

Iowa CONSERVATIONIST

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Iowa CONSERVATIONIST

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Jerry Leonard

Chickadee

For most of Iowa's history, it has been the hunters and fishermen who have supported wildlife conservation in Iowa through the purchase of their stamps and licenses. As expected, their funds have gone primarily to the game

or sport species which they pursue.

More than 1,000 species of nongame wildlife in Iowa, those not considered for sport, have had few sponsors. Certainly, nongame interests have been indirectly benefited from habitat pro-

ANOTHER WAY TO SUPPORT IOWA'S NONGAME

This month's front cover features the 1983 Iowa Nongame Support Certificate, the American goldfinch, Iowa's state bird, photographed by Commission photographer Ken Formanek. Each of the 5000 prints are individually numbered. Revenue from the sale of these collectors' items will be used specifically to enhance Iowa's nongame species. The 1983 support certificates are available now for \$5 each from the Iowa Conservation Commission, Wallace Building, Des Moines, Iowa 50319.



Two nongame species quite common in Iowa are, far left, the killdeer famous for feigning injury when an intruder nears its nest. Left, the great-horned owl which nests in cavities of old trees and silently flies by night in search of mice and other small rodents.

Checkoff

grams aimed at the sports species, but not nearly to the level needed to safeguard their long-range future.

But now, the Conservation Commission has a new way of obtaining funds which Iowans should know about. It is novel, voluntary and almost painless.

The 1982 session of the legislature passed an act often referred to as the "Chickadee Checkoff." It allows anyone filing an Iowa income tax return to designate any portion of their refund to go to the Fish and Wildlife Protection Fund. A small space on the state income tax form is provided to indicate how much of the state tax refund the filer wants to contribute to the conservation of Iowa's nongame wildlife.

Whether the amount is \$1, \$10 or all of the refund, that contribution will be set aside for helping these important wildlife resources. The contribution is tax deductible the following year.

Chickadee Checkoff funds will go for such new programs as: development of wildlife programs in urban areas; acquisition of unique and critical habitat areas for nongame species; monitoring and research on populations of endangered and other nongame species; restoration of some nongame species; and the dissemination of educational materials.

With the thoughtful contributions of Iowans, our highly prized nongame wildlife resources will finally receive the attention they so much deserve.

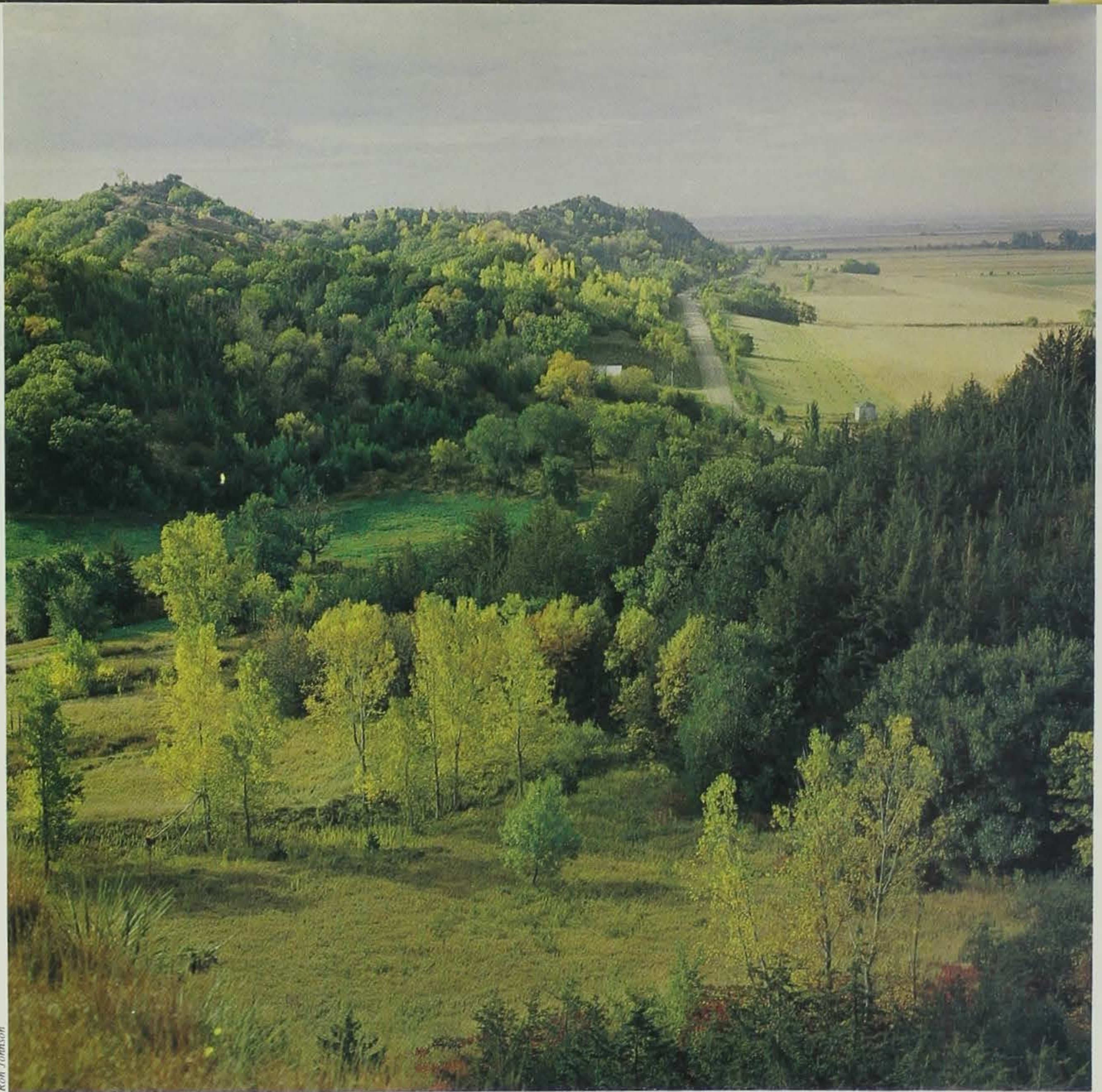
Checkoffs Raise \$3.3 Million:

Although the final tally is not in, nongame checkoffs on other state income tax forms already have provided a dozen state wildlife agencies with a total of just under \$3.3 million.

There are twenty states with checkoff programs, but only 12 were in effect for 1981 tax collections this year. Colorado has raised \$692,000 thus far, followed by Minnesota with \$523,000 and New Jersey with \$397,000.

Utah recorded the highest taxpayer participation with 14.3 percent of the eligible taxpayers contributing. Colorado was next at 12.4 percent, followed by Minnesota at 9.4 percent. The average amount contributed by taxpayers ranged from \$3.27 in Minnesota to \$10.68 in New Mexico. Nationwide, more than 570,000 taxpayers contributed an average of \$5.73 each.

Iowa's checkoff program, referred to as the Chickadee Checkoff, will be initiated this tax year. Other states with checkoff programs are: Alabama, Arizona, Colorado, Idaho, Indiana, Kansas, Kentucky, Louisiana, Minnesota, New Jersey, New Mexico, New York, Oklahoma, Oregon, Pennsylvania, South Carolina, Utah, Virginia and West Virginia.



Ron Johnson



Right: *Along the steep slopes of the Loess hills, yucca grows with its rigid blades of leaves. In the summer, a large spike of white flowers rises from each plant.* Above: *A lone coyote howls.* Far above: *The Loess hills area in the fall paints a beautiful hill-top view.*

Ron Johnson

IOWA'S LOESS HILLS

By Dorothy Baringer

Poem by Marian Pike

Sheer bluffs rise from the valley floor. White flowered spikes of yucca rise like giant white candles on the steep slopes. In the hazy distance the outline of the bluffs on the Nebraska side of the Missouri River can be seen. These are the Loess hills of Iowa. Only in one other place in the world — mainland China — is there such an outstanding example of loess or windblown soil.

Thousands of years ago the Missouri River carried the floodwaters of melting glaciers. As the mountains of ice melted, the waters rose and at times the river was five to eighteen miles wide. Finally, the ice melted. The water flow lessened and the great flood plain began to dry up. Winds whipped across the land picking up the fine sediment that had been carried by the water. This very fine loess was deposited on the tops of the hills bordering the Missouri River valley.

This last occurred after the Wisconsin glacier period, about 14,000 years ago. Two earlier glaciers, the Iowan and the Kansan also swelled the Missouri with meltwaters which deposited loess.

The post-Kansan windblown material is the oldest and is usually light bluish gray in color. It is up to fifteen feet thick and was probably even thicker, as in places its surface shows evidence of much weathering and erosion.

The yellow loess is most conspicuous. It is actually of two layers. The lower and darker of the two is from the post-Iowan era, while the upper layer is from the post-Wisconsin period. In places the depth of these yellow layers is more than 100 feet. Total height of the bluffs may be 150-300 feet.

One peculiar characteristic of loess is the manner in which an entire section slips, leaving a vertical wall. These vertical faces then remain stable for

years. One such slippage occurred along the Maple River between Castana and Turin after an exceptionally heavy rainfall in 1859. Portions of this slippage may still be seen. Less drastic slippages are more common and result in vertical displacements of a few inches called "cat-steps." Rows of these cat-steps are in conspicuous feature of bluffs facing the Missouri River.

These loess hills of Iowa offer arid, stressful conditions for plants and animals. Even so, they support a varied ecological community.

Bohumil Shimek reported on the geology and flora of Harrison and Monona counties in the 1909 Annual Report of the Iowa Geological Society. Using this report and others, scientists are able to compare what is present in the loess hills now and what may have been there before settlement.

In 1979 the Iowa State Preserves Advisory Board initiated a four year program of research focusing on the flora and fauna of the loess hills.

During the study these typical western Iowa species of plants as listed by Shimek have been found: Prairie Turnip, *Psoralea esculenta*, Great Penstemon, *Pentstemon grandiflorus*, Ground Plum, *Astragalus crassicaarpus*, Prairie Dandelion, *Microseris cuspidata*, and Lambert's Crazy Weed, *Oxytropis lambertii*.

Plants that are now rare in Iowa and are restricted to the bluffs are: Cowboy's Delight, *Sphaeralcea coccinea*, Skeleton Weed, *Lygodesmia juncea*, Tenpetal Blazing Star, *Mentzelia decapetala*, and Painted Cup, *Castilleja sessiliflora*.

