10; aggregate possession limit 20.	
Northern Pike	April 27 Feb. 15*	3	6	None	Continuous open season. Daily catch limit 5; possession limit 10.	
Muskellunge	Closed				Closed.	
Frogs (except Bullfrogs)	Continuous	4 doz.	8 doz.	None	Same as inland waters.	
Bullfrogs (Rana Catesbeiana)	Continuous	1 doz.	1 doz.	None	Same as inland waters.	

\*In all streams, Missouri and Mississippi River oxbow lakes and artificial lakes, a continuous open season for Walleyes, Sauger and Northern Pike shall apply.

Where waters are located within the confines of state, county, city parks, or State Fish & Game Management Areas, fishing will be permitted only when such areas are open to the public.

EXCEPTIONS: On all state-owned natural lakes, all angling through ice is prohibited between the hours of 8:00 p.m. and 6:00 a.m.

In Little Spirit Lake, Dickinson County; Iowa and Tuttle (Okamanpedan) Lakes, Emmet County; Burt (Swag) Lake, Kosuth County; and Iowa Lake, Osceola County, the following shall apply: 1. **WALLEYE**—daily catch limit 6, possession limit 6; 2. **NORTHERN PIKE**—daily catch limit 3, possession limit 3; 3. **CATFISH**—daily catch limit 16, possession limit 16. Open season on above fish shall be May 11 through February 15. 4. **LARGEMOUTH and SMALLMOUTH BASS**—daily catch limit 5, possession limit 5. Open season May 25 through November 30. 5. **SUNFISH**—daily catch limit 15, possession limit 30; continuous. 6. **CRAPPIES**—daily catch limit 15, possession limit 30; continuous. 7. **WHITE BASS**—daily catch limit 15, possession limit 30; continuous. 8. Spears, and bow and arrow may be used to take carp, buffalo, dogfish, gar, sheepshead and quillback from sunrise to sunset during the period May 1 to October 31, inclusive.

The possession limit shall not exceed 50 fish of all kinds in the aggregate except that the aggregate possession limit shall not apply to fish named on which there is no daily catch limit.



**FISH AND GAME CONSERVATION OFFICERS**

Name	Address	Office Ext.	Area Code	Home Phone
Kakac, Kenneth, Supt. VI Fish and Game Conservation Officers	R. 1 Elkhart, Iowa 50073	5918	515	367-3364
Davis, Ben, Supervisor IV (District No. 1)	509 W. 10th Street Spencer, Iowa 51301		712	262-1789
Smith, Curtis, Supervisor IV (District No. 2)	609 E. Fifth Cresco, Iowa 52136		319	547-2688
Lemke, Louis, Supervisor IV (District No. 3)	DeSoto, Iowa 50069		515	834-2109
Emerson, Rex, Supervisor IV (District No. 4)	1115 N. Fourth Washington, Iowa 52353		319	653-2566
Olofson, Charles Hunter Safety Officer	517 E. Second Ankeny, Iowa 50021	5918	515	964-3964

