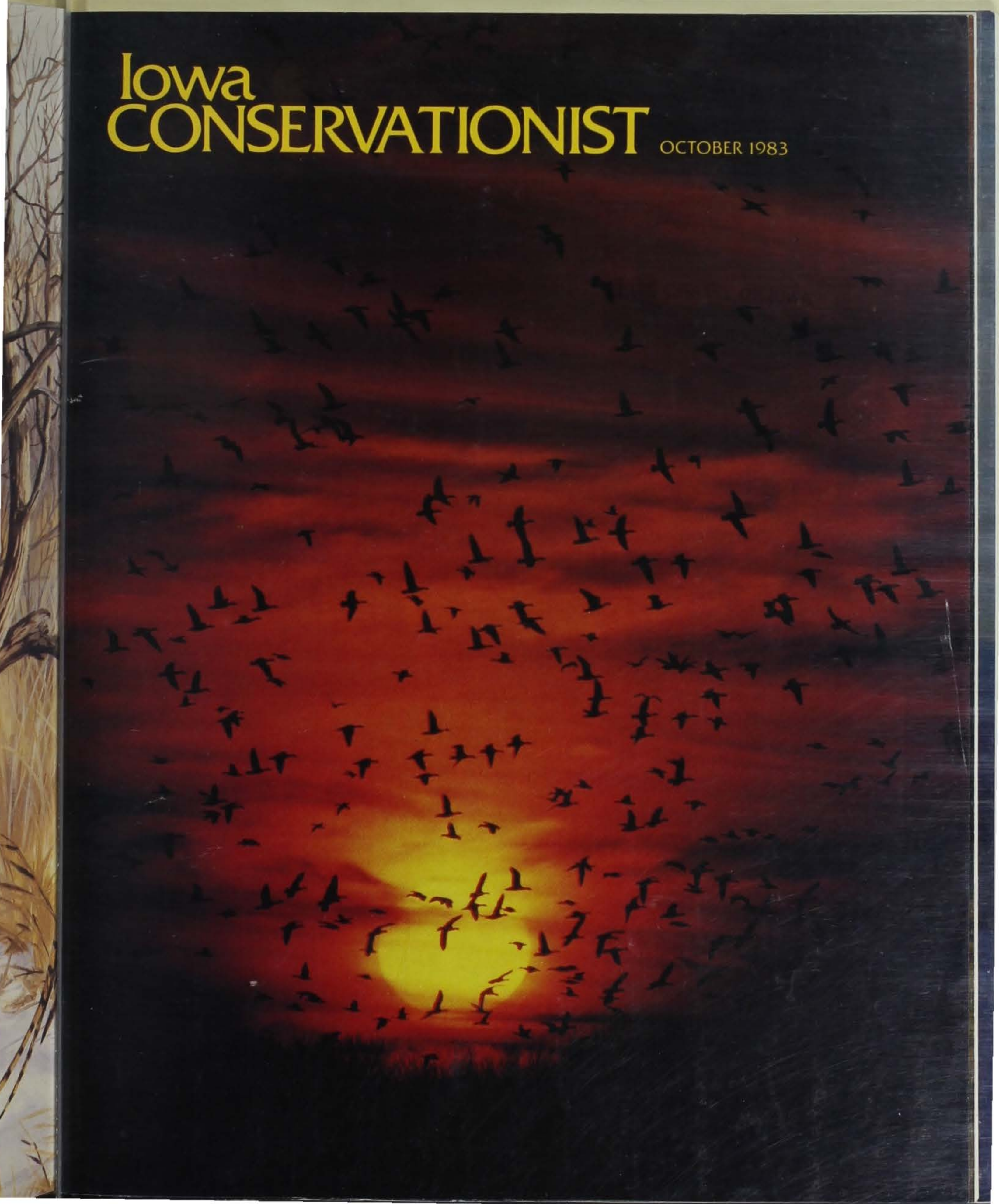


# Iowa CONSERVATIONIST

OCTOBER 1983





# Iowa CONSERVATIONIST

Volume 42 No. 10 • October  
1983

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FRONT COVER: *Sunset over DeSoto National Wildlife Refuge. Photo by David Menke.*

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# DESOTO

## DeSoto National Wildlife Refuge

By David Menke  
*Outdoor Recreation Planner*

DeSoto National Wildlife Refuge was established in 1959 as a waterfowl refuge and its basic purpose has not changed. Waterfowl objectives call for an annual peak use of 150,000 geese (snows and blues) and 250,000 ducks.

The refuge is located on the Missouri River floodplain near Missouri Valley, Iowa and the topography of the 7,823-acre area is mostly flat.

The present character of the area was established in 1960, when the Corps of Engineers constructed a new channel across a seven mile bend of the Missouri River (formerly known as DeSoto

Bend). A levee, separating the new channel from the old, created a 750-acre oxbow lake, the heart of the refuge.

Snow geese (both blue and snow color phases) are the major attraction on the area. Migratory concentrations build up during October and November and again in March and early April. During the fall migration, peak numbers of geese have ranged as high as 400,000.

Mallards are the principal species of duck using the refuge, but shovelers, teal, wigeon, pintails, gadwalls, wood ducks and common mergansers are also seen. The migration of ducks parallels that of geese with peak numbers sometimes reaching three-quarters of a million.

The fall migration of waterfowl is usually much larger, more concentrated and spectacular





TO

Photo feature by David Menke

# NATIONAL WILDLIFE REFUGE

than during the spring. Peak numbers are usually reached around the second or third week of November.

One of the most spectacular sights on the refuge is the concentration of bald eagles in the winter. Up to 92 eagles have been seen on the refuge particularly near the north end of the lake where waterfowl tend to concentrate when other water areas on the refuge freeze.

Other birds of prey include kestrels, marsh hawks, red-tailed hawks, rough-legged hawks, Cooper's and sharp-shinned hawks, ospreys, and occasionally, golden eagles and peregrine falcons. Great horned owls, screech owls and barred owls are resident species on the refuge.

Pheasants and bobwhite are quite common on the refuge. Shorebird and warbler migra-

tions, although not spectacular, can provide some interesting birding. White pelicans usually stop on the area for several weeks during migration.

Up to 500 white-tailed deer can be found on the refuge. White-tails can be seen almost any evening in refuge fields and an occasional mule deer also reaches the area.

A major portion of the management efforts at DeSoto deals with the public-use programs. However, monitoring habitats and activities such as shoreline protection to prevent erosion are also important. Management of reestablished native grasslands and introduced grasslands is an ongoing refuge objective. Activities to reestablish nesting habitat for terns and plover have been undertaken. A 60-box wood duck nesting program is also main-

tained on the refuge and nesting boxes are being provided in an attempt to encourage blue bird nesting on the refuge.

Discovery of the hull and cargo of the 1864 Steamboat Bertrand on DeSoto Refuge in 1968 has added a major historical emphasis to refuge programs. The cargo has remained on the refuge for preservation and exhibit purposes.

Ten years were spent working on the cargo. This project was culminated with the completion of the area visitor center in 1981.

For further information please contact:

DeSoto National Wildlife  
Refuge  
Rt 1, Box 114  
Missouri Valley, Iowa 51555  
Telephone: 712-642-4121

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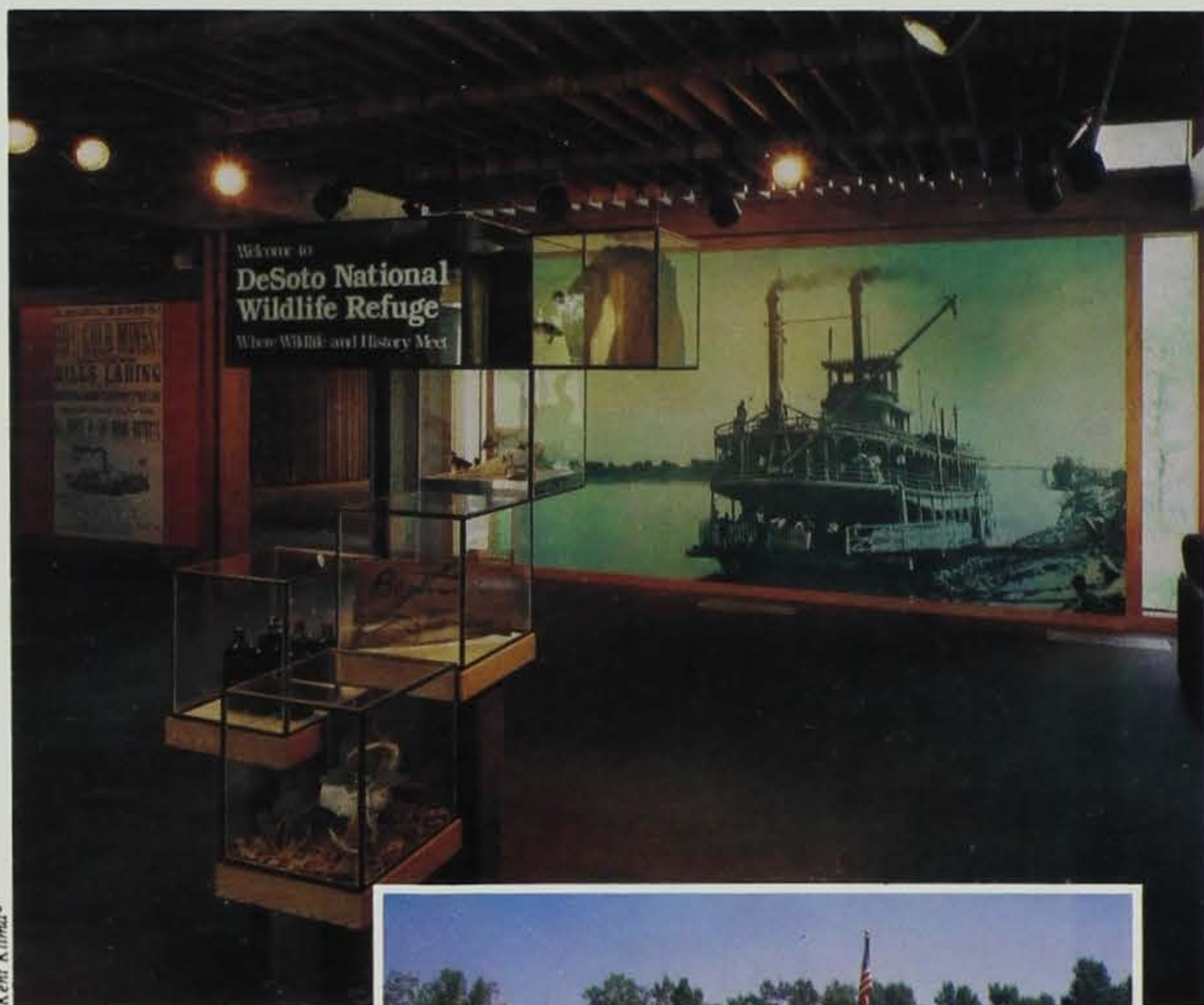
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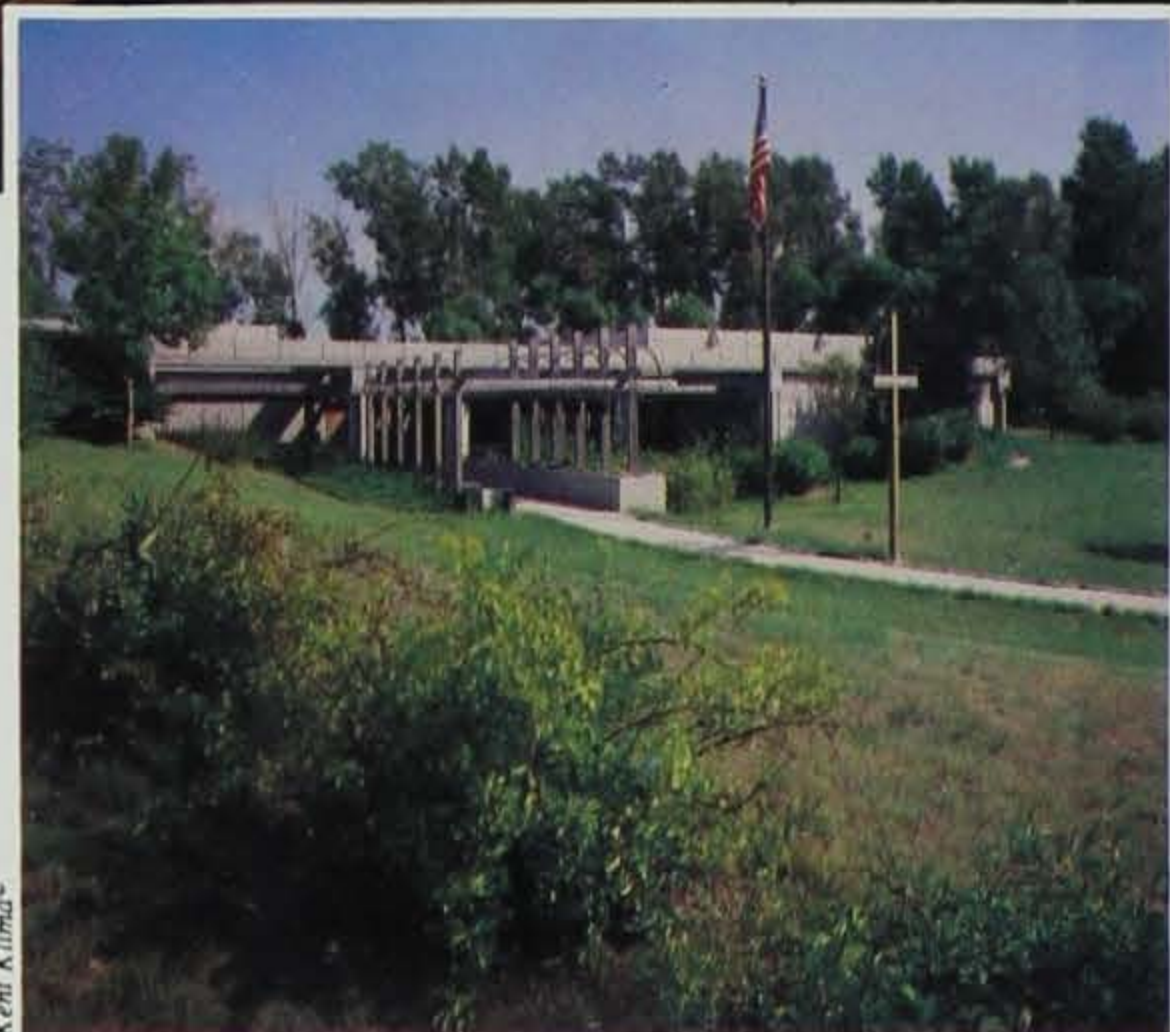
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Kent Klima©