Two animal species that were thought to be no longer in Iowa have been found in the loess hills. They are the Plains Pocket Mouse, *Perognathus*

Dorothy Baringer is presently chairperson for the Iowa Preserves Board. She holds a B.S. degree in botany from Iowa State University and an M.S. degree in ecology from Drake University. In the past she has served on the board of directors for the Botanical Center and the Nature Conservancy.

Commissioner Marian Pike is a homemaker and free lance writer from Whiting. She was first appointed as a commissioner in 1975. She is a graduate of Grinnell College.

flavescens, and the Spadefoot Toad, *Scaphiopus bombifrons*.

One year remains of the Preserves Board study. Many facts have already emerged and much interest is now being focused on preserving areas of these unique hills in their native condition. However, much more needs to be done. Land use practices need to be studied and put into use and more areas must be set aside in their native condition.

What can you do? You can help!

Support the Chickadee Checkoff on your Iowa Income Tax return next year. Areas will be purchased with these non-game funds that will ensure us that remnants of our natural heritage, such as the loess hills, will last forever.

Keeping a Secret

Almost everybody
likes a secret.

That's why many of us
love the hidden valleys
of the loess hills —
the secret places that hide
plains pocket mice
and grasshopper mice
and other surprising creatures.

That's why we will climb
a sharp ridge with top so narrow
there is scarcely room to walk,
and we will look out over the hillside
which is almost a cliff,
into the next valley
to find the secrets there.

Lots of us
would like to keep the hills
a secret —
so that men and machines
will not come and wear them down.

But it is difficult
to keep a secret
about anything this beautiful!

Missouri River Wildlife Unit

By Neil Heiser

The Missouri River Wildlife Unit encompasses a geographic area of western Iowa including Woodbury, Monona, Crawford, Harrison and Shelby Counties. Unit responsibilities are generally broken down into three well-defined activities: 1) a public education program relative to our wildlife resource; 2) planning and assistance to private landowners for developing wildlife habitat and stocking newly-built farm ponds; and 3) development and maintenance of state-owned wildlife management areas and fishing accesses throughout the five-county region.

Types of land found within the unit are typically based on the geological formations associated with the region. Along the western boundary is the Missouri River floodplain. Being relatively level in nature, these bottomlands lend themselves to extensive and intensive farming. Corn and soybeans dominate crop varieties grown. Other floodplains similar to the Missouri River but on a smaller scale include portions of the Maple, Soldier, Little Sioux, Boyer and Nishnabotna Rivers.

Neil Heiser is the wildlife management supervisor for the southwest district. Previous to this position, he was management biologist for the Missouri River Unit in Onawa. He holds a B.S. degree from Colorado State University and an M.S. degree from Iowa State University. Heiser has been with the Commission since 1972.

Right: A hen mallard and her brood enjoy a summer swim in one of the many backwater areas of the Missouri River Unit.

A unique geological area forming much of the region's remaining land type is referred to as the loess hills. Loess, meaning windblown, describes a vast area of rolling and steep hills that dominates western Iowa. Formed more than 14,000 years ago by strong westerly winds moving the fine sediments left from glacial melt, the loess hills tend to be quite steep near the Missouri River floodplain and gradually become more gently rolling on the eastern edges of the unit. Steeper portions of this land type support a diversified agriculture dominated by livestock pasturing with hay, corn and soybeans grown on the tillable slopes. As one travels east into Crawford and Shelby Counties, cropping becomes more prevalent.

Most of the rivers dominating the region's water system have been channelized, including portions of the Little Sioux, Soldier, Maple and Missouri Rivers. Numerous backwater areas and oxbow lakes and/or marshes abound on the Missouri River floodplain. Farm ponds, serving to control extensive water movement, are common in the loess

hills. Major lakes, including marsh areas, found within the unit include Brown's Lake near Salix, Blue Lake west of Onawa, Prairie Rose Lake east of Harlan and DeSoto Bend Lake west of Missouri Valley.

Timbered areas of importance are restricted to river edges and steeper valleys in the loess hills.

As is the case throughout Iowa, most hunting in the unit takes place on privately-owned land. The kinds and distribution of game found within the unit reflect needed cover requirements of the species involved and the dominant land use of the locality.

Upland game hunted on both state and privately-owned lands, in order of popularity, include pheasant, white-tailed deer, bobwhite quail, cottontail rabbit and fox squirrel. The pheasant distribution is generally better where gently rolling cropland, including floodplains, is bordered by good cover grasses, brush or annual weeds. Deer hunting can be found wherever timber or brush lies close to available corn fields. River edge or loess hill timbered



Jerry Leonard

areas are good bets, not only for deer but also for rabbit, quail and squirrel. In the more open cropland areas along the northern and eastern edges of the unit, one may come across a covey of hungarian partridge. Nearly 6% of the total state pheasant harvest in 1973-74 came from the Missouri River Unit areas, making the unit a good pheasant area. Rabbit and squirrel populations are good where habitat is available. The popularity of rabbit and squirrel hunting is increasing.

Waterfowl hunting is excellent, especially along the Missouri River and adjacent floodplain. Snow geese and mallards dominate the fall migration but good populations of teal, wood duck, widgeon and gadwall also occur. Rivers, drainage ditches and farm ponds can offer hunting opportunities for wood ducks, mallards, teal and an occasional Canada goose. Jump shooting appears to be more successful in these areas. On the Missouri River bottoms, corn field and flooded pond set-ups for snow geese and ducks are quite effective. Both jump shooting and decoying are commonly used with good results. Most marsh areas lie along the Missouri River backwaters and shallow oxbow lakes. During the peak of migration, they are very attractive to ducks coming down from the Dakotas.

Several other species are gaining popularity with area hunters. Most notable is the coyote. Over 19 percent of the 1973-74 Iowa coyote harvest occurred in the Missouri River Unit. Predator hunting, including both fox and coyote, offers a challenging experience to those interested. The popularity of raccoon hunting has mushroomed during the last few years as evidenced by the many people who now own coon hounds.

At the present time, the Missouri River Wildlife Unit manages and maintains twenty state-owned areas with approximately 8,800 acres of land for wildlife and river access purposes. A majority of this land is open to public hunting. Those areas managed by the unit with public access are listed in the attached table; excluding boating ac-



Ken Fournanek



Ken Fournanek

Above: A pair of snow geese fly overhead. Snow geese along with mallards dominate fall migration in the Missouri River Unit area. Left: A popular pasttime of spring campers and hikers is collecting the delicious morel mushroom. Bottom: Where habitat is available squirrel populations are good. Squirrel hunting is increasing in popularity, also.



MISSOURI RIVER WILDLIFE UNIT

cesses to the Missouri River, such areas are managed primarily for the benefit of Iowa's wildlife resource. In general, cropping rotations, seeding, shrub plantings, posting, fencing and other activities are designed to create a maximum production of wildlife on the limited acreage available. Vehicle use is

generally restricted to protect fragile plant communities and enhance a quality hunting experience within unit areas. In addition to hunting and fishing, many of these tracts serve the public as hiking, canoeing, bird watching, photography, mushroom hunting and nature study areas.

The Missouri River Wildlife Unit office is located at the Soil Conservation Office, Lindley Bldg., Onawa, Iowa, 51040. Maintenance facilities located at the Badger Lake Wildlife Area west of Whiting, Iowa, serve personnel in achieving aforementioned unit management objectives.

Missouri River Unit Areas With Public Access

County	Area Name & Acreage	Nearest Town	Use of Area	Description of Area	Principal Game Species
Woodbury	Browns Lake 784	1½ mi. W. Salix	Public Hunting	Shallow lake/marsh - open timber	WF, pheasant, rabbit, deer, quail
Woodbury	Snyder Bend 320	1½ mi. W., 1 mi. S. of Salix	Waterfowl Refuge	Shallow lake/marsh - brush	WF
Woodbury	Liberty Wildlife Area 98	1½ mi. S. Serg. Bluff	Partially open to hunting	Upland grass, brush	Rabbit, pheasant
Woodbury	Lakeport Wildlife Area 121	2 mi. S. Salix	Public Hunting	Upland grass, brush	Rabbit, pheasant
Monona	Badger Lake 500	3 mi. W. Whiting	Public Hunting	Marsh ¾, upland ¼	WF, pheasant, rabbit
Monona	Blue Lake 987	2 mi. W. Onawa	Public Hunting	Shallow lake/marsh	WF, pheasant, rabbit, quail
Monona	Upper Decatur Bend (Sunset Island) 400	6 mi. W. Onawa	Public Hunting, Mo. River Access	Shallow lake/marsh - timber	Deer, WF, pheasant, rabbit
Monona	Decatur Bend Access	3½ mi. W, 1 mi. S. Onawa	Mo. River Access	Picnic area & ramp	—
Monona	Loess Hills Wildlife Area 2,460	8 mi. NE Onawa	Public Hunting	Upland timber, grass	Deer, squirrel, rabbit, quail, pheasant
Monona	Sherman Wildlife Area 23	1 mi. W. Blencoe	Public Fishing	Borrow area pond	Pheasant
Monona	Louisville Bend 1,000	3 mi. N.W. Blencoe	Waterfowl Refuge, partial public hunting, Mo. River Access	Shallow lake/marsh - timber	WF, deer, rabbit, quail, pheasant
Harrison	Deer Island 600	2 mi. N, 2 mi. W River Sioux	Public Hunting, Mo. River Access	Timber	Deer, quail, rabbit, pheasant
Harrison	Three Rivers Wildlife Area 300	1 mi. NW River Sioux	Public Hunting	Upland timber, grass	Deer, pheasant
Harrison	Round Lake 393	2 mi. N. Mondamin	Public Hunting	½ marsh, ½ upland	WF, pheasant, rabbit
Harrison	Tyson Bend 900	4½ mi. W. Modale	Public Hunting	Timber, marsh	Deer, WF, quail, rabbit
Harrison	St. Johns Wildlife Area 87	2 mi. N. Missouri Valley	No Hunting	Borrow area pond	WF
Harrison	Nobles Lake 289	3 mi. W, 3 mi. S. Missouri Valley	Public Hunting	⅓ marsh, ⅔ upland	WF, pheasant, quail, deer

* In addition to the above areas, a wildlife management agreement with Iowa Public Service Co. has opened a sizeable acreage of I.P.S. land to public hunting west and north of Salix in Woodbury County.