\* \* \* \* \*

Anderson, Maurice Clinton	R. 1, Box 129A Camanche, Iowa 52730		319	522-2559
Angell, Glen Bremer, Chickasaw	303 N. Locust New Hampton, Iowa 50659		515	394-2037
Ashby, Michael Dickinson	Box 233 Spirit Lake, Iowa 51360		712	338-2001
Ashby, Wesley Fayette	Fayette, Iowa 52142		319	425-4001
Baldwin, Jim Clay, O'Brien	121 W. Tenth Spencer, Iowa 51301		712	262-3001
Basler, Bill Kossuth	302 E. College Algona, Iowa 50511		515	295-3137
Becker, Jim Buchanan, Delaware	512 Fourth Independence, Iowa 50644		319	334-2197
Beebe, Bill Louisa	128 Hickory Ct. Columbus Junction, Iowa 52738		319	728-2594
Beecher, Wesley Jackson	300 High Bellevue, Iowa 52031		319	872-3391
Bruun, Jens Crawford, Monona	1317 Maple Drive, Box 185 Onawa, Iowa 51040		712	423-1591
Carter, Harold Clarke, Decatur	830 S. Park Osceola, Iowa 50213		515	342-3221
Downing, Berl Howard, Winneshiek	Box 4 Decorah, Iowa 52101		319	546-2478
Draves, Ronald Davis, Van Buren	Box 278 Keosauqua, Iowa 52537		515	293-3589
Edwards, Leo Hancock, Wright	714 1st Avenue S.E. Clarion, Iowa 50525		515	532-3353
Entner, Dale Lee	2401 Avenue "D" Fort Madison, Iowa 52627		319	372-3513
Ford, Larry Keokuk, Mahaska	707 E. Pleasant Valley Sigourney, Iowa 52591		515	622-3546
Handland, Orlan Linn	Central City, Iowa 52214		319	438-6319
Harris, Glenn Warren, Marion	602 S. Third Indianola, Iowa 50125		515	961-3360
Harvey, Walt Marshall	407 East Linn Marshalltown, Iowa 50158		515	753-8886
Hayes, Darrell Tama, Benton	606 E. State Toledo, Iowa 52342		515	484-2967
Hein, Christie Mills, Montgomery	7 Elm Street, Box 329 Glenwood, Iowa 51534		712	527-4188
Heinkel, Galen Franklin, Butler	1408 Central Avenue E. Hampton, Iowa 50441		319	446-2659
Hollien, Jerry Allamakee	1203 1st Street N.W. Waukon, Iowa 52172		319	568-4102
Holmes, Verl Palo Alto	103 Call Street Emmetsburg, Iowa 50536		712	852-4969
Horton, John Clayton	Box 181 Garnavillo, Iowa 52049		319	964-2119
Hoth, John Woodbury	R. R. Salix, Iowa 51052		712	946-4852
Huff, Lloyd Polk	2604 37th Street Des Moines, Iowa 50310		515	277-9233
Jennings, Ermin Muscatine	2852 Highland Ct. Muscatine, Iowa 52761		319	264-1012
Johnson, Richard Harrison, Shelby	563 N. Third Missouri Valley, Iowa 51555		712	2-3578
Judas, James Des Moines, Henry	Box 149, R. 4, Gear Ave. W. West Burlington, Iowa 52601		319	753-0297
King, Duane Pottawattamie	1499 Indian Hills Road Council Bluffs, Iowa 51501		712	328-2786
Leigh, Ralph Poweshiek, Iowa	Box 127 Marengo, Iowa 52301		319	2-6811
Lemke, Lester Adams, Taylor	R. 2 Bedford, Iowa 50833		712	523-2278
Macheak, Wilfrid Worth, Winnebago	Forest City, Iowa 50436		515	582-3553
Meggers, Jack Cerro Gordo	Box 75 Ventura, Iowa 50482		515	829-3323
Messinger, Steve Jefferson, Washington	Box 208 Brighton, Iowa 52540		515	694-3650
Mineck, Bob Cedar, Jones	211 13th St., Box 29 Tipton, Iowa 52772		319	886-6725
Moats, Bob Emmet	Box 115 Estherville, Iowa 51334		712	362-2962
Nelson, Dennis Dallas, Madison	Van Meter, Iowa 50261		515	3501
Newel, Gene Plymouth, Sioux	176 S. Main Sioux Center, Iowa 51250		712	722-3961
Oden, Robert Wapello	808 E. Woodland Ottumwa, Iowa 52501		515	684-7693
Priebe, Donald Black Hawk, Grundy	404 Bertch Cedar Falls, Iowa 50613		319	266-2889
Ray, Marlowe Adair, Guthrie	509 N. 12th Guthrie Center, Iowa 50115		515	747-3002
Roemig, Alan Mitchell, Floyd	1020 Maple Osage, Iowa 50461		515	732-3307
Rokenbrodt, Floyd Humboldt, Pocahontas	403 Sixth Avenue N. Humboldt, Iowa 50548		515	332-1236
Rowley, Keith Dubuque	3192 Kerrigan Road Dubuque, Iowa 52001		319	582-3351
Runyan, Mike Jasper	R. 2 Kellogg, Iowa 50135		515	598-8402
Shipley, Jim Fremont, Page	301 Fremont, R. 1, Box 150 Shenandoah, Iowa 51601		712	246-2870