David Menke

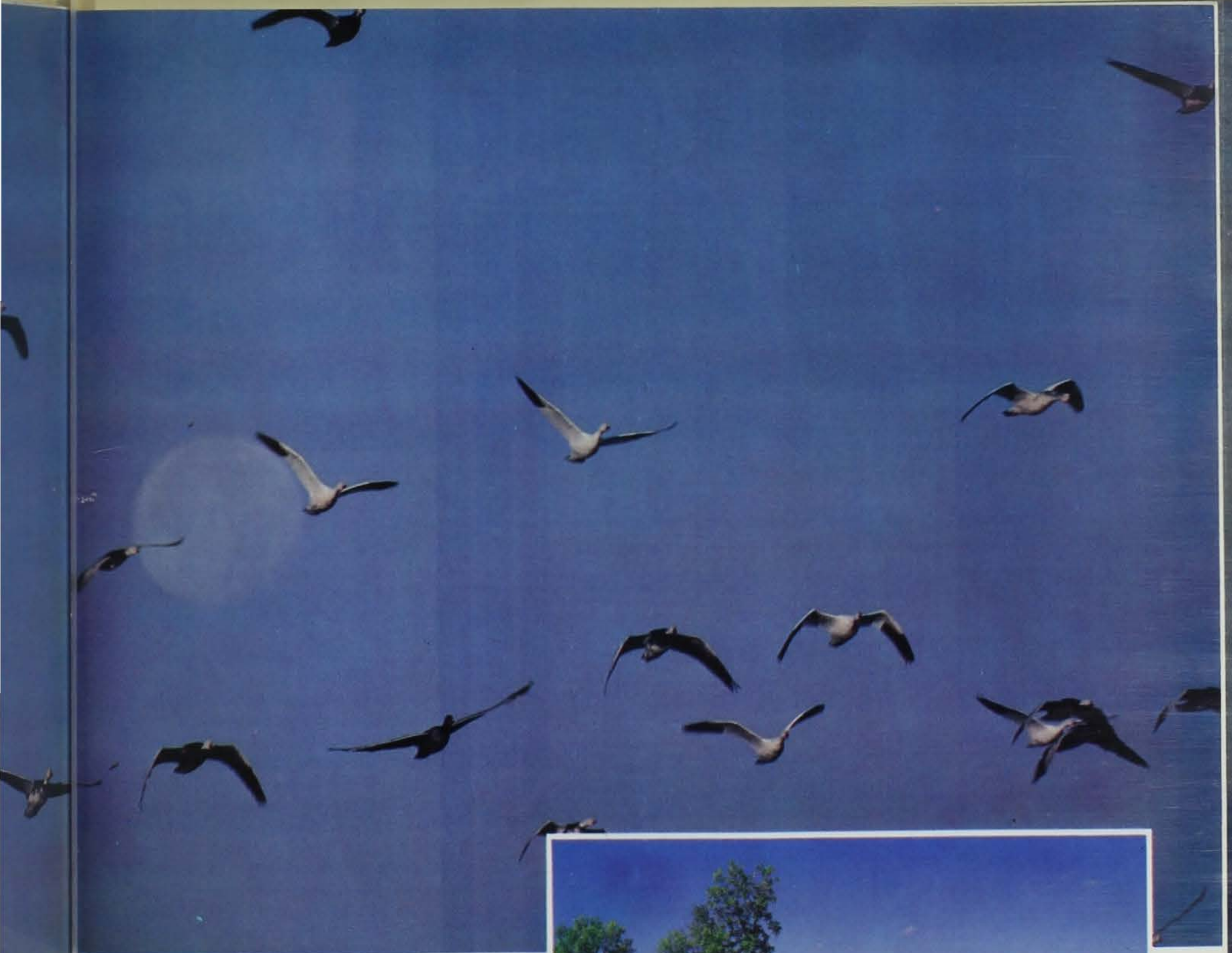
*Bertrand Museum (above) houses artifacts from the sunken 1864 steamboat, as well as displays of the refuge.*

*Wood ducks (right) are among the most beautiful visitors to the area. Some 60 wood duck nesting boxes are also maintained on the refuge, encouraging resident usage.*



David Menke



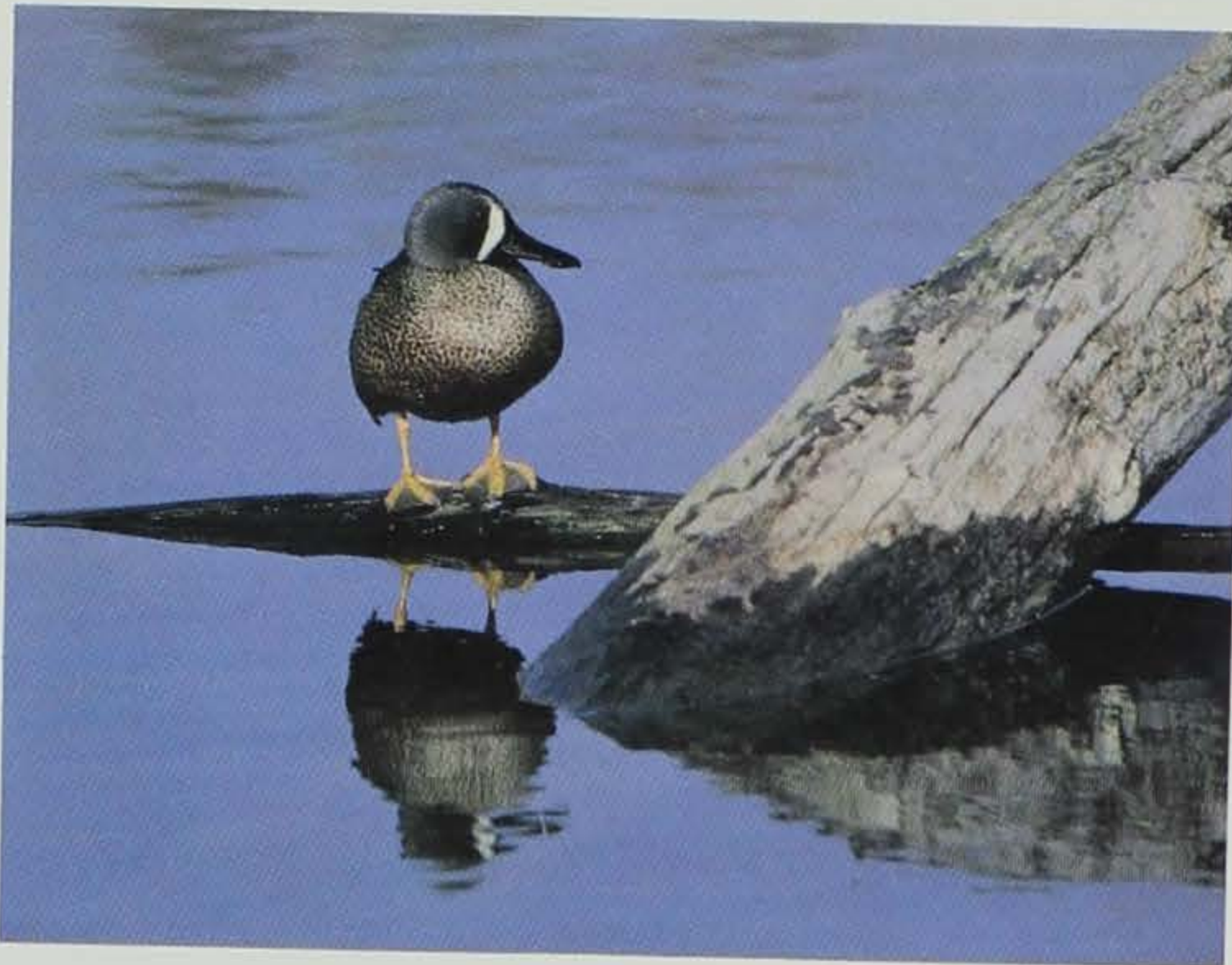


David Menke

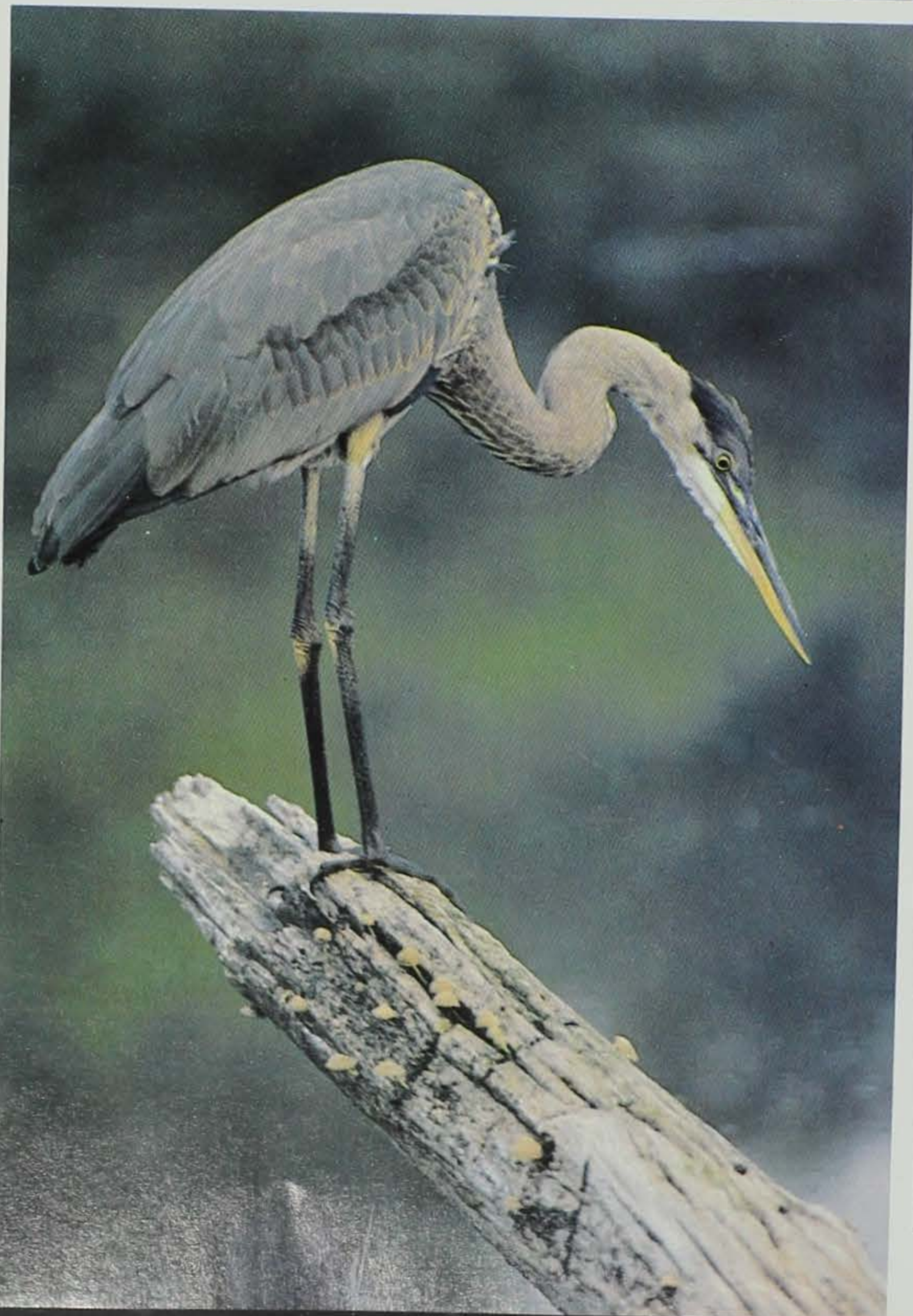
*The refuge provides a resting area for more than 100,000 snow geese during the spring and fall migrations. Outdoor education classes enjoy the many species of wildlife on the area, including the thirteen-lined ground squirrel (left).*

*Following page: Desoto attracts hundreds of thousands of ducks, geese and other water birds, like the great blue heron and the drake blue-winged teal.*





David Menke



David Menke

# WILSON

By Bob Seitz

*Robert Seitz is the park ranger at Wilson Island State Park. He holds a B.S. degree in fisheries and wildlife biology from Iowa State.*

Wilson Island — an island in the Missouri River? No, not since 1959. Wilson Island came into being as the changing river created a sand-bar island in the Missouri River around 1900. During the depression years of the 30's, a family settled on this island. The access was by a cable foot bridge or by boat.