1982 DONATIONS

During the past year the Iowa Conservation Commission has been very fortunate in receiving a number of generous donations. The Commission and the people of Iowa take this opportunity to recognize and thank the following people for their gifts.

Ding Darling original etchings valued at over \$20,000	Gordon Meaney Des Moines	200 trees and shrubs for backyard habitat and Education Center area	Henry Fields Shenandoah
Strasser Woods 40 acres Polk County	Iowa Natural Heritage Foundation Des Moines	Small tract of land on Black Hawk Lake, Sac County	Dorothy Drilling Lake View
Frank Lloyd Wright designed house and 11 acres of property Buchanan County	Lowell and Agnus Walter Waterloo	\$200 used for "Stubb" Severson interpretive trail Black Hawk State Park	Mrs. L. Jean Severson Lake View
56 acres of land Lee County	William and Marguerite Burk Wever	\$125 B.F. "Stubb" Severson Memorial Fund	Mrs. L. Jean Severson
\$10,400 for continuation of fish research project	Iowa Natural Heritage Foundation Des Moines	\$193.39 to be used for turkey program	Waltonian Archers Cedar Rapids
\$4,500 for tower restoration Pilot Knob State Park	Hanson Foundation (formerly Winnebago Industries Foundation) Forest City	\$104.94 for playground equipment A.A. Call State Park	Vintage Gems Rod and Custom Club Algona
535 acres of land sold at 75% of appraised value Appanoose County	Richard, Russell, Ray and Roy Tubaugh Moravia and Belle Plain	\$60 from sale of pelts	George Ehlers Reinbeck
Over 1900 bushels of walnuts	Midwest Walnut Company of Iowa Council Bluffs	\$51.73 for turkey restoration and management	Waltonian Archers Cedar Rapids
Historic Tea Service	Mrs. Betty Numerof Edison, New Jersey	30 arrows and targets	DeSoto Archery DeSoto
\$932 Bruce Drey Memorial Fund for purchase of environmental education films to be used by teachers	Bruce Drey Greenfield	Taxidermy of mounts	Hutton Fur Company St. Charles
Two 1982 Habitat Stamp prints Two 1982 Duck Stamp prints	Tom Walker Council Bluffs	25 traps, various types	Curt Smith Strawberry Point
		Mounted woodchuck, opossum, squirrel and great-horned owl	Harold and Lee Penny Adel
		Mounted muskie	Kathy Wilson Marshalltown
		\$50.00 for taxidermy work	Office of Community College Affairs University of Iowa Iowa City

Again the Conservation Commission wishes to thank these people and organizations and all those who have donated in the past. Our apologies to any donors we have neglected to mention and all those that have donated their time and labor — which are too numerous to mention. Their generosity is a positive example for others to follow and is greatly appreciated.

BRILL RETIRES — NEW PARKS SUPERINTENDENT HIRED

A new State Parks Superintendent has recently been selected to replace Joe Brill who is retiring after 43 years with the Commission.

Doyle Adams, 50, of Indianola, will assume the position effective January 14. Adams is a 24-year veteran of the Commission and for the past 12 years has served as administrator of the Commission's county conservation board activities. A native of Burlington, Adams served as game biologist before going into county conservation board coordination. He has a B.S. in fish and wildlife biology from Iowa State University.

Larry Wilson, Conservation Commission Director, said that Adams' background has prepared him well for his new undertaking. "Adams," he said, "has been closely involved in some very progressive county park developments which encourage park use by those who previously might have ignored the outdoor experience."

Prior to becoming parks superintendent in 1960, Joe Brill served as district parks supervisor for the eastern half of Iowa, and managed the Prison Labor Program for the Commission. His years of service include work as a park ranger at Lake Keomah, Bellevue, Lake Wapello, Ledges, and Lake Manawa State Parks. Brill began with the Commission as a park attendant in 1938.

Born on a farm near Keosauqua, Brill graduated from Keosauqua High School and over the years has participated in programs of state parks, national parks, and recreational organizations.



Joe Brill

One of the founders of the National Association of State Park Directors, he is also a member and has held offices in the National Conference on State Parks, and is a past member and held office in the National Recreation and Parks Association.



Doyle Adams

Commenting on changes that have taken place over the years, Brill recalls when there were two state parks, Pilot Knob and Waubonsie, that used horses for work done today by tractors. Boating and camping, when he first came with the Commis-

sion, were minor park recreational activities, and parks were used mainly for family picnics and reunions.

John Stokes, Chief of Lands and Waters, noted the many years of service Brill has given to the Commission and praised him for a job well done. "Often people comment on spending a lifetime at a job and Joe Brill is one person who has done that with the Conservation Commission. In 1980, Brill completed 40 years of service and in 1981 Governor Robert Ray personally presented him with his certificate for his long service. Joe has seen many many changes over the years and has been responsible for many of them including designated campsites, park expansions, and the Fort Atkinson Rendezvous to name a few," Stokes stated.

NOT MUCH FOR WILDLIFE IN 1982

Congress had its attention on things other than wildlife in 1982. Very few pieces of wildlife legislation were considered and less than half were enacted.

The Endangered Species Act was reauthorized this year, and to the satisfaction of nearly all interested parties. The Act was amended to encourage restoration of endangered species populations, streamline the listing and delisting processes, expedite consultations among federal agencies when developments affect endangered species habitat, and overturn the so-called "bobcat" court decision which required managers to gather excessive information before permitting export of certain animals.

The Sikes Act is expected

to be reauthorized in the next few days of this lame-duck session. That Act requires the Defense Department to conserve fish, wildlife and recreational resources on military land. It also requires the U.S. Forest Service and the U.S. Bureau of Land Management to develop and implement cooperative agreements with state wildlife agencies for improving wildlife habitat on federal public lands.

Budgets for fish and wildlife programs in the U.S. Fish and Wildlife Service and U.S. Forest Service were maintained at approximately the same levels as in 1981. The U.S. Bureau of Land Management was appropriated about \$1.5 million less than last year, and that hurts because BLM has the weak-

est fish and wildlife program of the big-three land management agencies.

Legislation to protect undeveloped barrier islands along the Atlantic and Gulf coasts from unwise development was enacted this year. The measure discourages future development on the islands by prohibiting federal assistance for roads, bridges, sewers and other structures. The federal government stopped issuing low-cost flood insurance for barrier island development last year. The Interior Department has proposed that 188 acres be designated as undeveloped barrier islands under the new law. Such protection for coastal island habitat is especially important to waterfowl and other migratory birds.



Ag-Wildlife Proceedings Available:

Proceedings from the agriculture-wildlife workshop conducted last June at Iowa State University are available on request from Dr. Robert B. Dahlgren, Iowa Cooperative Wildlife Research Unit, 11 Science Hall II, ISU, Ames, Iowa 50011.

The publication includes sections about the interrelationships of wildlife and crop production, soil conservation practices, and water quality.

CEDAR ROCK POPULAR ATTRACTION

This fall, more than 8,000 people visited Cedar Rock, the Frank Lloyd Wright-designed home and grounds recently donated to the Iowa Conservation Commission.

Located near Quasqueton in Buchanan County, the home was built between 1948 and 1950 for Lowell and Agnes Walter. The design represents a classic example of Frank Lloyd Wright's Usonian style and embodies the concept of living simply and close to nature. Cedar Rock is one of the most complete designs Frank Lloyd Wright created and nearly every aspect of the residence bears his imprint.

The house and grounds were donated to the State by the Walters upon Lowell Walter's death in August of 1981.

The preservation and maintenance of the residence and property has been assured by the provision of a trust fund in excess of \$1.5 million. The house and adjoining 11-acre wooded site are managed by the Commission's Parks Section.

BURROWING OWL COLORMARKING: REQUEST FOR INFORMATION

In 1982 burrowing owls were colormarked in south-central Saskatchewan during a research program investigating movements of these owls during the breeding season. Information is requested from anyone seeing a colormarked owl to aid in determining migration routes and wintering areas, which are presently unknown. Each owl carries a Fish and Wildlife band and from one to three colored plastic leg jesses. Jess colors are yellow, fluorescent red, light blue and dark green and are one centimeter wide and extend approximately 1.5 cm beyond the leg.

Persons observing colormarked owls please record the following: location, date, color and position of leg jess or jesses, leg of attachment of

metal leg band and jess or jesses, and any details of the owl's situation. Please send this information to Bird Banding Office, Canadian Wildlife Service, Ottawa, Ontario, Canada, K1A 0E7 plus an additional copy to the bander, Elizabeth A. Haug, Dept. of Veterinary Anatomy, University of Saskatchewan, Saskatoon, Saskatchewan, S7N 0W0. Thank you for your assistance.

Sitings by concerned individuals will help determine migration and wintering habits which will aid in managing this threatened species.

NOTE: Owls were banded with colored leg *jesses* in Saskatchewan and with colored leg *bands* in Manitoba. Please note this difference if marked birds are seen.

IOWA STUDENT WINS PRIZE IN NATIONAL POSTER CONTEST

Anita Mickelson of Eagle Grove, Iowa is a winner in the 1982 National Hunting and Fishing Day Poster Contest. Her poster illustrating the contest theme "Sportsmen and Conservation Working Together" had already been selected as a winner in a locally sponsored poster contest before being entered in the national NHF Day Poster Contest.

Anita, a 12th grader at Eagle Grove High School, won an Honorable Mention Award in the Senior Division and will receive a \$75 U.S. Savings Bond. Her entry was sponsored by the Oakdale Izaak Walton League of Renwick.

Her poster was but one of thousands entered in local NHF Day poster contests sponsored by sportsmen's clubs, civic organizations and schools throughout the country.

Designed to foster an increased awareness of the need for conservation and the role sportsmen play in America's conservation efforts, the 1982 NHF Day Poster Contest was open to all students in grade 5-12.

For information about the 1983 National Hunting and Fishing Day Poster Contest, contact NHF Day Headquarters, Box 1075, Riverside, CT 06878.

IOWA HOSTS 44TH MIDWEST FISH AND WILDLIFE CONFERENCE

Approximately 700 people from twelve states and two Canadian provinces gathered in Des Moines for the 44th Midwest Fish and Wildlife Conference held December 12-15 at the Hotel Fort Des Moines.