Simonson, Wendell Johnson	Oxford, Iowa 52322		319	628-4443
Speer, Myron Scott	2629 Cedar Davenport, Iowa 52804		319	391-4060
Starr, Frank Buena Vista, Cherokee	802 W. Sixth, Box 402 Storm Lake, Iowa 50588		712	732-5463
Tellier, Frank Lyon, Osceola	Box 139 Doon, Iowa 51235		515	2821
Tellier, George Calhoun	Box 410 Fort Dodge, Iowa 50501		515	573-2508
Tilley, Archie Ringgold, Union	1101 Orchard Drive Creston, Iowa 50801		515	782-5063
Uhlenhake, Mark Monroe, Appanoose	R. 1 Moravia, Iowa 52571		515	724-3
Wagaman, Kenneth Audubon, Cass	Box 226 Atlantic, Iowa 50022		712	243-1283
Wallace, Jim Ida, Sac	Box 32 Lake View, Iowa 51450		712	657-8730
Wilson, Duane Hardin, Hamilton	Alden, Iowa 50006		515	859-7240
Wilson, Warren Boone, Story	427 Clinton Boone, Iowa 50036		515	432-5581
Wiltamuth, John Lucas, Wayne	Box 158 Humeston, Iowa 50123		515	877-4321
Zmolek, Delbert Carroll, Green	405 N. West, Box 148 Jefferson, Iowa 50129		515	386-4234

**Outdoor Education—**

(Continued from page 14)

people less prone to litter or destroy outdoor facilities, to create in people a sound philosophy about natural resources, and how to measure physical, mental and spiritual values of outdoor recreation. We need to test and evaluate different types of equipment, facilities, management techniques and administrative procedures. Information for these problems will cut costs of outdoor recreation and education, yet provide improved opportunity for enriching experience in outdoor use of leisure time. The Outdoor Recreation Experiment Station proposed for Georgia is a progressive step. It points the way for a system of stations on a regional basis. The station will provide opportunity for testing equipment and new ideas and facilitate studies on the effectiveness of leadership and outdoor education on the types of recreation desired.

Each state needs one or more major centers where the public can come to observe or participate in outdoor recreation activity. Centers where outdoor education specialists can demonstrate techniques. Selected parks, for instance, should have certain hours on certain pre-announced dates when specialists would demonstrate such activities as proper camping, picnicking, and outdoor cooking techniques. Naturalists versed in the latest ways for teaching about the wonders and benefits of the outdoors should be available in all major park-recreation areas.

**Our Task in Summary**

The task in outdoor education is a colossal one. We are challenged with the job of providing opportunities for worthwhile outdoor recreation experiences for all people who need guidance in wiser use of leisure time. We must help them keep dignity in outdoor use. We can help them, not only to understand nature, but also to gain healthful experiences and spiritual comfort from outdoor activities. If we can do this and still guarantee the preservation

of unique bits of nature as it was in the beginning, then we will have carried our load in life with dignity and efficiency. Our outdoor heritage is a most precious legacy. Let us keep it that way.

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Two entries for the 1967 big fish records arrived too late for listing in the January issue of the IOWA CONSERVATIONIST.

Ruben Altman, Solon, (below) landed a 22-pound, 6-ounce channel catfish last August at Lake McBride. It was the largest channel catfish entered for record last year. The "cat" was 36 inches long.

The other big fish was a 12-pound, 14-ounce walleye caught last October by Herbert Aldridge, Spirit Lake. It was the largest walleye recorded for 1967. The fish, 31 inches long, was taken at Spirit Lake.



Ruben Altman's catfish.