Later, the family asked the Executive Council of Iowa if they could purchase the area. The council, in the absence of the Governor, agreed to the sale. When the Governor received word of the decision to sell the island, he asked the council to reconsider. Touched by the natural beauty and abundance of wildlife, Governor George Wilson asked that the land be kept for recreational purposes for all to enjoy. The council agreed and the area was named Wilson Island after the former Governor.

The island was connected to land in 1959 by the construction of a new river channel, earthen dam and road. This construction was undertaken to establish a wildlife refuge lake. Today the lake lies within DeSoto National Wildlife Refuge, which borders Wilson Island on the north. This stretch of the Missouri River was once called DeSoto Bend.

Lewis and Clark traveled this reach of the Missouri River between 1804 and 1806, on their historic trip to and from the Pacific coast. On July 30, 1804, the Lewis and Clark party camped on the south shore of the river not far from the DeSoto Bend stretch. On August 2, several Oto and Missouri Indians including six chiefs and a French interpreter, arrived at the camp. The following day, council was held and presents were exchanged.

Located about 25 miles north of Council Bluffs, Wilson Island today



# WILSON ISLAND State Playground Next to DeSoto

encompasses 577 acres of dense cottonwood timber. Many improvements have been made in the park since the first public access road was constructed in 1959. The need for expanded camping facilities soon came to light as DeSoto Refuge became a popular boating and fishing area. From 1960 to 1965, three separate camp areas were established, along with 2 boat ramps, 8 latrines, and a showerhouse. Roads on the island were constructed where old river channels once ran. Construction along these routes eliminated the need to cut through the dense stands of cottonwood.

Wilson Island provides 150 camping units. The spacious campsites are located among tall shady cottonwoods. A boat ramp and dock access to the Missouri River is also provided adjacent to a riverside picnic area containing three open shelters.

Wilson Island has something to offer the visitor in all seasons. Since Wilson Island is a recreation area, the entire area is open for hunting and trapping. Archery deer hunting and duck hunting on the backwater seem to be the most popular, although a variety of game is found on the island including squirrels, rabbits, quail, woodcock, raccoon, beaver, muskrat and coyote. Ten food plots which comprise a total of 50 acres are scattered throughout the park. The unharvested and waste grains in these plots provide supplemental food to both game and non-game alike.

The most popular attraction in the fall is the spectacular migration of snow geese. Many visitors elect to spend a November weekend camping at Wilson Island to allow for plenty of time to view the flocks in and around DeSoto Refuge.

Snowfall brings a variety of winter activities to the park. Five miles of trails offer the snowmobiler or cross-country skier an opportunity to explore the forest community under a white blanket. During this time of year, bald eagles are commonly seen soaring overhead or

perched in the tall tree tops. When the temperature drops, the shallow backwater is an ideal spot for ice skating.

A sunny day at Wilson Island in the warm spring must include a hunt for morel mushrooms. These mushrooms thrive in this river bottomland and are found virtually throughout the area.

Summertime camping brings summertime fun to the recreation area. Boating is enjoyed on the Missouri River or nearby DeSoto Lake, which also offers swimming and waterskiing. The angler will find a half-mile trail along the river shoreline an excellent access to those fishing hot spots. After filling their stringers, many folks use the fish cleaning station located in the park.

A newly developed self-guided interpretive trail helps the visitor gain a greater appreciation and understanding

of the Missouri River bottomland forest community.

Week-end evenings during the summer may find the camper enjoying a nature film or program given at the park's outdoor amphitheater.

Whether visiting Wilson Island and DeSoto Refuge in the spring, summer, fall or winter the area has much to offer. Wilson Island has been developed to supply as many outdoor experiences as possible without harming the natural features or wildlife in the park. Wilson Island is as Governor George Wilson envisioned, "a recreation area for all to enjoy."

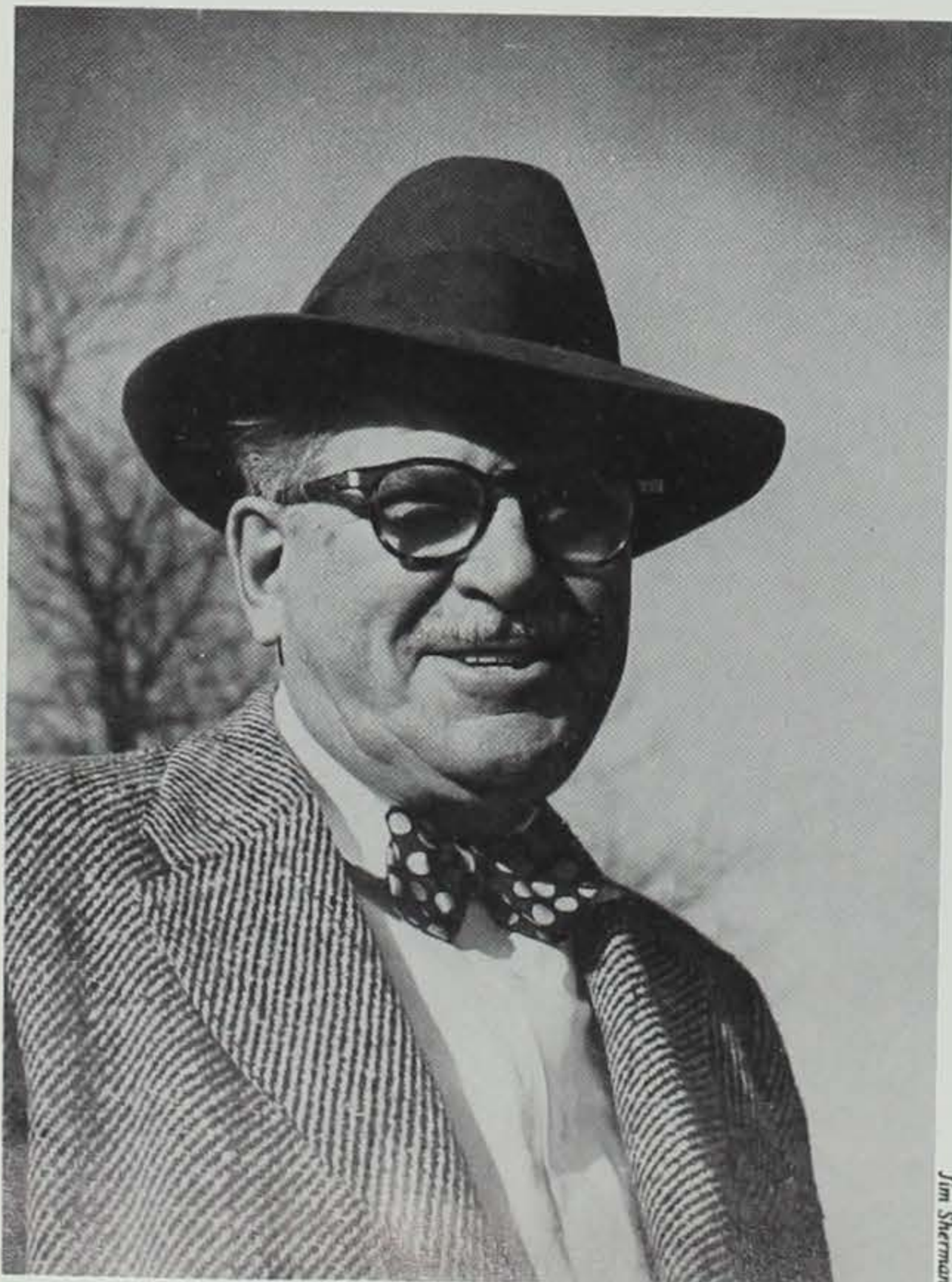
*The author thanks Jerry Jauron, retired Waters Supervisor on the Missouri River, for information on the history of Wilson Island.*



Bob Seitz

*Located just south of Desoto National Wildlife Refuge is Wilson Island State Recreation Area. Facilities, including 150 campsites, are provided for park and refuge visitors.*





Jim Sherman



In The Service Of "The People"



By Cecelia Smith Burnett

*Cecelia Smith Burnett is a senior at Iowa State University majoring in wildlife biology and journalism.*

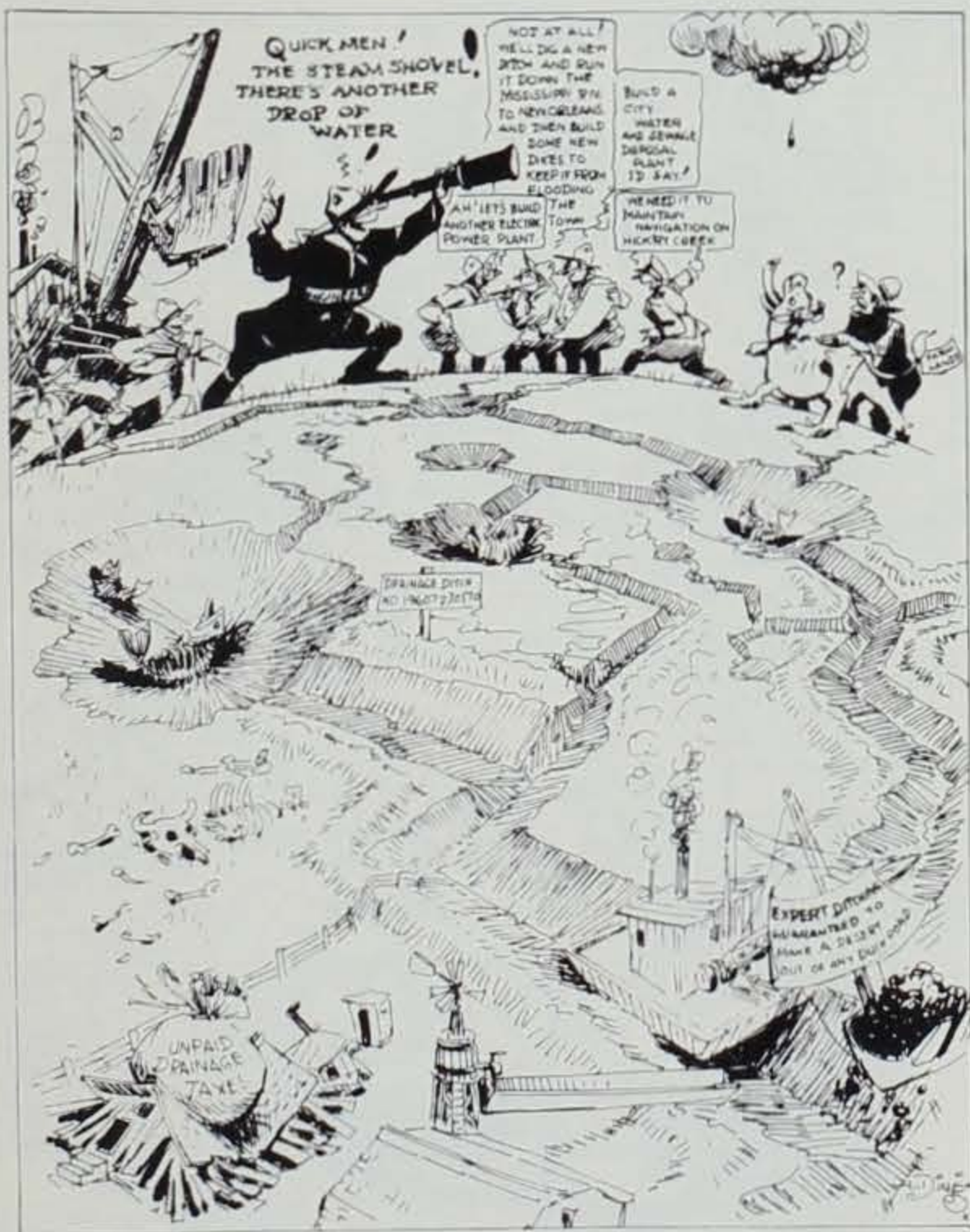
In late June 1934, after three months as Chief of the U.S. Biological Survey, Jay Norwood "Ding" Darling was frustrated and out of patience with Washington bureaucracy. Darling hadn't seen the \$1 million promised him by President Franklin D. Roosevelt for waterfowl restoration programs. Market hunters were slaughtering thousands of waterfowl while only 28 federal game protectors patrolled all of the U.S. and Alaska. Darling's hands were tied. He needed money to do the job he'd been assigned.