The event was cosponsored by the Iowa Conservation Commission and Iowa State University. Allen Farris, Chief of Fish and Wildlife for the Conservation Commission felt the conference was a tremendous success and gave people working in fish and wildlife research and management a good chance to get together to exchange information. Representatives from the U.S. Fish and Wildlife Service, the Army Corps of Engineers, the Soil Conservation Service, as well as state conservation organizations, students and professors of fish and wildlife biology attended.

The plenary session opening the conference was entitled "The Great Rivers — Arena of Conflict" and highlighted the environmental, industrial and transportation conflicts that occur on the Ohio, Illinois, Mississippi and Missouri Rivers.

Over 100 papers were presented by fish and wildlife professionals from throughout the midwest, including an invited paper session entitled "Agriculture — Wildlife Interactions on the Horizon."

Last year's conference was held in Wichita, Kansas. The last time Iowa hosted the conference was in 1972.

DEER HUNTERS URGED TO HAVE TROPHY ANTLERS MEASURED

Iowa deer hunters who bagged a buck with trophy-sized antlers during this past season are encouraged by the Iowa Conservation Commission to enter the rack in the state's annual big game records registry.

An award certificate and a trophy buck shoulder patch will be issued to each entry meeting minimum standards. A complete list of all qualifying entries will be published in the November issue of the *CONSERVATIONIST*. Approximately 80 qualifying racks were entered last year.

To qualify, the rack must be measured and scored by an official scorer. The scoring system used for Iowa records is identical to that used by the Boone and Crockett or Pope and Young Clubs. The Pope and Young Club maintains scores for archery-killed deer while the Boone and Crockett Club keeps records for big game taken with a firearm.

Minimum scores in the shotgun-muzzleloader category are 150 points for typical and 170 points for nontypical. In the archery category, minimum scores are 135 points for typical and 155 for nontypical.

Because of shrinkage, racks taken during this past hunting season cannot be measured for at least 60 days to give time for the antlers to dry out.

Hunters interested in having a rack scored may contact the Iowa Conservation Commission, Information and Education Section, Wallace Office Building, Des Moines, Iowa 50319.

1982 HABITAT IMPROVEMENT TOTALS

For the past 6 years county conservation boards have been actively planting wildlife habitat areas through a program called Acres for Wildlife. The county conservation boards have patterned the program after the old Farm Game Habitat Program sponsored by the state. The purpose of the Acres for Wildlife program is, basically, to improve wildlife habitat (particularly winter

cover) on private and county land. There is virtually no cost to the landowner, he or she provides the land — the county provides the nursery stock and does the planting. There is a 10 year agreement between the county and the landowner, not to disturb the area after the plantings are made.

Last year proved to be a very successful year for the program. Year-end tallies are below.

Landowners interested in establishing a habitat area should contact their county conservation board for help in planning and ordering tree stock.

TOTALS For Work Completed In 1982 Only. 1982 "Acres for Wildlife" Habitat Improvement

	Number of Areas	Number of Acres
<i>Wildlife Habitat Planting</i>		
on county land	184	797
on private land	401	961
<i>Wildlife Food Patches</i>	168	381
<i>Reforestation Plantings</i>		
on county land	96	260
on private land	92	154
<i>Prairie Plantings</i>		
Total	118	611
On county roadsides	35	122

BE SURE OF ICE THICKNESS

"Although two inches of good ice will support a person, I like to see at least four inches of clear ice before I go ice fishing," he said.

"The safest thing to do when uncertain is to cut holes near shore, observe the quality of the ice and measure the thickness," Satre said. "Caution is the answer. Don't ever take anything for granted when the temperature drops to freezing. Check and double-check the ice thickness."

It's that time of year when lakes and streams are becoming ice covered. Because of the danger of uncertain ice conditions, Iowa Conservation Commission officials warned outdoor recreationists to exercise caution and check

the ice thickness before venturing. According to Sonny Satre, Safety Coordinator for the Commission, honey-combed ice is only half as strong as clear, blue ice. He also noted that river ice is dangerous because hidden water currents reduce the thickness in places.

"Generally, five to six inches of clear, hard ice is needed to support a snowmobile," Satre said, "but even when the ice reaches that thickness, it is not safe to run or park snowmobiles close together. Suddenly putting on the brakes can increase stress on the ice and continuous travel over the same path may also weaken that area."

SNOWMOBILE ACCIDENT INCREASE LAST YEAR

Iowa's snowmobile accident rate was much higher during the 1981-82 season compared to the previous year, according to the Iowa Conservation Commission.

Sonny Satre, Safety Coordinator for the Commission, said the increase is due to much heavier snowmobile activity last year compared to the 1980-81 season when there was little snowfall.

Satre said 158 accidents were reported last year, compared to 33 the previous season. Last year's accidents resulted in 95 injuries and 6 fatalities compared to 25 injuries and 7 fatalities during the 1980-81 season.

All six of last year's fatalities occurred during nighttime operation. The highest risk group for accidents was ages 22-30, accounting for 60 accidents. The largest share of accidents happened when the operator was unfamiliar with the area, resulting in collisions with fixed objects such as fences, cables, stumps and boulders. Inattention and speeding accounted for 40 accidents.

Satre reminded young snowmobilers that if they were born after July 1, 1965, they must successfully complete a mandatory 10-hour snowmobile training course before they can legally operate a snowmobile on public land or ice. Last year, 800 students received snowmobile safety training. Since the program began in 1977, over 8,200 students have been trained.

Anyone interested in enrolling in a snowmobile training class should contact their local state conservation officer for information or call the Iowa Conservation Commission in Des Moines, 515/281-6824.

ENVIRONMENTAL EDUCATION CONFERENCE



The Conservation Commission is cooperating with the Department of Public Instruction, University of Northern Iowa and the Natural Heritage Foundation to develop a statewide conservation/environmental education program for grades K-12. A conference to solidify the effort was held December 21 on the fourth floor of the Wallace State Office Building, with Governor Ray and Governor-elect Branstad leading it as key speakers.

SNOWMOBILERS URGED TO PRECHECK MACHINES

Iowa Conservation Commission officials urge fellow snowmobilers to precheck their snowmobiles before operating their vehicles.

The following pre-season checklist can be used by operators:

- **Ignition.** Replace spark plugs and check timing

- **Drive belt.** Check for wear and cracks; measure old belt and compare to specification.

- **Skis.** Check for proper alignment and examine for loose weld joints and loose or worn out wear rods.

- **Clutch.** Lubricate and align.

- **Lights.** Replace burned-out bulbs.

- **Torque converter.**

- **Bogie wheels and/or slides.** Check wheel condition, lubricate axle wheels and bearings. Check for loose nuts and bolts, broken welds, springs, and damaged slide rails.

- **Carburetor/fuel.** Replace fuel filter, adjust idle jet, and check gas lines and fittings.

- **Track.** Examine for broken cleats, loose or torn drive holes and ply separation.

- **Chain.** Lubricate and examine chain tension.

- **Brakes.** Replace worn parts. Make sure they are at proper setting and in good working condition.

- Check for loose nuts and bolts on the sled.

- Check spare parts and tools. Pack light bulbs so they won't break. Always replace with correct type. Incorrect type could damage electrical system. Spark plugs need to be gapped. Check owner's manual for proper setting. In an emergency, a match cover will approximate gap. Spare belt. Tools (pliers, adjustable wrench, screwdrivers — flat and Phillips). Starter pull rope — owner's manual.

Operators should refer to their owner's manual or a qualified mechanic when adjusting or replacing parts.

Remember — A Safe Winter Is A Fun Winter!

CLASSROOM CORNER

Last spring the Conservation Education Center, located adjacent to Springbrook State Park, decided to follow up the restructure of the Center use priorities. The number one Center priority is working with groups of educators.

The follow-up activities include a series of workshops for which there is college credit. Des Moines' Drake University is offering the credits at a reduced cost. There is one workshop each month, January through May, 1983.

The January workshop is titled, *Winter Solstice*. It is sponsored not only by the Iowa Conservation Commission but also the Iowa Conservation Education Council and the Department of Public Instruction. It starts with registration at 5:00 pm on January 21, 1983 and will conclude with lunch at noon on the 23rd. This workshop is different from the others in that it offers a series of concurrent sessions intermixed with major presentations. This allows a maximum number of topics to be presented. These topics vary in content, from where animals go in winter, to presentation methods, to outdoor recreation lessons on backpacking and cross country skiing.

The other four workshops have been grouped into "Conservation — The Teacher/Naturalist Workshops." These will acquaint educators with the Iowa Conservation Commission and its role in the management of Iowa's natural resources. Ideas and methods for conservation classroom and outdoor learning activities will also be presented.

The February 25-27, 1983 workshop is *Oh Deer — How Many Are Coming to Dinner*. This workshop will look at Iowa's deer population with special notice of the

herd in Springbrook State Park. Topics which will be covered include: deer habits, population control, management procedures, signs and diseases.

The March 18-20, 1983 workshop is *Avian Adventure in Iowa*. This workshop will look at the bird populations as they exist in Iowa, particularly, Guthrie County. Special notice will be on bird habitat. Included in this study will be bird management, surveys, resource inventory and bird feeding. In addition, the topics of Canada geese and turkey restoration, bird banding and nongame biology will be covered.

The April 15-17, 1983 workshop is *Prairie Primer — A First Hand Experience*. This workshop will look at prairies in Iowa, past and present. Special notice will be made of the prairie ecosystem. Included are plant and animal relationships, uses of prairie plants, burning of Sheeder Prairie and prairie soils.

The May 20-22, 1983 workshop is *Fishing Around in the Water*. This workshop will look at fish populations as they exist in Iowa, particularly Guthrie County. Special notice will be on fish habitat. Included in this study will be fish management, identification, comparison of lake and river populations, and limiting factors of fish in Iowa. Other topics include fish hatchery activities, water ecology and fishing methods.

If you want to get more conservation activities into your classroom or just learn more about some of Iowa's natural resources, plan a trip to the Center for one or all of these workshops. For registration or more detailed class information write to the Conservation Education Center, R.R. #1, Box 53, Guthrie Center, Iowa 50115.



Bohumil Shimek

By Celia Smith-Burnett

Celia Smith-Burnett is a student at Iowa State University in Ames. She is double majoring in fisheries and wildlife biology and journalism.

One of Iowa's best-kept secrets may well be Shimek Forest nestled along the Des Moines River in the far southeast tip of the state. One mile east of Farmington on Highway 2, straddling Van Buren and Lee counties, the cool sandy woodlands provide camping, picnicking, hiking and biking trails, pond fishing, hunting and snowmobiling.