So Darling enlisted the aid of a sympathetic member of Congress, U.S. Senator Peter Norbeck of South Dakota. Norbeck, who spoke with a strong Scandinavian accent, agreed to ask the Senate to approve funding for Darling's plans. But, in Darling's words, "when he [Norbeck] got to the floor of the Senate, he got a new idea. The Duck Stamp Act was then up for final passage in the Senate. Norbeck rose to speak on

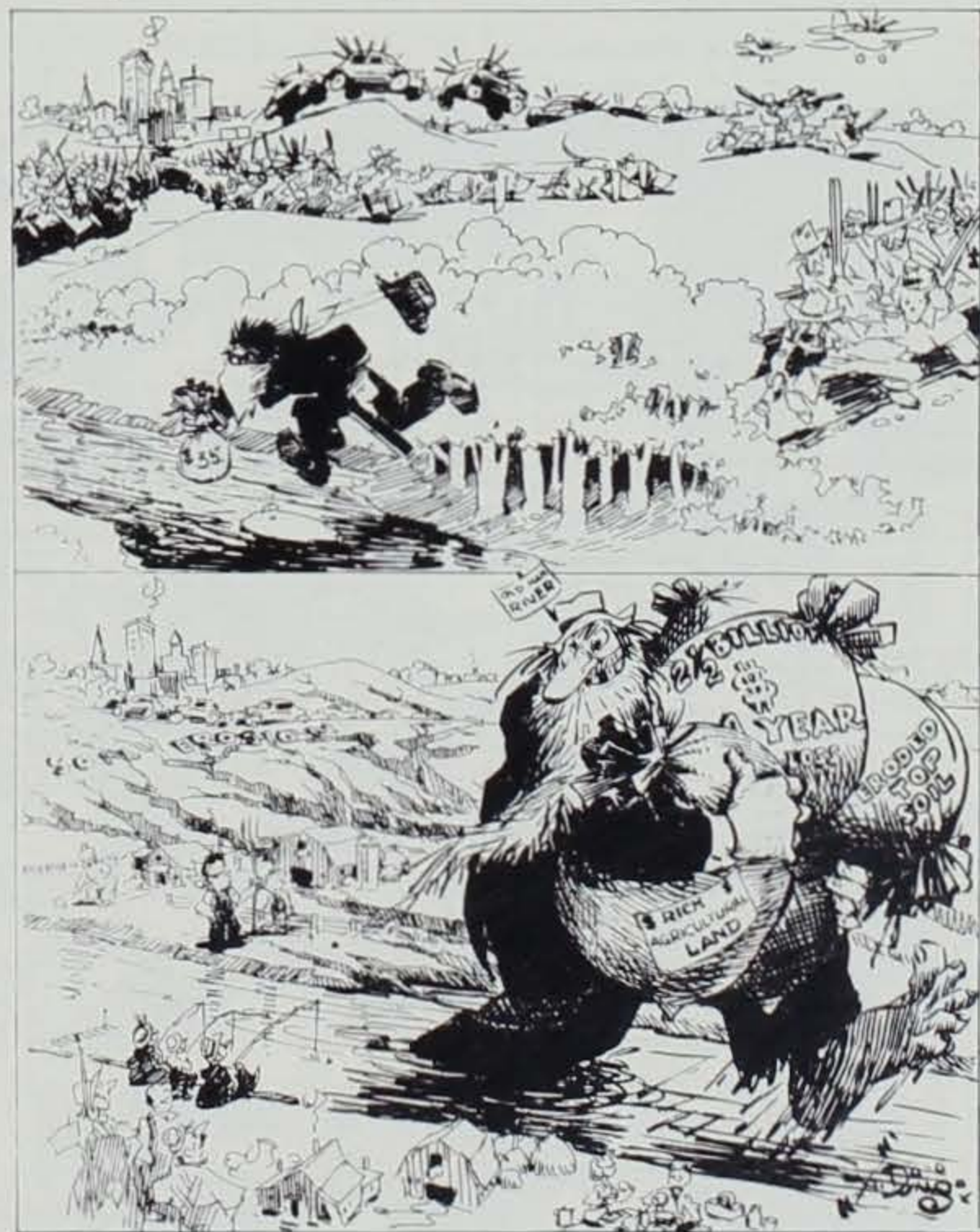
the Duck Stamp Bill. He removed his false teeth and asked, in words totally devoid of understandable articulation, for unanimous consent for an amendment to the Duck Stamp Bill allocating six million of any unexpended 1934 relief funds for the Biological Survey restoration program. It passed unanimously by voice vote and the Senator engineered it through the House-Senate conference committee the same afternoon... By special messenger the Duck Stamp Bill, including Pete Norbeck's six million-dollar amendment, was rushed to the White House. He [FDR] recognized it and signed it without reading it, I guess, for when the President returned, after his fishing trip, and found he had authorized six million dollars for our restoration program he wrote me a letter which I still preserve as one of the most interesting documents I ever received in my career."

FDR was to write later that "this fellow Darling is the only man in history who got an appropriation through Congress, past the Budget and signed by the President without anybody realizing that the Treasury had been raided."

"Ding" Darling — cartoonist and conservationist — was a man who got the job done, one way or another.



Our Engineers Plan Water Uses For Everything Except Nature's Objectives



Bank Robbers, Little And Big



*V. N. Dingo*

Born October 21, 1876 in Norwood, Michigan to schoolteacher-turned-preacher Marcellus Darling and Clara Woolson Darling, Jay spent much of his childhood in Sioux City, Iowa. There, and at his uncle John's farm near Albion, Michigan, the young Darling delighted in roaming the prairies and timber, the banks of the Missouri and Big Sioux Rivers, the marshes, lakes and potholes of the wild areas.

Darling later wrote that "those were the days when the Golden Plover came in great flocks and moved across South Dakota and, from early spring until the Prairie Chicken sought cover in the fall along the thickets bordering the creeks and marshes, my mind was filled with pictures which have never been erased. It was the disappearance of all that wonderful endowment of wildlife which stirred the first instincts I can remember of conservation."

When he returned to Michigan to attend his uncle John's funeral, he saw not his "youthful paradise," but devastation. The well had run dry. The timber had been cut. The fertile topsoil had been blown and washed away. The river

had been reduced to a silted-in stream.

"This was my first conscious realization of what could happen to the land, what could happen to clear running streams, what could happen to bird life and human life when the common laws of Mother Nature were disregarded," he wrote.

The young man was on his way to becoming the mature conservationist. As he later observed, "all it takes to be a conservationist is to have been awake and a witness to what has happened to all our continental forests, soils, waters, minerals and wildlife in the last fifty or seventy-five years and he'll be a conservationist from fright. That's me."

With his eye on a career in medicine, Darling attended Beloit College in Wisconsin. It was there that the signature "Ding" — a contraction of his last name — first appeared in the Beloit yearbook. He wrote that "the apostrophe stood for the 'arl' which were left out in order to make a funnier looking signature and in addition to conceal my identity." This anonymity was desirable when the "Ding" signature appeared on several cartoons, including one satirizing the faculty as chorus girls.

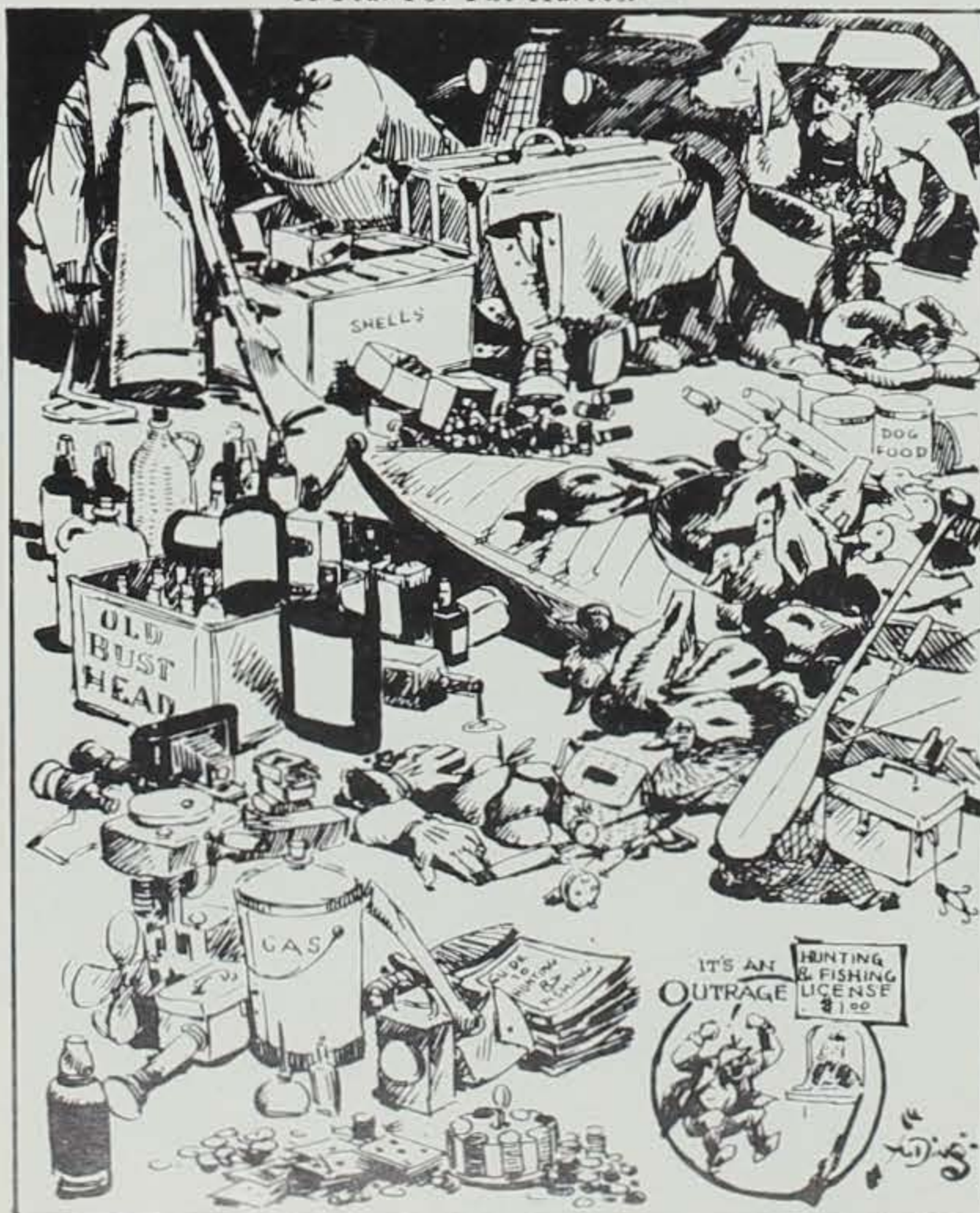
Earning money for medical school brought Darling to the Sioux City

Journal as a reporter. His debut as a newspaper cartoonist followed his graduation from Beloit in 1900. As Darling's reputation as a cartoonist in Sioux City grew, he married Genevieve (Penny) Pendleton of Sioux City October 31, 1906. While honeymooning with Penny in the West Indies, Darling received a telegram from the Des Moines *Register and Leader* (now the *Des Moines Register*) offering him a position as staff cartoonist. He never returned to medicine or reporting.

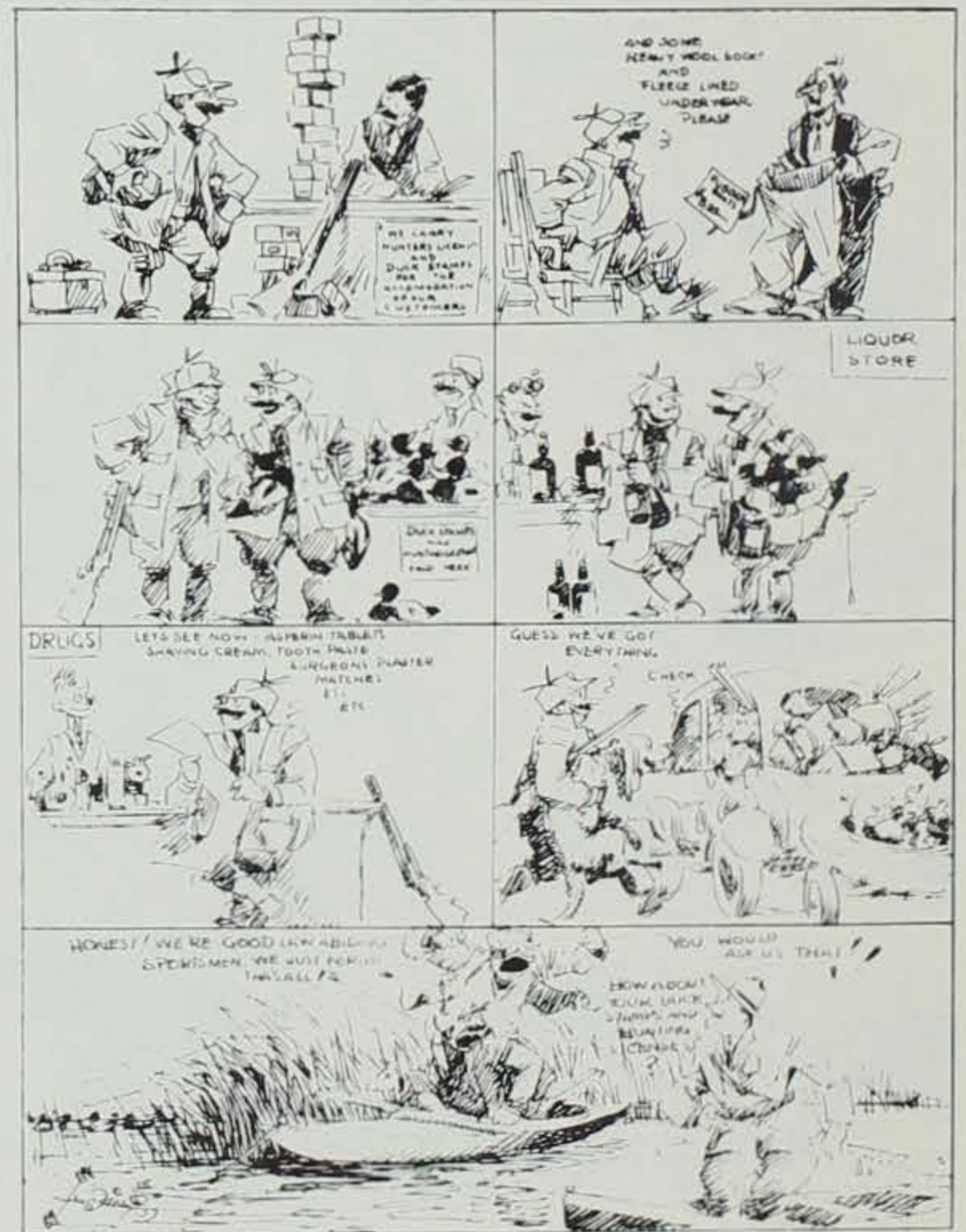
Except for a brief and unhappy period at the *New York Globe*, Darling remained at the *Register* until April 1949, when he retired from a career of 49 years, at least 17,000 published cartoons and two Pulitzer Prizes (in 1924 and 1943). His concern for the land and its natural resources was a favorite theme for his many cartoons. As he wrote, "if I could put together all the virgin landscapes which I knew in my youth and show what has happened to them in one generation it would be the best object lesson in conservation that could be printed."

When his position as a nationally-syndicated cartoonist became secure in the early 1920s, Darling embarked on his second career devoted to conservation of natural resources. He helped

Seven Hundred and Fifty Million Dollars  
A Year For The Harvest —



BUT Not A Darned Cent For SEED!



Lest You Forget



organize the Iowa Division of the Izaak Walton League. He persuaded Iowa State College (now Iowa State University) and Iowa's Fish and Game Commission (now the Iowa Conservation Commission) to fund a cooperative program for research in wildlife conservation. Throwing in \$3,000 annually himself, Darling pioneered the Cooperative Wildlife Research Unit at Iowa State College with Dr. Paul Errington at its head.

Always a follower of, and participant in politics, the prominent cartoonist was asked in 1934 by FDR to head the Biological Survey, forerunner of today's U.S. Fish and Wildlife Service. Darling, the opinionated and strong-willed proponent for conservation education and protection of natural resources, left the Biological Survey a tired but satisfied man. In 20 months he had brought the Survey to life and had succeeded in creating and expanding the federal wildlife refuge system. In recognition of his accomplishments, FDR grudgingly said of Darling, despite personal confrontations and friction, "well anyway, Ding has saved our ducks for us."

Back home in Des Moines, Darling at 60 continued to be a mover and activist to be reckoned with in conservation matters. He was the inspiration behind

the now-annual North American Wildlife Conference and the creation of the Lakeside Laboratory at Lake Okoboji for the study of Iowa lake wildlife and prairies. Darling was the founder and first president of the National Wildlife Federation, now the largest organization of its kind. He received the Roosevelt Medal in 1943 for his work in conservation. He helped establish the Iowa State Teachers Conservation Camp (now the Iowa Conservation Education Center) at Springbrook State Park west of Guthrie Center.

Even after Ding the cartoonist retired in 1949, Ding the conservationist continued the fight — for salmon, musk ox and the Key deer, for interdisciplinary conservation education, for Dinosaur National Monument in Colorado and the Sanibel Wildlife Refuge in Florida.

In his 80s, Darling's uncertain health worsened. Following a series of strokes, he died February 12, 1962 at the age of 85. Three years earlier he had sketched a "farewell" cartoon — a phantom image of himself running out the door of his *Register* office. It ran on the front page of the newspaper the morning following Ding's death, accompanied by his obituary.

Today Ding Darling is remembered in his cartoons and the work that is

carried on in his name. In 1978, the Sanibel Island Refuge was dedicated as the J.N. "Ding" Darling National Wildlife Refuge. In 1951, the Iowa Conservation Commission opened a 400-acre recreational lake in Washington County and named it Lake Darling. Darling's pioneer Cooperative Wildlife Research Unit at Iowa State College has grown to 50 Fish and Wildlife Research Units throughout the U.S., all under budget attack by the Reagan administration. The "duck stamp" program was Ding's idea and he provided the design for the first in the series begun 50 years ago. Since that time the duck stamp program has raised more than \$256 million for the acquisition of more than 3.5 million acres of waterfowl habitat.

With awards and honors from the Izaak Walton League, Audubon Society, Garden Club of America, Boone and Crockett Club, American Forestry Association, the State of Iowa and others, Ding Darling, "the best friend a duck ever had," was a man with humor and perseverance who got the job done, one way or another.

*The author wishes to thank Dave Lendt, author of Ding: The Life of Jay Norwood Darling, for his valuable assistance in the writing of this article.*



It's Hard to Start a Fire with One Stick of Wood



But if You Could Ever Get the Fire Wood Together in One Pile



'Bye Now—It's Been Wonderful Knowing You





## AUTUMN COLOR REPORT AVAILABLE TO PUBLIC

People interested in the fall foliage color change this autumn may call 515/294-9642 for a weekly progress report from the Iowa Conservation Commission's forest nursery in Ames. The service began Sept. 15.

The recorded information will change each Monday

and will run through October. The weekly messages will describe fall color throughout the state, which tree species are most colorful and when the likely peak of color will occur in different areas of the state.

## 1984 Set-Aside Pondered

— a report by the Wildlife Management Institute

The U.S. Department of Agriculture is studying its options to determine which features will be included in the 1984 cropland set-aside program, the Wildlife Management Institute reports. The decision will be important to many wildlife populations that could thrive on well-managed farmland habitat.

USDA's set-aside program, which includes the payment-in-kind (PIK) effort initiated this year, is an attempt to control commodity production and reduce federal storage costs and price support payments to farmers. About 60 million acres were set-aside in 1983. Cover crops were required on those acres and wildlife is benefiting to a degree. The wildlife results could have been better, however, if USDA had insisted that the retired acres be maintained in appropriate cover crops. But the government is permitting fall plowing of the set-aside acres and is allowing livestock to graze on much of the land.

USDA is considering a broad array of recommendations from many interest groups for inclusion in the 1984 program. Among the suggestions are: require multiple-year set-asides; require long-term acreage set-aside

on up to 20 percent of the base acreage for each commodity; require landowners to establish and maintain continuous vegetative cover on multi-year set-aside acres (this would boost wildlife tremendously); prohibit mowing or grazing of set-aside acres; require that national, state and county committees that run the set-aside program include representation from water quality, agribusiness, forestry and wildlife interests; include in landowners' base acreage those areas devoted to grassed waterways and other soil conservation features; eliminate federal incentives for converting noncroplands into crop production; and ensure that the acreage is monitored so that required practices are installed and maintained.

USDA officials recently stated that Ag Secretary John Block wants to put some teeth in the set-aside program so that landowners who participate will be encouraged to comply with the rules. But those officials seemed to have scant regard for the program's effect on wildlife. They said the effort was aimed at controlling crop production and thus were unenthusiastic about including wildlife.

## EAGLE SURVEY FINDS SIGNS

The endangered bald eagle is showing strong signs of recovery after years on the decline, according to the results of the National Wildlife Federation's 1983 Bald Eagle Survey.

This year's survey, taken from January 2 to 17, counted 12,098 bald eagles in 46 states, about the same as last year's count. In 1979, the first survey counted 9,815 bald eagles. Iowa's 1983 count was the highest ever, with a total of 244 eagles sighted.

The bald eagle is officially endangered in Iowa as well

as 42 other states. Only in Alaska is the bald eagle plentiful. After a drastic decline in the 1960s due to pesticides and dwindling habitat, bald eagle populations in some areas are beginning to make a comeback, according to the raptor biologists.

Considered to be the most complete midwinter bald eagle count available, the National Wildlife Federation survey provides eagle experts with data on where the birds live during the winter and the habitat they need to survive.

## GETTING BACK IN THE SWING

After a six- to eight-month layoff, no athlete would think of returning to his sport without first getting in a good deal of practice, be it at the driving range or at the gym. Yet, come opening day, it's surprising how many hunters take to the field with a shotgun they haven't fired since the end of last year's hunting season. The result? Typically, shooting below their average — and far more importantly, a higher potential for crippling.

Hitting a moving target, whether it's taking a quick poke at a fast-disappearing grouse or swinging through at a high-flying goose, is fundamentally a matter of accurately determining where your gun barrel should be pointing — the proper forward allow-

ance — in relation to the bird. Without regular practice, shooters can quickly lose the smoothness, timing and personal confidence so important to consistent wingshooting.

Today, the obvious answer is to practice through one of the clay target games, whether trap or skeet. However, some hunters claim that practice on clay targets just isn't the same as with live birds. There are, of course, differences; yet the game of skeet, for example, was originated by a group of New England grouse hunters as a means of keeping in practice for the hunting season.

Indeed, for upland gunners, the game of skeet duplicates at typical ranges practically every angle encountered in the field. Those stations directly in front of the high and low house provide practice for straight-aways, the stations close to either house help shooters get accustomed to quartering shots, and the middle stations





## GOOD YEAR FOR COUNTY HABITAT WORK

County conservation boards throughout the state have completed their thirteenth year of a successful wildlife habitat improvement program.

A survey of county accomplishments by the State Conservation Commission shows more than a half-million trees and shrubs were planted in

1983. Also, slightly more than 2,000 acres of land in 28 areas were purchased specifically for wildlife. Easements, leases or rent by the counties have preserved habitat on an additional 1,000 acres.

"County conservation boards have established a tremendous amount of high quality habitat, using

their own funds, all from local sources," said Robert Walker, county conservation coordinator for the Iowa Conservation Commission. "Too many people think of the county conservation boards just in terms of the wonderful parks they provide. They also do a heck of a good job on wildlife habitat," he added.

## SIGN OF RECOVERY



help shooters establish the leads necessary for crossing targets. The last station, between the high and low house, duplicates fast incoming targets.

The English, who take their shooting seriously, have long used clay target shooting as a teaching aid, with traps set up to specifically simulate field shooting situations. Such teaching layouts have evolved into the most popular clay target game in England, and this game has now been introduced in the United States as "Hunter's Clays." This is truly a hunter's game, since shooting stations are often in the woods or brush and the shooter is never sure precisely when the target will appear.

A complete rundown on this exciting new clay target game is available in a new booklet, "HUNTER'S CLAYS," from the National Shooting Sports Foundation. Send \$1.00 to: Literature Department, NSSF, P.O. Box 1075, Riverside, CT 06878.

By  
Arnold Sohn,  
Planning Administrator

Few of us give much thought to what used to grow where all those corn and bean fields now grow in Iowa. Many probably assume that Iowa, like our neighbors to the east, was primarily a tree-covered wilderness. Visions of vast prairies tend to be associated with more western states. In fact, Iowa used to have more trees than it does now, but the vast majority of the state was tall grass prairie, with thousands of small natural prairie pothole lakes, sloughs and marshes. Soils formed through glacial action and thousands of years of prairie vegetation became some of the most fertile in the world. A staggering 35 million acres, of what is now known as Iowa, was covered by prairie. Today less than 10,000 acres remain, and only 3,500 acres of that are being managed and protected for their value as native prairie.

Iowa has only about .03 percent of the remaining tallgrass prairies and, it is imperative that we should go to considerable lengths to protect it. The prairie was our legacy. It was the very basis for that which is now Iowa and very few Iowans are even

## A CASE FOR LIVING MUSEUMS

vaguely aware of what a prairie plant community is.

In a world marked by its instability and in a state where billions of dollars are spent each year in fighting insect and disease problems to which massive fields of cash grain crops are susceptible, the few isolated tracts of remaining prairie land are almost idyllic models of stability. This stability results from the remarkable diversity of well-adapted plants inhabiting native prairies. A few acres of prairie may contain 200-300 different plant species, each one well-adapted to its particular location and functioning in harmony with the whole to provide a system that, unfortunately, is foreign to most of us. We can learn from these systems. In addition to being interesting remnants from our past, the remaining Iowa prairies offer irreplaceable opportunities to learn and to profit from an increased understanding of ecosystems which formerly dominated the landscape and represented an enviable natural balance that maintained itself.

Drought was not a problem. Native prairie plants possessed root systems capable of withstanding dry, hot conditions. Recent years have seen the increased use of prairie grass species, par-

ticularly switch grass, in pasture situations to provide a high quality forage source for cattle when bluegrass pastures go dormant in the late summer heat.

Erosion of Iowa's valuable top soil was not a problem. We've become used to seeing our streams full of eroded silt and mud. Prairies held and nourished our topsoil resources and may be called upon to assist with that necessary task again in the future just as native grass species now furnish valuable grazing.

We save and often cherish items that represent important links to our past. We do this on a personal basis in our homes with family heirlooms and photos. We do it in city, county, state and national museums for reasons that go far beyond the sentimental. The mechanisms are in place to do the same thing with the isolated and very rare and unique prairie remnants that remain in Iowa, to both save and learn from our prairie heritage. Whether through official dedication and management as privately-owned elements of the State Preserves System or through purchase and management by a public entity (county conservation boards or the Iowa Conservation Commission) Iowa's remaining prairie lands should be protected.