Somehow the anonymity of Shimek Forest seems unsurprising since another of Iowa's best-kept secrets may be the man for whom the forest is named — Bohumil Shimek.

Shimek was a man of extraordinarily diverse talents and interests who made many important contributions in many different fields — one of Iowa's early conservationists.

This man who would later in his life become internationally known for his scientific work came from turbulent beginnings. His parents were Bohemians who participated in the 1848 political revolution against the oppression of the Austrian Hapsburg dynasty in present-day Czechoslovakia. His

father would later tell Shimek of hiding incriminating books in bread dough or under the clothing of a child when their home was searched by Austrian agents for evidence of disloyalty.

In fear for their lives and to escape the political persecution, Francis Joseph Shimek and his wife Maria Theresa immigrated to America in 1856. They settled in northern Johnson County. There, on a farm southeast of Shueyville, Bohumil Shimek was born on June 25, 1861.

Taking refuge from the hardship and poverty of his youth on the farm, Shimek retreated to the woodlands surrounding his home. He learned to understand and love the songs of the native birds and the cycles of the seasons. His instinctive knowledge of nature led him to collect several hundred insects and group them according to those characteristics he felt were important, a system later discovered to be remarkably similar to conventional classification schemes.

Upon graduation from Iowa City High School in 1878, Shimek entered the University of Iowa as an engineering student, working as a surveyor for the railroads to support himself. Before he finished college in 1883, his

parents, sister and brother died, leaving him completely without family ties or home life.

His career as a civil engineer was destined to be brief because of his lifelong interest in the natural sciences. So, in 1885, Shimek embarked on a teaching career that spanned 50 years and encompassed a vast spectrum of interests.

Perhaps most intriguing about Shimek was his unfailing curiosity about the natural environment. He was inquisitive as well as acquisitive, spending hours hiking the streambeds, prairies and hillsides of Iowa, collecting thousands of specimens for scientific study and simply observing and enjoying the natural world.

On the occasion of Shimek's golden anniversary as a teacher in 1932, a classmate remembered the young naturalist wandering along the river banks in spring, pausing to gather freshwater mollusk shells. He would examine them intently, putting the best specimens in his pocket. "His close scrutiny completed, he remained quietly seated in communion with nature, attentively observing the birds and other creatures as they hovered tamely about him. Often he leaned back to gaze silently into the

trees and skies above. Then he would rise and continue his search."

It was on many such journeys that he collected data and samples of bones, fossils and shells of snails that lived long ago. He was later considered an early authority on this molluscan paleozoology, a subject to which he devoted over 50 papers.

His sharp observations also led him to establish the now-accepted theory of the aeolian, or windblown, origin of the sandy loess deposits found throughout Iowa, Nebraska and other parts of the Midwest.

But it was his work as a botanist that most distinguishes Shimek. He returned to the University of Iowa in 1890 to become, in time, professor of botany, head of the department, research professor, curator of the herbarium and director of Lakeside Biological Laboratory at Lake Okoboji.

Although he traveled from Canada to Central America, from the Appalachian mountains to the southwestern deserts, his most important work as a naturalist was performed in Iowa.

His years of hiking throughout the state added a perspective of time — of seasonal and natural cycles — to his observations. He had seen the breaking of the virgin prairies and the clearing of many of the original woodlands. He had compiled endless regional lists of the native vegetation. His priceless collections and observations recorded the changes that took place during the settling of the state.

But it was the prairies that most fascinated Shimek. His authoritative fieldwork on the prairies of Iowa contributed data about their species, their tolerance and resistance to drought and wind, their succession patterns and their ability to survive and spread amid adverse conditions.

Such love and understanding for the natural environment led Shimek to envision a progressive and forward-looking conservation program. He wanted a program which would preserve the natural beauty of Iowa for future generations, restore thousands of acres of hillsides to forests yielding revenues for their owners, preserve the fertility of the soil, protect the wildlife and their habitat in the state and encourage broader conservation education and knowledge.

This pioneer naturalist revealed to his students the rhythms and cycles of nature, not gathered from books but from a lifetime in the outdoors. He

brought his students into the field to show them directly how the soil, climate, plants, animals and human beings are bound together in the web of natural communities.

Ultimately he helped them understand nature, to appreciate it and enjoy it. He often taught with a kind of fervor and urgency. A former student wrote about making a collection of yellow lady's-slippers and Professor Shimek's reaction: "Vandal!" Later the two hiked to a strip of vanishing woodland where Shimek inserted a tiny stick into a lady's-slipper to gather pollen. He then proceeded to pollinate by hand the rest of the flowers. "For many years," Shimek told the student, "I have been watching our woodlands disappear and with them our lovely orchids.... It is for that reason that I have assumed this duty, and season after season when they are in bloom I have come to help them, if I may. And I believe that is partly due to this assistance that they still linger as we find them here. Probably now you understand why I said 'Vandal!' when I saw your collection the other day."

Another student remembered his skill as a teacher: "When we went to the field, it was with the greatest field ecologist of his day. He was great because he was an ecologist, not merely a plant ecologist. He knew animal life as he did plants; he did not collect fungi and remain incurious to the scuttling insect life which the overturned log revealed. We got the whole story. He taught us the bird calls as we tramped and showed us the all but invisible snail shells in whose lines he read the story of the wind deposition of the loess."

There was a personal side to this scientific man. Shimek, the son of parents grateful for their freedom and sympathetic to the needs of the oppressed, took an active role in the struggle for independence for the Czech people of Bohemia during World War I, carrying on the fight of his Bohemian parents.

He devoted himself to the movement for freedom of the Czechs. In 1915 he became president of the Iowa branch of an organization known as the Bohemian National Alliance, founded to give financial and moral support to the struggle for independence. He gave lectures, donated money and traveled extensively for the cause. Under his leadership, Iowans raised over \$100,000 for the cause and induced more than 100 Bohemians who were not American citizens to join the independent army.

His activities were successful for, on October 28, 1918, an independent Czechoslovak republic was proclaimed and recognized by the Allies.

Shimek was also active in the Czecho-Slovakian Council of Higher Education, dedicated to bringing technical and university education within the reach of gifted students of the new nation.

In recognition of his services in the nationalist movement and in education, the Czechoslovakian government officially presented Shimek with a special medal of honor in 1927.

In 1886 Shimek married Anna Elizabeth Konvalinka of Iowa City. They had five children, daughters Ella, Bertha, Anna and Vlasta and a son Frank. Three years after his wife died in 1922, he married Marjorie Meerdink of Muscatine who remained his traveling companion until his death.

For most of his life Shimek was a strong and healthy man, commonly walking many miles a day to do research work in the field. An excellent swimmer, he is reported to have saved a student from drowning in Lake Okoboji.

At Christmas time in 1936, he contracted a severe cold which disabled him, although he was well enough to classify some of his plant collections. He suffered a relapse however, and died the morning of January 30, 1937 at the age of 75.

In the mid 1930s, 4,000 acres of depleted farmland along the Des Moines River were purchased by the state. Smaller acquisitions continued until pre-World War II days. Through an appropriation by the General Assembly in 1964 an additional 3,000 acres were added in a purchase from U.S. Forest Service.

In 1950 Iowa honored the late Dr. Bohumil Shimek by naming for him the largest continuous stand of forest cover in the state — Shimek Forest.

Pioneer, engineer, geologist, botanist, conservationist, educator, patriot and citizen — Bohumil Shimek was truly, quietly, an impressive man.

The author wants to thank the Iowa Historical Library for their aid in obtaining material for this article.

WHAT ABOUT TOMORROW'S WOODLANDS?



By Larry Davis

In 1850, Iowa had six and one-half million acres of woodlands. By 1954, land conversion to row crops and pasture had reduced the figure to two and one-half million acres. In 1974, only one and one-half million forest acres remained. Added to these alarming factual figures are the U.S. Forest Service projections which suggest a continued loss of from 12 to 27 percent by the year 2004.

What should be done? This question was posed to visitors to the Conservation Commission's forestry exhibit at the 1982 Iowa State Fair. They were asked to express their opinion on several possible courses of action to help the challenge of continued loss of Iowa's woodlands.

Perhaps most encouraging was evidence that those questioned were aware of the problems that exist and offered suggestions to meet them. Some commented on the trees versus row crop problems of soil erosion, environmental degradation, low crop prices, farming steep land and wildlife habitat. The County Conservation Board program received favorable comment. A few suggested a return to C.C.C. forestry work.

Also encouraging is the fact that the majority of the questionnaires showed agreement on three specific approaches to the loss of woodlands. These are: regulation of the use of land, either by zoning, by legislation, or by taxation (higher taxes for improper land use); public acquisition of woodlands, either by purchase, by payment for proper use, or by condemnation purchase; and public assistance and incentives, such as providing tax reductions on steep,

erosive lands, providing free assistance to individual landowners, providing low cost trees for replanting, and providing educational opportunities for landowners.

So what does this opinion survey tell us about the Conservation Commission's forestry program? State Forester Gene Hertel offers several observations. The survey indicates that the forestry programs of the Commission are on target, Hertel believes, but something more is needed.

"In spite of current and past incentives to forest planting and maintenance, forest losses have continued, alarmingly," Hertel says, "but in 1982 the legislature responded to that loss and the loss of other natural areas, by enacting House File 2351. This act, popularly known as the 'Slough Bill', grants property tax exemption for forest land protected from grazing and properly managed as a timber crop. Provisions of the bill's tax exemption will shift the tax burden of maintaining and planting forest trees from the individual woodland owner to all non-farm taxpayers. In this way, every citizen has an investment in the woodlands and continues to benefit from them."

"Those who responded to the state fair survey," Hertel points out, "have said that forests are important and public assistance is appropriate to encourage this use for Iowa land. The legislature has responded in the same way with tax exemptions for forest land. The Commission will respond by continuing programs of public land purchase, low cost nursery stock, professional forestry services to landowners, and full cooperation with taxing authorities in carrying out new legislative direction."

Whether enjoying the fall color, being protected from the chill winter wind, being renewed by a blanket of spring flowers, or escaping the shimmering heat of a summer sun, everyone gains something from Iowa's woodlands. Throughout the year woodlands provide shelter and food for wildlife, protection of the soil from the ravages of fierce winds and torrential rains, fuelwood for thousands of homes, and a wealth of products for homes and businesses.

What can be hoped for the years ahead? Hertel is optimistic, and believes that Iowa can meet the challenge. Summarizing the situation, he says, "Iowa has four million acres of Class V, VI, and VII land. If three-fourths of it were forest, our soil resources would be protected, stream and lake quality would be improved, while at the same time wildlife and enjoyable outdoor recreation would be assured, and wood products would continue to be available."

"With the broad public interest in keeping forests in the Iowa landscape and with the tools which the legislature has provided," Hertel concludes, "Iowa could have three million acres of productive forest for the enjoyment and benefit of everyone."

Perhaps this goal is one we should adopt.

HOW MUCH IS A TREE WORTH?

For all you wood-burners out there trying to escape the high cost of oil, consider the value of trees.

A college professor in India estimates a tree which normally lives 50 years would produce about \$31,250 worth of oxygen; \$62,500 in air pollution control; \$31,250 in soil erosion and additions to soil fertility; \$37,500 in recycling water and controlling humidity; \$31,250 in shelter for birds and animals; and \$2,500 worth of protein for a whopping grand total of nearly \$196,250 — not including the value of fruits, flowers and the wood itself.

According to those figures, the average tree sold for commercial purposes brings less than 0.3 percent of its real value.



Ken Farnsworth

QUAIL / Iowa's Native Upland Game Bird

By Bill Rybarczyk and Jim Wooley

The bobwhite quail, familiar to many by its cheery whistle throughout the spring and summer, is Iowa's only remaining native upland game bird. Prairie chickens and sharp-tailed grouse formerly resided in Iowa but were eliminated by changing habitat in the early part of the century. The bobwhite is an important gamebird, popular with hunters and second only to the ring-necked pheasant in terms of numbers of birds harvested annually. Quail are also popular with bird watchers and other non-hunting users of our outdoor resources. Formerly quail were found across much of Iowa but intensive farming in northern Iowa has limited

much of the necessary woody habitat in that area. Bobwhite are now commonly found in southern Iowa, where milder winters, rolling brushy terrain and smaller cropfields support good densities of this species.

Identification:

While there are significant differences in the appearance of male and female bobwhite, it may be difficult to distinguish sex unless the birds are closely observed in the hand. Males have white chins and upper throats, a white stripe that extends from the bill through the eye to the back of the head, and a brown-to-black chest collar under

the throat and chin. Feathers of the breast and abdomen are white with black barring while upper body and wing feathers are muted tones of brown and gray barred with black. By contrast, females have tan instead of white coloration on the throat, chin, eyestripe and underparts. Females also lack black neck collars and exhibit brown barring or mottling of body feathers. Iowa quail are about 9 to 10 inches in length and average about 6 to 7 ounces in weight, with males slightly heavier than females.

From midsummer to early spring the characteristic coveying behavior of quail is evident, and groups of from 8 to

QUAIL

25 birds are common. At night, quail roost in a tight circle with their heads pointing outward; this gives all members of covey mutual protection from predators and helps conserve body heat. The only other Iowa bird which conveys and roosts in this manner is the Gray Partridge, common in northern Iowa. The location of a quail roosting site can be determined by the characteristic oblong pattern of droppings left by the covey. The presence of bobwhite in your area should be evident by the familiar whistle of the males in spring and summer.

Reproduction:

In late March and early April, coveys begin to break up as pair bonds form between individual males and females prior to the breeding season. Increasing photoperiod (daylight hours) brings about this pairing and stimulates growth of the reproductive organs in both sexes. Unlike ring-necked pheasants, quail are monogamous — pairing and staying with a single mate during the breeding season.

Bobwhite nests are characteristically found in herbaceous vegetation consisting of mixed grasses and forbs such as found in fencerows, roadsides or idle areas. Nests are generally located within 50 feet of the edge of a cover type. Both the cock and hen work at building the nest by digging a shallow scrape and lining it with dead leaves and grass. Adjacent grasses are arched over the nest, concealing it from overhead and giving it the appearance of a small tunnel. Egg laying begins several days later at the rate of about 1 egg per day until the clutch (averaging 14) is completed. While both the cock and hen may infrequently share incubation duties for the 23 day period prior to hatching, the female generally performs the most incubation. Males, however, may complete incubation of a clutch if the hen is killed. Nests established earlier in the year tend to have larger numbers of eggs while later clutches contain fewer.

Nests may be established as early as mid-April or as late as early September in Iowa, but most young are hatched around the end of June. Unusually cold or warm springs may either delay or

advance the peak of hatching. All eggs in a nest hatch within a 24 hour period and adults and young leave the nest together as soon as the chicks are dry. Chicks can fly in 2-3 weeks and will resemble adults in 15 weeks. Adults and young remain together in a covey unit until fall, when the "fall shuffle" (mixing of individual quail between coveys) takes place.

A persistent myth regarding reproduction in bobwhites is that hens rear more than a single brood in one nesting season. This belief may result from a person observing a brood with 2 sizes of young, or flushing a cock and a hen from different nests in the same vicinity. However, wild quail raise only a single brood each nesting season. Broods of small quail in late summer are the result of chicks separating from their original brood and joining another when two or more coveys mix at feeding or resting areas. Care of the young, physiological limitations on the reproductive system, and the short duration of the nesting season effectively eliminate the possibility of second broods.

While nest losses can average as much as 60 or 70%, persistent re-nesting may result in about half of adult females eventually bringing off a brood. Mortality to chicks is especially high in the first two weeks following hatch and by fall broods may have sustained losses of 30-50 percent.

Quail, however, show an amazing ability to rebound from substantial population losses. Given good nesting conditions and mild winters in years following heavy winter losses, quail populations may recover completely in from 2 to 4 years. On the Decatur-Wayne Research area near the Missouri border, Iowa Conservation Commission biologists have censused quail populations on over 4,000 acres of private farmland in spring and fall for the past 15 years. In the spring of 1979 the lowest quail count ever recorded on the area was observed (58 birds) following a winter which had been the most severe in 40 years. By the fall of 1979, quail had tripled their numbers. The winter of 1980 was extremely mild allowing excellent survival, and near perfect nesting conditions in spring allowed quail numbers to rebound to levels which exceeded those just prior to the severe winter of 1979. Only two years had been required to return the population to its original status.

Two important points must be made, however. First, this recovery took place in good to excellent quail habitat. Popu-

lation response in marginal areas may take longer and some poor habitat areas divorced from the major quail range may never again hold quail populations. Secondly, the recovery of quail on the Decatur-Wayne area took place *even though quail were still hunted during the period of reduced numbers.*

Hunting:

Over the past 20 years, Iowa quail hunters have harvested an average of about 700,000 birds annually. This harvest has occurred without long-term detriment to the population. Numerous past studies have shown that quail populations are unaffected by hunting. In both hunted and unhunted populations, quail show the same annual pattern of mortality. Each year approximately 80% of all quail will die, whether hunted or not. Hunting mortality is compensatory in quail populations (as in other small game), taking the place of losses to predators, disease, weather and other decimating factors.

Many sportsmen and others fear that hunting quail during periods of low populations will contribute to a further decline in quail numbers. This fear often manifests itself in demands for reduction in season length and bag limits. However, for the reasons outlined above such an approach makes little sense. Since hunting is compensatory, approximately the same number of quail will die in any event. In addition, reduction of bag limits has minimal effect on reducing harvest. One study has shown that by reducing the bag limit by 2 birds, only a 6 percent reduction in harvest could be achieved, even if 25% of all bags taken were at or near limit. In practice, very few quail hunters successfully take limits of quail. Several studies have also indicated that low quail numbers act as an effective deterrent to quail hunting. Gunning pressure upon quail is directly related to numbers — as quail populations increase, so does hunter interest, gunning pressure, and harvest. As populations decline, the reverse is true.

Some individuals and groups advocate stocking as another "solution" to periods of low quail numbers. Quail stocking efforts, however, have proven to be both costly and ineffective. Survival of penreared quail used in stocking is extremely poor once they are released in the wild. Significantly, it has been shown that stocked areas recover from heavy quail losses no faster than areas in which native populations rebuild without the aid of stocking.

Quail hunting is best enjoyed with a light weight 20 gauge shotgun and a good pointing or retrieving dog. An open-choked, double-barrel or other shotgun is preferred by many as most quail shooting is close-in work. The range of shot size from No. 7½ to 9 is adequate. Field borders, brushy ravines, hedgerows and brushpiles are all likely spots to find quail. A hunter's opportunities are greatly improved, both in terms of shooting and bringing birds to hand, if he has a well-trained dog. Breed is dictated by an individual hunter's preference, but English Setters, Brittany Spaniels, German Short-Hair Pointers, and Labrador Retrievers are all popular in Iowa.

Food Habits:

Quail generally forage twice a day, in early morning and mid-to-late afternoon. Bobwhites are primarily seed eaters, utilizing both weed and grass seed, and crop residues. Corn and soybeans form the major portion of the diet in fall, winter, and spring. Among weed seeds, ragweed is often consumed. Insects are an important food item for adult females during the reproductive period because of the high protein demands of egg laying. Young quail also feed very heavily on insects in the first few weeks of life when growth is rapid, gradually shifting to a greater proportion of seeds as they near adult size. The foods consumed by quail, however, may vary from year to year and season to season based on availability.

Habitat:

Quail are fond of the "edges" of major cover types. An ideal land use pattern for bobwhite might be an area with 30 percent grassland, 40 percent cropland, 20 percent brushy cover and 10 percent woodland. As the degree of interspersed of these major cover types is increased (that is, the mixing or breaking up of these cover types) a given area will become more attractive for quail. Edge effect can be increased by planting or maintaining hedgerows of osage-orange, honeysuckle, autumn olive or other shrubs on the borders of fields and woodlots. Brushy draws, shrubby and weedy fencerows and windbreaks also provide both travel lanes and vital escape cover for quail. Perhaps one of the easiest ways to provide escape and roosting cover for quail is to protect pond areas from cattle by fencing. Pond borders allowed to grow up in annual weeds with protective shrub or tree plantings often receive

significant quail use during all seasons of the year. Allowing cattle to graze woodlots, pond borders, brushy ravines, fencerows, roadsides and other idle areas greatly reduces the usefulness of these areas for quail.