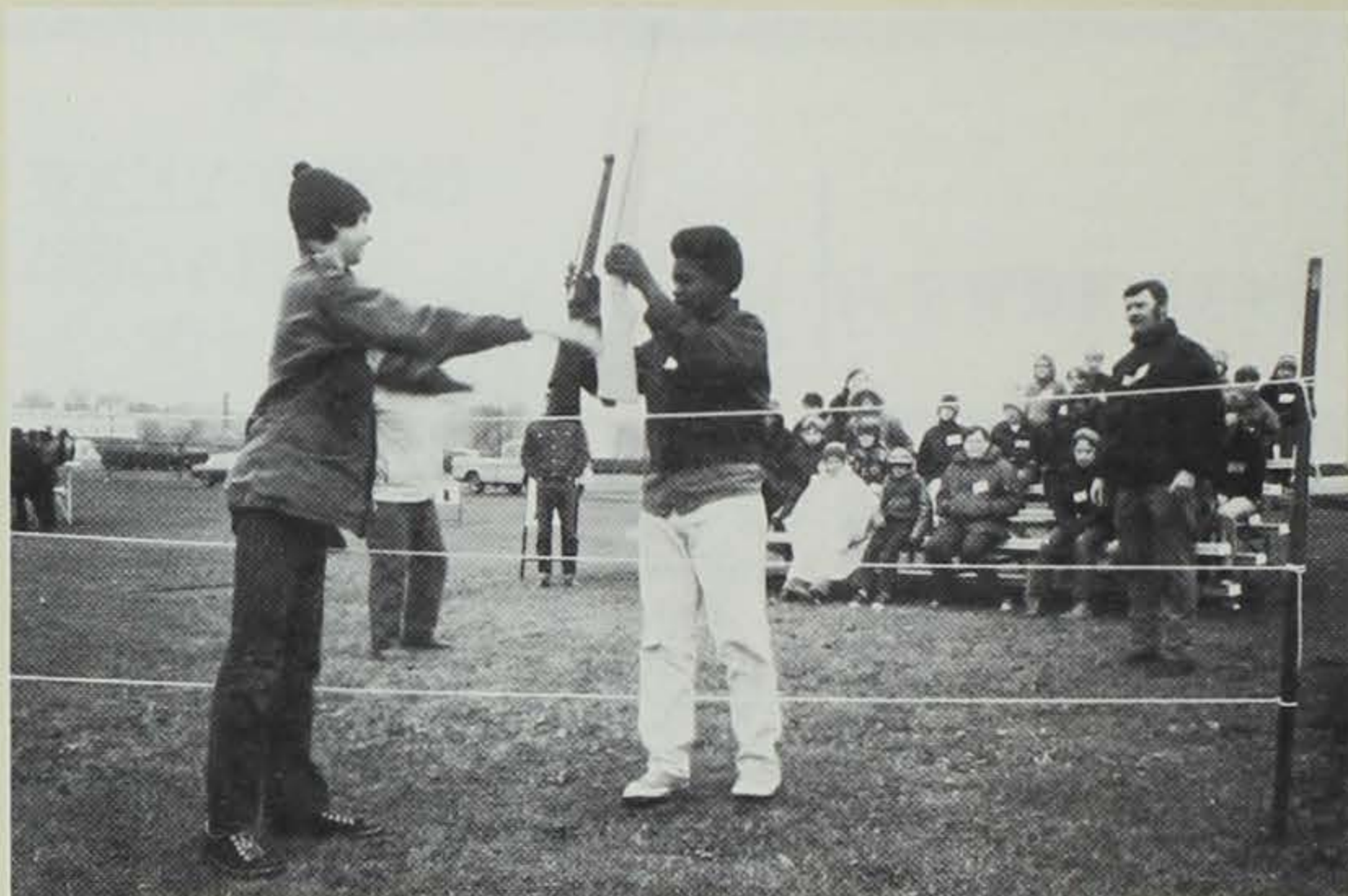




# WARDEN'S DIARY

## Hunters Safety

By Jerry Hoilien



Where does the summer go? I remember it was hot but it went too fast! The hunting season is upon us again and I'm just not ready. From the way the phone's been ringing, lots of young hunters aren't ready either. "Where can I take a hunter safety class?" Sure got urgent all of a sudden. Not really so sudden...we've been stressing and teaching hunter safety for years. Some time ago the legislators passed a law which went into affect this past July. Anyone born after January 1, 1967 must have a hunter safety certificate before he can purchase a hunting license. The western states have had this requirement for years and it's a good one. A single glance at the reduced firearm accident reports over the past years will convince anyone of the value of the hunter safety program.

Many years ago I attended a hunter safety coordinators meeting with Butch Olofson, our hunter safety coordinator, and listened as they put together a program which would be acceptable to all our states and the providences of Canada. Certain subjects were covered such as hunter ethics and responsibilities, guns and ammunition knowledge, game care, as well as identification, gun sighting and handling and survival. The minimum course is eight hours and I've never gotten thru one in that short of time yet because of all the different questions and opinions that crop up...but that's how we learn. Don't think this is just for the boys either, girls do real well and are very interested. Why should they be left out? I remember giving a course in Fort Madison years ago, with lots of the police department helping out. The only range we had was in a state building just outside the prison

walls. The warden, hearing the shooting, came over to watch. As he left he smiled and asked if he could enroll some of his men. "Those girls can outshoot some of my guards!"

The primary purpose of the course is not making you a perfect shot, although good clean kills are essential to the good sportsman, basic sighting and shooting positions as well as knowledge of your gun and ammunition all contribute towards the fundamentals of the total sport. Safety is the prime importance. Knowing the range and power of the weapon, plus the safe way of handling, loading and unloading, the legal and safe way to carry it in an automobile, how to cross a fence safely, shooting zones, being sure of your target and much more. Whew! Sounds involved, doesn't it! You bet! You know, you too can get involved by becoming a hunter safety instructor. Talk with your local warden - I mean conservation officer - he can tell you all about it.

The law hasn't changed on the license requirements. Anyone under the age of sixteen can hunt without a license as long as he is accompanied by the parent or guardian who has a valid license, provided there is one licensed adult for each unlicensed youngster. This allows the parents to take their youngster out to teach and see if they are ready to be on their own. If they are out on their own then they need a license regardless of their age. I should also mention that a habitat stamp is required when they've reached their 16th birthday. Oh yes, regarding deer and turkey licenses, because of the tagging requirements *all* deer and turkey hunters must have these regardless of age. This includes driving deer -

don't put yourself or your kids in a bad position by having them drive deer for you without a license. That's not the way to start them out.

I remember pulling up to a car parked along a picked cornfield. I could see the pheasant hunters who were just coming back. As I got out, the older gentleman dropped his pump shotgun across the top barbed wire of the fence and swung his leg over the top. I stepped back behind the car as the barrel was pointed my way. The second fella did the same with a little dance while crossing as he caught his back-side on a barb. The third pulled a staple from the fence as he struggled over and I was still trying to keep from looking down gun-barrels. Then came the youngest one's turn; he unloaded his gun, laid it on the ground with the action open, went to the corner post, and crossed the fence carefully. As he turned and came towards me I caught a glimpse of the hunter safety patch sewn on the shoulder of his hunting coat and a smile broke out on both our faces as I checked his license. Dad and older brothers could take a lot of lessons from this young man, I gently suggested to them. I reminded them of an old Norsky saying... "Everyone serves as an example, *some good - some bad!*"

Here's a recipe for baked squirrel that keeps it from becoming too dry and also removes any wild flavor.

Flour, salt and pepper meat and brown in skillet (or bottom of dutch-oven). Place in covered baking dish. Cover with one cup of  $\frac{1}{2}$  milk and  $\frac{1}{2}$  cream,  $\frac{1}{2}$  cup of chopped celery,  $\frac{1}{2}$  cup of chopped onions, small can of mushrooms. Bake until tender. HUMMMMMMMMMMMMMMMMMMM  
GOOD (AND SAFE) HUNTING!



# ALONG THE TRAPLINE

By Greig D. Jones



*Greig Jones is a wildlife technician located at the Clear Lake research unit. He has been with the commission since February 1982. He holds a B.S. from the University of Wisconsin and an M.S. degree from Iowa State University.*

The 1983-84 trapping season is about to begin, and many Iowa trappers will take to the field hoping for a better year than last. Some may have vowed never to return. Wet, muddy conditions prevailed in many areas of the state during 1982-83, causing problems for the land trappers, while high water and periodic flooding challenged the aquatic trappers. Some trappers probably complained about lower pelt prices, but prices are too high whenever the recreational value is overshadowed by monetary concerns. Last season, the fur stretchers were

consistently filled by only the diligent and organized trappers.

Ask successful trappers for their secrets and they will inevitably answer that "You get out what you put in," or "There are no secrets, only hard work and preparation." If your past season's catch was lower than expected then now is not the time to dream of this year's furs while your traps and equipment lay piled in a dark corner of the garage. Much of the success along the trapline can be attributed to the amount of preparation time spent in advance of planting the first steel.

Attending to lost or broken trapping equipment while running a trapline is very frustrating and completely unnecessary. You should have inspected all trapping equipment at the end of the season, but it's not too late. Outfit yourself with an extra set of tools (i.e.

trowel, dirt sifter, hatchet, pliers, etc.) to avoid spending precious time away from the line replacing lost items. This is also a good time to stock up on lures and urines. Once the inventory is completed, each trap should be cleaned with a wire brush, and inspected thoroughly for wear. You should replace weak chains, s-links, swivels, and springs, and adjust bent pans and triggers. Finally, you should tag any new traps or replace any tattered tags. The metal tags must be labeled with your name and address, and attached (generally wired) to the trap chain. Some people even dye and wax their traps early in the year, and then store them outside or in a shed until opening day.

When your equipment is in order, you should concentrate on your trapline. Take some time to review last season's line eliminating unproductive sets and poor locations, and noting any new areas that you passed by which may produce fur. You can scout these areas during snow cover to determine population levels and potential set locations. I find that a plat book when used in conjunction with a county directory saves time in finding appropriate landowners when asking for permission. Perhaps, you may want to add a new line or completely revamp your old line in which case you may need to review topographic maps in addition to on-site prospecting. Pay close attention to areas which may serve as natural travelways, such as waterways, uninterrupted strips of cover, long ridges, or other prominent features of the landscape.

The pre-season is also a good time to do your homework. There is no substitute for the voice of experience. Visit with local trappers about the various problems you are encountering along your trapline. You can also learn more about your hobby and make lifelong friendships by becoming active in the various national and state trappers' organizations. These groups promote a trapping ethic and membership usually includes a subscription to periodicals which contain helpful information on trapping techniques. Finally, you might purchase a few trapping manuals, or invest in some books which detail the ecology and life history of particular furbearers.

You can complete all of these jobs in your spare time before the season. Then you can enjoy your hobby throughout the year while at the same time increasing your chances for a successful harvest.



# CLASSROOM CORNER

By Bob Rye

Wildlife is a natural resource. This means that by definition it has value. So, what is the value of wildlife to you? That is probably a tough question for most people to answer. Individual tastes and interest vary. So, the possible combinations of real or perceived values are endless.

Wildlife as a group has spiritual or aesthetic value. Just the opportunity to see or even know of their existence lifts the spirit. Ecological and scientific value is another recognized merit. Wildlife has provided useful substances, biological models and indicators of environmental quality. Wildlife also provides a range of ecological services, pollinating or spreading seeds of other plants and animals to new environments. These values are not the only ones, nor even the most obvious.

Perhaps most often recognized are the recreational and commercial or economic values of wildlife. Recreational values may be either consumptive such as hunting or fishing, or nonconsumptive such as photographing and watching. People usually enjoy wildlife in both ways. Economic value is found in the meat harvested, licenses and equipment sold, and money spent on lodging and transportation by wildlife enthusiasts.

At the Conservation Education Center, wildlife is the top interest. Visitors want to watch, hear, touch and learn about wildlife. One specific group of animals, the furbearers, is the topic of the following nature quiz. Ron Andrews, Iowa Conservation Commission wildlife biologist, supplied the questions. How well can you do?

1. Numerically the \_\_\_\_\_ is Iowa's most important furbearer.  
a. raccoon b. muskrat c. beaver d. red fox
2. Which of the following is not a rodent?  
a. deer mouse b. beaver c. fox squirrel d. cottontail rabbit
3. Raccoons are \_\_\_\_\_.  
a. herbivores b. omnivores c. carnivores
4. Which is not an important predator of waterfowl and upland game bird nests?  
a. raccoon b. striped skunk c. 13-lined ground squirrel d. none of the above
5. Which rodent is native to North America?  
a. house mouse b. Norway rat c. nutria d. muskrat
6. Which hare may be found in Iowa?  
a. cottontail rabbit b. snowshoe hare c. black-tailed jackrabbit d. white-tailed jackrabbit
7. The only North American marsupial is the \_\_\_\_\_.  
a. short-tailed shrew b. opossum c. river otter d. armadillo
8. Which has the shortest gestation period?  
a. cottontail rabbit b. snowshoe hare c. opossum
9. Which furbearer has the most valuable pelt?  
a. muskrat b. mink c. red fox d. opossum
10. An adult red fox weighs about \_\_\_\_\_ pounds.  
a. 4-7 b. 8-12 c. 13-17 d. 18-20

Answers: 1. b 2. d 3. b 4. d 5. d 6. d 7. b 8. c 9. c 10. b

It's a big "brown." One of the largest brown trout you've ever seen in this clear water stream. Silently and in anticipation of his next rise, you cast a fly into that deep pool just ahead. Nothing happens. You make another perfect cast. But your fly floats on down stream and again nothing happens. You retrieve your fly, wade across the stream and head back to the car. It's not the tackle or your technique that's gone awry. This trophy "brown" is feeding alright, but he's feeding on other small fish in this clear water stream.