The amount of brushy cover available to quail for nesting, escape and winter cover is without doubt the major limiting factor for quail populations in Iowa. Adequate brushy winter cover often spells the difference between the survival or death of quail coveys during severe winter weather. Hedgerows of osage-orange, wild plum thickets, tangled areas of wild grape, multiflora rose and raspberries, brushy draws, and fencerows are fast disappearing across the major quail range in southern Iowa. A Wisconsin study reported that quail populations on a particular area were eliminated when the amount of hedge declined to less than one mile per section of rural farmland. However, hedgerows alone cannot provide all necessary brushy cover requirements. Woody thickets on creek and ditch-banks, idle corners and fencerows grown up to brush, and shrubby borders of woodlots are also essential. Unfortunately, this type of cover has been reduced substantially in recent years and will continue to decline as farming operations become larger and more efficient, dictating increasing field sizes and reduced diversity in crops and cover types. This will result in the eventual elimination of idle brushy areas necessary for good quail numbers unless landowners make positive efforts to preserve such cover.

The attractiveness of an idle area for quail is also dictated by the composition and structure of vegetation. Quail (like pheasants) move primarily by walking, resorting to flight only to escape predators or travel significant distances. Therefore, medium density idle areas composed of mixed grasses and forbs are important. Idle cover should be managed to provide nearly bare ground underneath standing vegetation. Areas with excessive litter or lodged matter are not attractive to quail since movement is hampered by dead vegetation. To correct this problem, wildlife managers often use controlled burning as a method to remove the litter and rejuvenate existing vegetation. Burning, however, should be accomplished by mid to late April in Iowa since quail and pheasant nests may be destroyed if burning takes place in May. A program of controlled burning takes into consideration only partial burning of a given

area (thereby leaving some cover each year for nesting and roosting) and an established schedule of burning plots in 3-5 year intervals.

Mobility:

Bobwhite are among the most sedentary of gamebirds, having no major seasonal patterns of movement. During winter, coveys utilize only as great an area as necessary to fulfill their need for food, roost cover and escape cover. Such an area may range from as little as 12 acres to as much as 50 acres. In spring, most quail will move only as far as needed to find nesting cover, usually less than one-half mile. Summer movements by pairs and broods are negligible, averaging between ¼ and ½ mile. Fall movements are also small, with average movements of less than ½ mile. Quail do possess the ability to move long distances and pioneer into unexploited habitat. As an example, one movement of 26 miles has been documented. However, in general they exhibit very limited movement.

Population Fluctuations:

In Iowa and other states which form the northern extreme of the bobwhite quail range, losses of quail due to harsh winter weather are to be expected from time to time. Sudden winter blizzards, and especially ice storms, are devastating to quail. Quail are primarily dependent during the winter upon waste grain available to them in crop fields. A heavy coating of ice or extremely deep snow effectively eliminates this food source. In frigid temperatures, quail without adequate food resources can starve to death in approximately one week. Unfortunately, little can be done to remedy this situation. Quail are less mobile in winter than at any other period of the year and a food shortage restricts mobility even more as quail seek to reduce movement and conserve energy. While this strategy is effective in a short-term crisis, periods of food shortage lasting a week or more transform this energy saving scheme into a futile survival effort. Because of this response, feeding programs by wildlife agencies, sportsmens groups and others seldom reach the large numbers of quail in need of assistance. Only coveys close enough to reach supplemental food with minimal effort will benefit. Most will die, far from where grain has been left for them. Birds which do survive are often badly stressed by their poor body condition and may delay breeding activities until much later than usual.

THE COMPOUND BOW

Improvements in the efficiency of compound bows may threaten the primitive status of bow hunting.

By Lee Gladfelter

Lee Gladfelter is a wildlife research biologist in Boone. He received a B.S. degree from Kansas State University in 1964 and an M.S. degree from the University of Idaho in 1966. He has been with the Commission since 1969.



Hunting is the major mortality factor for white-tailed deer in Iowa and a comprehensive harvest plan is essential for good deer management. Low deer densities combined with high recreational demand and landowner intolerance for crop damage requires a management plan providing an adequate harvest without endangering the resource.

Bow hunter recreation and harvest

are an important part of this management plan. Historically, archery seasons in Iowa have provided many days of recreation with a lower harvest, per hunter, than firearms seasons. However, this aspect may be changing due to increasing bow hunter numbers and use of sophisticated archery equipment.

Bow hunting in Iowa was undergoing a major change in popularity between 1972 and 1975 as evidenced by a 78%

increase in bow license sales and a 67% increase in deer harvest. Bow seasons were 51-56 days long and included the major period of rutting activity for deer. Archers were issued any-sex licenses and success during this period averaged about 19%. Compared to many other states, bow hunter success was high because of high deer vulnerability in Iowa's limited habitat. In addition, an improved weapon called the compound

W — Good News and Bad News

bow was gaining popularity with the bow hunting public.

The compound bow incorporates a system of cams and cables that allow more energy to be stored in the bow limbs and a more efficient transfer of that energy to the arrow. This produces a slightly faster arrow with a flatter trajectory and improved accuracy. Also, the 30-50% "let-off" of the compound enables a hunter to hold the bow at full draw for a longer period of time than with a conventional bow, enhancing proper sighting and target positioning. The good news about the compound bow is that its ease of handling has encouraged greater participation in the sport by women and young people.

In 1976, the Iowa Conservation Commission began to study the effects of compound bows on many aspects of the sport of bow hunting. Objectives of the study were to document changes in compound bow use and to determine the effects of hunter experience, number of days hunted, and bow type on success and crippling rates. Knowledge of the relationship between these factors would be used to properly evaluate harvest information and help formulate hunting regulations that would accomplish deer management goals.

An annual sample of 3,500 archers in 1976-78, 1,600 in 1979, and 2,000 in 1981 was selected to receive a post-season hunter questionnaire. The sample was drawn by randomly selecting hunters from the county where their license was purchased. The questionnaire requested information on number of days hunted, success, crippling (number of animals hit but not retrieved), and type of bow used (compound or other). In 1977, a question was added which asked for the number of years of archery experience. If a reply to the first mailing was not received within 1 month, a follow-up

questionnaire was sent. About 78% of the 14,000 archers surveyed returned questionnaires. Hunters reporting they did not hunt and those submitting incomplete information were not included in the sample. Various statistical tests were conducted on the data to determine differences between response categories.

Success Rate

Bow license sales from 1976 to 1981 increased 38% (12,522 to 17,258) while estimated harvest increased 87% (2,300 to 4,300 animals). In addition, annual success for active bow hunters increased to 26% by 1981 (Fig. 1). It was hypothesized that use of compound bows was responsible for the increase in success and number of deer harvested since the increase in number of hunters was significantly less. Hunter success may also have been affected by changes in the deer population size. It was felt



Fig. 1 — Annual change in bow hunter success rate, 1976-79 and 1981.

that a comparison of success rate for hunters using compound bows and those using other bow types (recurve and long bow) would be valid because changing deer populations should affect both types equally.

The survey indicated that the percentage of archers using compound bows increased from 32% in 1976 to 82% in 1981 (Fig. 2). This rapid increase in compound bow use could probably be

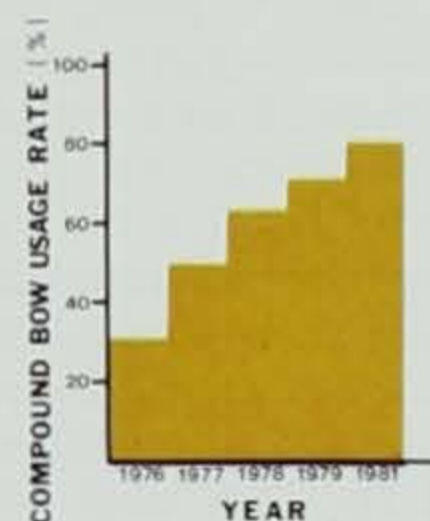


Fig. 2 — Annual change in percentage of bow hunters using compound bows, 1976-79 and 1981.

attributed to good commercial advertising and market availability, wide selection of sizes and styles, reasonable cost, good adaptability to sights and other shooting aids, and increased awareness of improved performance and ease of handling.

The most important discovery from the survey was that archers using compound bows had a 1.4 times greater chance of harvesting a deer than those using recurve or long bows. Annual success rate for compound bow users was significantly higher than those using other bow types. Compound bow users' annual success rate ranged from 25-29% compared to 17-24% for those using other bow types (Fig. 3).

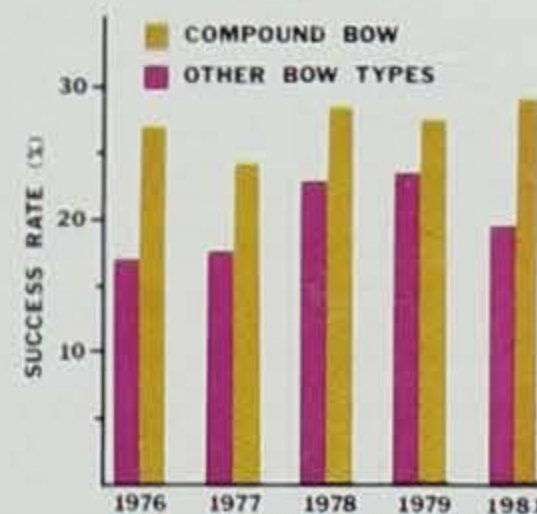


Fig. 3 — Annual success rate by bow type, 1976-79 and 1981.

Statistical methods were utilized to determine if factors other than bow type may have played an important role in

success rate differences. The first factor to be considered was the effect of days hunted on success. It was found that success rate remained about the same for both compound and other bow users as the number of days hunted increased. Increased success might be expected as number of days hunted increased but this was not substantiated by the data. Hunter experience and timing of the hunt are probably more important than actual number of days in the field. Compound bow users hunted slightly longer, reporting an average of 16 days per season compared to 14 days for other bow types. The increased efficiency of the compound bow was demonstrated by hunters requiring an average of 60 days of hunting to bag a deer with a compound to 68 days for other bow types.

The most important factor associated with hunter success was the number of years of bow hunting experience. There was an upward trend in success rate for both compound and other bow users with increasing years of experience (Fig. 4). It seems reasonable that chances of success would improve with experience because of better knowledge of hunting techniques, deer behavior, and shooting skills. Average years of bow hunting experience was not significantly different between bow types and therefore was not responsible for differences in success rates. Reported hunter experience averaged 5.8 years for recurve and long bow users compared to 5.2 years for compound bows. This similarity in average experience was probably a factor of a small group of experienced recurve and long bow hunters who did not wish to give up their style of hunting compared to many experienced hunters who switched to compounds in addition to a large group of new hunters who were purchasing and using compounds for the first time.