Come on back and let's observe those small fish frolicking at the lower end of the pool — study their antics for awhile. Notice that brown and orange minnow pushing pebbles along the stream bottom or what about that small fish with the iridescent red stripe. Yet another tiny fish darts past and finds solitude under a large rock, while several more move incessantly about the pool. What are these fish and what are their habits?

**STONEROLLER:** The central stoneroller is one of those interesting fish we've observed. A member of the minnow family, it is brown to tan with randomly scattered black scales giving it a mottled appearance. Late spring breeding males are highly colored with orange and black fins, while the upper portion of the body is covered with breeding tubercles.

This minnow's reproductive habits are its most outstanding feature. The stoneroller is a schooling fish throughout most of the year, and particularly during the breeding season. In late spring, stoneroller males move into the riffle section of a stream where construction of pit nests begins. Using their heads, stones and pebbles are pushed aside, while bottom sediment is stirred up and swept away by the swift current. Small pebbles are moved about by mouth and placed around the periphery of the nest. Once nest construction is completed, the female enters the nest and deposits her eggs in the company of several males. With spawning completed the stonerollers abandon the nest leaving the eggs to the ravages of nature.



# Clearwater Fish

By Jerry L. Hudson

**SOUTHERN REDBELLY DACE:** Next consider one of Iowa's most colorful fish, the southern redbelly dace. A small minnow of varying colors, it sports two dark bands along each side of the body separated by a broad golden stripe. During the late spring these colors will intensify. The males of this specie develop a characteristic crimson red under the head and along the belly giving it a beautiful contrast of colors.

Spawning of the southern redbelly dace is a vivid late spring occurrence as groups of brightly adorned males gather over stream riffles. At the spawning site competition is vigorous between males as they compete for a place alongside receptive females. Here she is pinned between several males where the eggs are released, fertilized and abandoned in the bottom gravel to hatch on their own.

**STRIPED FANTAIL DARTER:** That tiny rather bland looking fish you've noticed dashing from stone to stone is none other than the striped fantail darter. Not a minnow at all but a member of the perch family, this little darter is well adapted to its stream environment. Enlarged pectoral fins and the lack of a swim bladder enable it to maintain a position on the stream bottom with a minimum of effort.

Considered to be a hardy little fish, the fantail darter is an efficient predator of larval insects in this clear water stream. It has a tendency to seek out the coldest and swiftest water where it spends most of its life. There the breeding males seek out and occupy cavities beneath rocks, where a female may enter and deposit her eggs on the underside of the rock. After completion of the spawning ritual, she is chased out by the male, who guards and cleans the eggs until they hatch.

**NORTHERN HOGSUCKER;** Finally a master of the art of camouflage swims by. Suddenly the fish stops, blending into the bottom rubble without a trace. Moving slightly, this bottom dwelling species gives its position away as it moves ahead a short distance. The dark bar pattern over the back and sides gives the northern hogsucker an uncanny ability to blend

into its surroundings. A member of the sucker family, the hogsucker typically moves around in darter fashion dashing about from place to place.

Chasing and splashing is a late spring activity of the breeding males as they move into the riffles of the stream. In most instances a female is attended by several males where the eggs are released, fertilized and left adhering to the bottom gravel. This episode occurs at irregular intervals until the female is spent.

We've looked at only a few fish species of Iowa's clear water streams. There are many more that we have not considered, most of which are abun-

dant and not regarded as rare. However, few of these fish are ever seen by the casual observer. So the next time you go trout fishing and the fish aren't biting, take a few minutes and observe the fish moving about the stream. It's a good way to spend an enjoyable afternoon. And who knows, it may even help you to catch that trophy "brown."

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*Jerry Hudson is a fisheries biologist from Manchester. He received his B.S. degree from Kansas State University and has been with the commission since 1975.*

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Stoneroller



Northern Hogsucker



Striped Fantail Darter



Redbelly Dace

Artwork by Maynard Reece





David Menke

**QUAIL** *By William Rybarczyk*  
**Bobwhite Populations Vary from Year to Year  
but the Long-Range Forecast Depends on Habitat.**

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*Bill Rybarczyk is a wildlife research biologist at the Chariton research unit. He has worked for the commission since 1977. He holds a B.S. degree from the University of Wisconsin and an M.S. degree from Iowa State.*

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The bobwhite quail is one of the most sought after gamebirds in the United States, and following the mourning dove, is one of the most heavily harvested. In Iowa, the annual harvest of bobwhites by hunters is second only to ring-necked pheasants. Bobwhites are also enjoyed by bird watchers and bird feeding enthusiasts in those portions of Iowa where they are found.

The bobwhite quail primarily is a southern bird adapted to warm climates with moderate precipitation, and hence, is most abundant in the southeastern United States. The northern limit of the bobwhite's range is determined by severity of winter weather and its westward extent by a lack of adequate precipitation. Within the "core" of its range, where winter weather is generally mild and precipitation adequate, bobwhite quail populations do not vary substantially from year to year.

Nationally, along its northern and western "fringe," quail numbers may show considerable yearly fluctuations, expanding west during wet years and north in years following mild winters. Correspondingly, during dry periods and following severe winters, the fringe of the bobwhite's range shrinks east and south. These fluctuations along the fringe of its range are natural occurrences, are to be expected from time to time, and little can be done about them.

The spread of agricultural practices by early white settlers in Iowa and throughout the southeastern United States greatly benefited bobwhite quail by providing an additional food source that was not previously available. Early agricultural practices, including farming with horses or other livestock, or farming entirely by hand created ideal habitat conditions for bobwhite quail. Many small fields containing a variety of seed-producing annual weeds bordered by a transitional zone of grass, brush and trees provided abundant areas for quail to nest, rear broods, feed, loaf and roost. Good habitat in Iowa today consists of idle grasslands and brushy cover interspersed with corn, soybeans or some other agricultural grain in such a pattern that the amount of "edge" between these cover types is maximized. The refinement of modern agricultural practices, however, has had a detrimental effect on quail populations. Since the mid-1950's, bigger and more efficient machinery, which increased cropfield size, and encouraged fencerow to fencerow farming, has resulted in the removal of brush in waterways and along streambanks, fencerows, road-

sides and weedy field borders. These losses have been most pronounced in northern Iowa but have been progressing slowly but steadily southward.

Associated with these population declines has been a corresponding change in the core and fringe range of the bobwhite. Both have shrunk south and east from their original boundaries. No where can this be better demonstrated than in Iowa. Southern Iowa originally was in the core of the bobwhite's range. In years following mild winters, quail increased in numbers and expanded their range northward. After a period of successive mild winters, quail could be found in fair numbers throughout much of the state. However, southern Iowa is now included only in the fringe category with the bobwhite's core range having contracted into northern Missouri. The remainder of Iowa, much of which was formerly included in the fringe range, now has no quail at all, not even after successive mild winters. This has happened mainly because the brushy cover that is so vital for the winter survival of quail has been eliminated.

Quail populations in Iowa still oscillate north and south in good and bad years, respectively. However, the northern extent of these oscillations is no longer as great in good years. Likewise the southern retreat following severe winters is farther south. Due to habitat destruction, it now requires a less severe winter to harm quail in areas where they were formerly abundant and still exist in limited numbers. Isolated areas of marginal habitat that used to have quail but were eliminated due to severe winter weather may never have quail again.

A closer look at the ups and downs of quail populations may be seen by looking at information collected on the Decatur/Wayne Quail Study Area. This area is a 4,739 acre tract of privately-owned land located on the Decatur and Wayne county line only 8 miles from the Missouri border. It is within the core of the bobwhite's original range in Iowa, contains good quail habitat, and hence, even in poor quail years, has some quail. It has been the focal point for intensive quail studies by Iowa State University and the Iowa Conservation Commission since 1935.

Long term population trends of 10 to 20 years or more are determined by habitat availability. Year to year fluctuations, however, are determined by weather variables, primarily severity of winter weather and conditions during the nesting season. Examination of information collected in the mid-1970's on the Decatur/Wayne area reveals insights into bobwhite populations across the state. In 1973, the spring population on the Decatur/Wayne area was just under 200 birds. By fall, with warm, relatively dry weather during the primary months of the nesting season (June and July), the population expanded to a record high of nearly 600 birds. A year later with over 150 birds surviving the winter, the fall population increased to only 199 birds. Why? You guessed it — the months of June and July had above normal rainfall and below normal temperatures.

The winters of 1975 and 1979 were exceptionally severe, with extended periods of deep snow, ice and cold weather. These conditions were very hard on

*Original bobwhite quail distribution, population stability and climate*





### Iowa bobwhite quail distributions

FAIR GOOD



1960



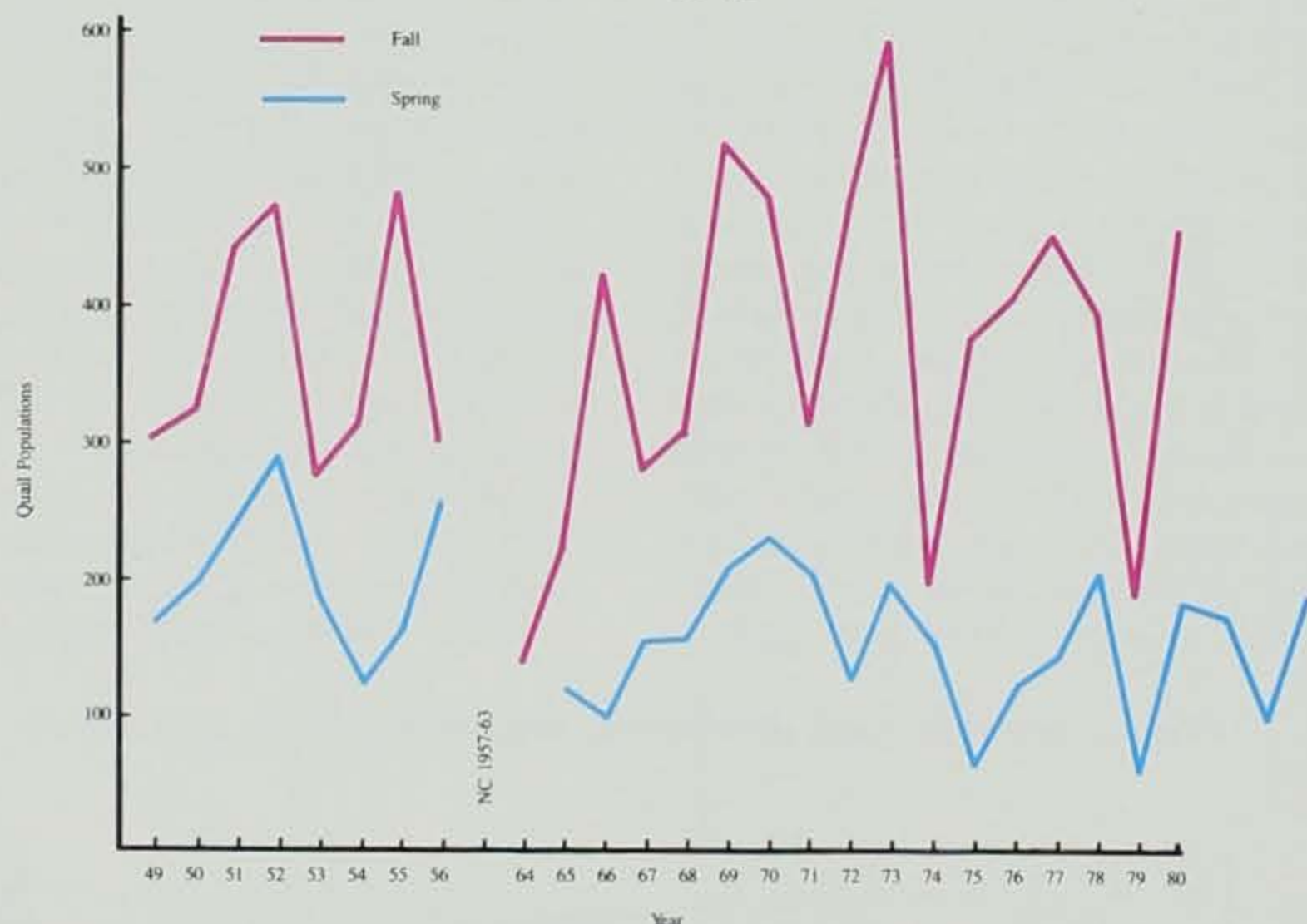
1970



1979



1981



**Bobwhite quail populations on the Decatur-Wayne Quail Research Area, 1949-80.**

quail, as revealed by record low counts in the spring of each of these years. Nevertheless, quail increased several-fold by the fall of 1975. With less than desirable nesting conditions in 1979, the population also increased but not to the extent it had in 1975. However, following two successive mild winters in 1980 and 1981, and favorable nesting conditions in both years, quail populations in Iowa reached their third highest level since 1962.

An interesting observation can be made at this point. Spring populations in 1975 and 1979 were at very low

levels. In 1975, the quail season was 99 days long (October 25-January 31), but in 1979 it was shortened one month to 65 days (November 3-January 6) because many lowans (including many quail hunters) believed that because of low populations there was a possibility of overharvesting quail that year. Despite the differences in season length, populations were similar in 1976 and 1980 on the Decatur/Wayne Area as well as across Iowa. Population increases occurred in the direct face of hunting pressure. The moral is that just because fall populations are down in a

particular year, doesn't mean the hunting season need be shortened. Shortening the season only denies hunting opportunity to the person that enjoys hunting even when the reward of birds in the bag is small.

When quail numbers are down and hunters have to hunt harder for each bird in the bag, it isn't long until the number of hunters in the field declines sharply. This is referred to as "density dependent hunting pressure." There are also intrinsic phenomena built into the fluctuation of quail populations that help insure their survival. When the spring population is low, quail respond with a high rate of increase, while a higher spring population results in a lower rate of increase. Also a phenomenon known as compensatory mortality comes into play. This means that quail that are harvested by hunters only replace and do not add to the natural mortality that occurs each year. Natural quail mortality includes losses from disease, car kills, starvation, rain, freezing rain, floods, snow and a host of predators including hawks, owls, snakes, foxes, coyotes and domestic cats and dogs. As a result of these hazards quail have a very short lifespan, usually less than one year. Several studies have shown that quail populations, whether hunted or not, have an 80 percent turnover rate. In other words, 80 out of every 100 quail born this spring won't survive to next spring. If none of them are shot, 80 will die of natural causes and if 40 are shot, 40 will die of natural causes.

All small game populations including rabbits, squirrels, pheasants, ruffed grouse and yes, even mourning doves, have similar high annual turnover rates, and all exhibit "compensatory mortality" when hunted. They cannot be stockpiled and their populations will not continue to increase if not hunted. Therefore, there is no biological reason to deny the individual that wants to hunt these species that opportunity.

I was involved in an interesting discussion with a spring turkey hunter recently and he was opposed to the fall turkey season because he believed it was hurting the turkey population. I explained to him that young turkeys approximately 5-6 months old are the birds most often taken by fall hunters, that they have a high natural mortality rate when young, and that harvesting these birds was not hurting the population because many would die from natural causes anyway. His response was "How do you know you shot the one that



would have died naturally? You don't." Well, he was right. You don't know, but that was not the point. The point was that the habitat can contain only so many of a particular species, and if you remove one, another of that species that may have died, will survive.

When it comes to discussing this aspect of compensatory mortality in quail and other hunted small game species, it can best be summed up with a somewhat humorous incident that occurred in east central Iowa. There was this convoy of a dozen or so trucks traveling at an excessive rate of speed on Interstate 80 near Iowa City and they happened to pass a state trooper who was in a well-concealed location. The trooper pulled up along side the trucks and turned on his flashing red lights next to the fourth or fifth truck back. After the truck had stopped, licenses were checked, and the speeding citation written the truck driver asked, "Out of all those trucks, why me?" The trooper asked "Have you ever hunted quail?" The puzzled truck driver replied, "Yes." The conversation ended as the trooper asked "Why did you shoot the one you did?"

For those that will be hunting quail this fall, the prospects are bright. State-

wide, quail are up 75 percent from 1982. The warm dry weather that decimated agricultural crops across southern Iowa provided excellent conditions for quail production. Good reports of many large broods have been obtained from across Iowa's southern three tiers of counties. Fall populations are expected to be similar to those in 1980. The quail season in Iowa this year is from November 5 thru January 31 with a daily and possession limit of 8 and 16 birds, respectively. Some might find it interesting to note that there is not an extension of the season this year, even though populations are up substantially.

So what is the future for quail in Iowa between now and the end of the twentieth century, or beyond? That is a complex question and one that is not easily answered. If intensified agricultural practices continue their slow march south across Iowa's southern counties, if field sizes continue to increase, brushy fencerows and roadsides are removed, hedgerows are bulldozed, brush in waterways and along streams is removed and remaining idle grasslands fall to the plow, then there is no doubt as to the bobwhite's future in this state. It will be doomed. *Gone* will be the enchantment of the daily visit of a

bobwhite covey under the winter bird feeder. *Gone* will be the opportunity to teach your son or daughter how to ease past a quivering setter on a staunch point only to have their hearts stopped as a covey bursts from cover like buzz bombs whirring by. But will that happen? Is that what we want to happen — not only to quail, but to all wildlife in Iowa, game and nongame species alike? Must we farm Iowa's soil until there is none remaining for future generations? Can we justify farming fencerow to fencerow to produce more and more, only to spend billions of dollars on short term agricultural programs like Payment-in-Kind (PIK) to reduce grain surpluses? I hardly think so. What is needed is a farsighted, long term farm program that creates incentives for private landowners to manage their land on a long term basis. It should be a program that stabilizes the agricultural economic outlook, strongly encourages wise soil conservation practices, and enhances water quality and wildlife habitat. The choice is ours, one that needs to be made by all Iowans. It is a decision we must make within the next decade and one we will probably never have the opportunity to make again. What is your choice?



Ronnie George



# WILDFLOWER

## of the month

By Dean M. Roosa and Mary Jean Huston



William Pasateri

### Bottle Gentian (*Gentiana andrewsii*)

Late in the wildflower year the prairie grasses turn brown, the goldenrods exhibit their suffuse yellow colors, and the prairie takes on a somewhat drab aspect. The late visitor to Iowa prairies may be startled by an intense blue splash of color. If it is quite late in the summer or into the fall, even near the time of frost, this bright blue flower is probably the bottle gentian (*Gentiana andrewsii*). It grows in moist areas of tall grass prairies.

The gentians are among the latest prairie flowers to bloom and are occasionally found covered with frost. The bottle gentian may grow to a height of nearly three feet, but normally less than two feet. The leaves are opposite, lance-shaped or an elongate oval, sessile, with smooth margins. Lower leaves are longer than the upper, which form a whorl at the base of the main flower cluster. The perennial root system is coarse and deep.

The two-inch long flowers are described as club-shaped, bottle-shaped, or barrel-shaped, and the petals curve inward and touch at the top, forming a closed corolla. This unusual shape and arrangement gives the plant two more common names, the closed gentian or barrel gentian. This unusual arrangement presents a pollination problem and only large bees, capable of forcing the petals apart, can cause the plant to be pollinated. The pollinators are often bumble bees and occasionally an observer may see the blossom pulsating from the activities of the bee inside.

The word "gentian" honors King Gentias of Illyria, who discovered some medicinal properties of the plant.

The bottle gentian has been used by Native Americans as a treatment for snakebite and backache. Pioneers ate the root to promote appetite and used a tea brewed from the plant to aid digestion, especially following an attack of malaria or an infectious disease.

The gentians are among the most intense colors of the prairie flora, but are appreciated only by those visitors who take the time and effort to visit the prairies at the close of the blooming year. If it is too late for you to see this beauty this year, put it on your calendar for sure for next year.

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Dean M. Roosa has worked as state ecologist for the Iowa Conservation Commission and State Preserves Board since 1975. He has a Ph.D. in botany from Iowa State University.

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Mary Jean Huston is a regional data manager for The Nature Conservancy in Minneapolis, Minn. She was previously data manager for the Iowa Natural Areas Inventory, a cooperative program between the Iowa Conservation Commission and The Nature Conservancy. She holds a B.S. degree in biology from Grinnell College.

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Daryl Kothenbeutel

## Profile of an Endangered Species

MEADOW BEAUTY (*Rhexia virginica*)

By Dean M. Roosa and Bill Pusateri

The common name sums up the feeling of wildflower enthusiasts and botanists for this species. Several large, bright, yellow-appendaged anthers are highlighted by the background of crimson petals to provide a mellow contrast to the late summer prairie foliage. This plant may grow to a height of one meter from a perennial tuber in a habitat of peat soil or wet sand. Its rarity makes it of special interest to those wishing to protect Iowa's natural diversity. It has been reported on a few occasions from Linn, Cedar, and Muscatine Counties. The most recent discovery was by Daryl Kothenbeutel, executive officer of the Muscatine County Conservation Board, who took the above photograph. This

report is the only known extant population in Iowa.

The family to which it belongs, the Melastoma family, or Melastomataceae, is largely tropical, with a single species occurring in the latitude of Iowa. Besides having the showy bloom, this species can also be recognized by the conspicuous gland-tipped hairs surrounding the sepals and fruit. The stem is conspicuous for two reasons; it is square in cross-section and has "wings" which result from the edges of the leaves continuing downward.

It blooms in late summer and continues through September. Should your travels cross paths with this lovely prairie flower, we would be interested in knowing of its location.

## Back Cover...



Ron Johnson

## BARRY KENNEY'S WILDLIFE IN WOOD

Barry Kenney of Des Moines began carving decoys some years ago as a result of his close personal association with the late Jack Musgrove, Curator of the State Historical Museum and nationally known carver, author and waterfowl authority. Although Kenney whittled at first just to improve his and Musgrove's spread on the marsh, he later developed interest in competition carving, and has since won numerous awards in national and international contests.

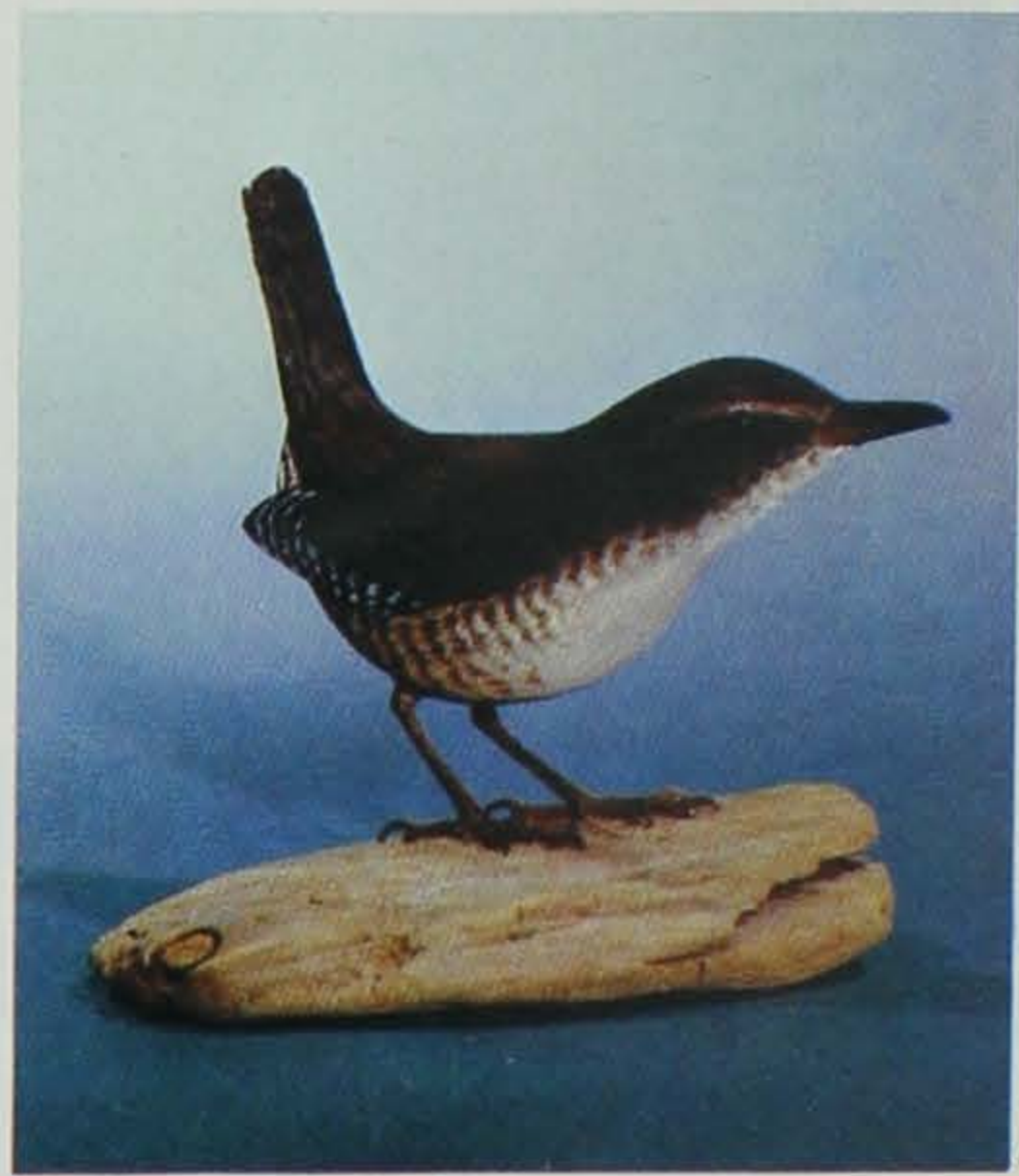
Kenney now carves beautiful replicas of species other than waterfowl in addition to decoys, and sells them through the Maynard Reece Gallery in Des Moines. The back cover features examples of his fine craftsmanship.





Ron Johnson

*Fine wood carvings of bobwhite quail, wood duck and house wren, by Barry Kenney of Des Moines*



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