Some variation in hunter success between years was observed which may reflect fluctuations in deer population size, chronology of corn harvest, weather, or other factors (Fig. 3). Deer-vehicle accident rates were used to determine deer population changes. The amount of corn harvested by 10 November (mid-point of the bow season) was used to document crop harvest. An early corn harvest may increase hunter success because deer are forced into timbered areas where they are more vulnerable to archers whereas, a late harvest may have the opposite effect. Mean temperature and precipita-

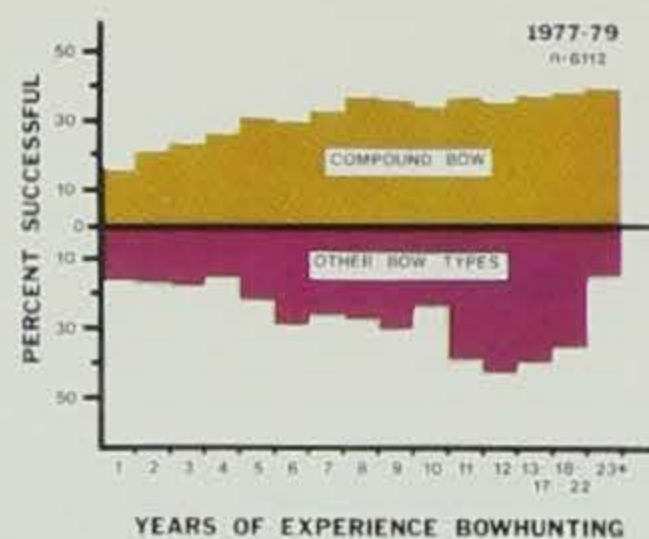


Fig. 4 — Change in bow hunter success rate by years of bow hunting experience, 1977-79.

tion during the bow season was used to compare weather factors. However, variation in annual success rates could not be completely explained by deer population changes, date of corn harvest, or weather.

Crippling Rate

Crippling rates for both bow types slowly increased during the study period. Reported crippling rates for compound bow hunters were slightly higher than for other bow types for all years, but these differences were not significant (Fig. 5). The higher compound bow hunter crippling rate may be a factor of chance or due to differences in the use or performance of the compound bow. Compound bow hunters may have attempted longer shots be-

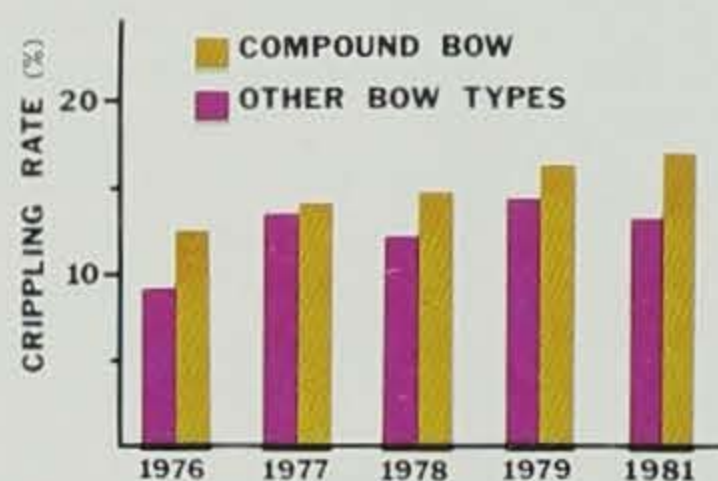


Fig. 5 — Annual bow hunter crippling rate by bow type, 1976-79 and 1981.

cause they have more confidence in the capability of their weapon. Also, compound bow users hunted more days which may have increased their opportunity to make a crippling shot.

Survey data indicated that the odds of crippling a deer were 1.4 times greater for unsuccessful than successful hunters. One reason for this may be that unsuccessful hunters spent more time in the field. Chances of crippling increased with number of days hunted regardless of bow type. Logically, more days in the field leads to greater opportunity for shots which may result in crippling.

Crippling rate remained fairly constant for both compound and other bow

types regardless of number of years of hunting experience (Fig. 6). It was expected that increasing hunter experience might lead to less crippling, but no such case could be demonstrated from this data. One conclusion that could be made is that crippling is not correctable by increased training or field experience and is therefore a byproduct of the

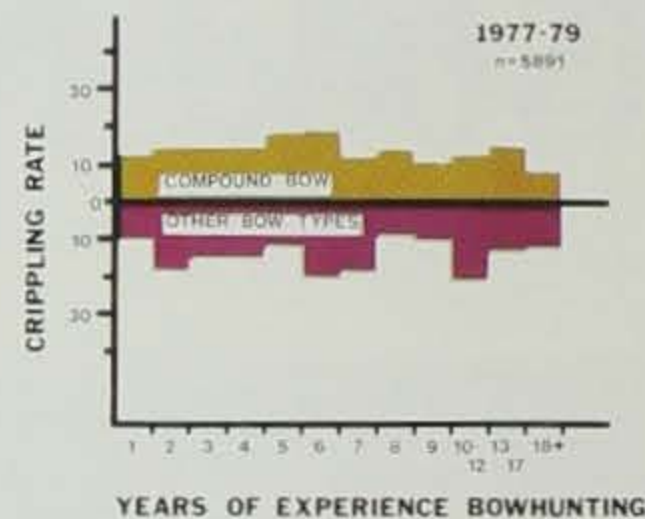


Fig. 6 — Change in bow hunter crippling rate by years of bow hunting experience, 1977-79.

sport. Another conclusion could be that inexperienced hunters may be more reluctant to report crippling than experienced hunters.

Conclusions

The bad news is that continued improvements in the efficiency of compound bows may threaten the primitive status that bow hunters have enjoyed for so many years. The critical issue will not only be future technological advances in compound bow performance but also advances in shooting aids such as sights, releases, etc. From a resource standpoint, bow hunters are not harvesting as many deer as firearms hunters, but their success rate in Iowa is nearly the same because of bucks-only restrictions on the majority of firearms hunters. Some bow hunters are aware of the danger to their primitive sport and are switching back to recurve bows. Our deer herd is currently growing and there is no need for restriction. But if population levels begin to decline, the harvest by all hunters will have to be reduced. I feel that current equipment and success rates are tolerable but bow hunters should be very cautious about encouraging the development and use of better weapons and associated shooting aids. I recommend a continuing commitment to the resource through the education of all bow hunters on topics such as hunter ethics, deer behavior, good landowner relations and proper shooting techniques.

*Footnote — A more technical treatment of this material will be published in "The Wildlife Society Bulletin" Vol. 11(1), Spring, 1983.

PLANT TALES OF THE MONTH

BY DEAN M. ROOSA AND MARY JEAN HUSTON (Photos by Dean M. Roosa)



Hundreds of Iowans love to search for, admire and photograph flowers in the spring and summer. A few of them extend their season of plant-watching by learning to appreciate the beauty of plants as they prepare for winter. Two species whose soft plumes lend an aura of beauty to the landscape are featured this month.

Oysterplant *Tragopogon dubius*

Driving along an Iowa road in late summer or early fall, one often sees what looks like a giant dandelion. Although it has a number of characteristics in common with those of the dandelion — it is in the same plant family, is introduced from Europe, grows in waste places, can reproduce without fertilization and has a similar morphology — it is actually called oysterplant or false goatsbeard (*Tragopogon dubius*).

Oysterplant was brought to North America by early settlers. The root was used as a vegetable, the leaves as cooked greens or salad and its juice to treat gallstones. Indians coagulated the milky juice into a chewing gum to aid indigestion. In some species, the raw roots taste somewhat like oysters — hence the common name.

The other common name comes directly from the scientific name. *Tragos* means “goat,” *pogon* means “beard,” and *dubius* implies doubt — thus, false goatsbeard.

The plant attains a height of from one to three feet and has clasping, grass-like leaves. The flowers, yellow, rather inconspicuous, and with long bracts, open in the morning and are closed by noon. When mature, the seed heads with their feathery down serve as parachutes which aid in dispersal. These seedheads, if carefully handled and more carefully sprayed, make a striking winter flower bouquet.

The curious traveler may stop to absorb the oysterplant's beauty and wonder of its history and importance; others whiz by in their air-conditioned cars and disdain looking at useless weeds. We hope you will take time to enjoy the subtle beauty of this plant.

Common Milkweed *Asclepias syriaca* (photo on back cover)

Even the most common plant — call it a weed if you like — can be pretty. Growing on the roadsides is a plant that we see and take for granted all summer. This plant, common milkweed (*Asclepias syriaca*), has dozens of dusty-rose colored flowers in spherical heads. These flowers contain much sweet nectar and attract many species of insects. Nearly all of these flowers go unpollinated because of the complex reproductive mechanism of the flower. The Monarch butterfly is especially drawn to this plant — and apparently owes its protective acid taste to the plant compounds found in milkweed.

It is said that Indians sweetened wild strawberries with the dew that condensed on milkweed blossoms. Although some people consider milkweed poisonous, others relish the young shoots when cooked as greens. Settlers used the white juice as glue and stuffed pillows and mattresses with the silky seed down. As recent as the World Wars, milkweed silk was used as stuffing in life preservers.

Common milkweed grows to heights of five feet. It differs noticeably from other milkweed species by its warty, gray-green seed pods. Its root system is extensive, growing to 15 feet in length and acting as a soil anchor. The roots are just under the surface and form colonies by vegetative propagation. Late in the year — even into the winter — the pods erupt with a show of white silky plumes attached to each seed. The wind carries these seeds to many new locations. This characteristic helps the plant be very successful.

There are sixteen species of milkweeds in Iowa. Some are among the country's rarest plants; some are among the most common. All exude a bitter, milky juice when broken, hence the common name. Milkweeds inhabit almost every habitat in Iowa from native prairie to marsh borders to roadsides and barnyards. The common milkweed is one that has adapted to a variety of habitats and may turn up in your roadside ditch, flower garden or edge of your cornfield.

Don't stop appreciating the parade of colors and forms at the onset of cool weather. A little patience will award you with a sight not appreciated by many.

