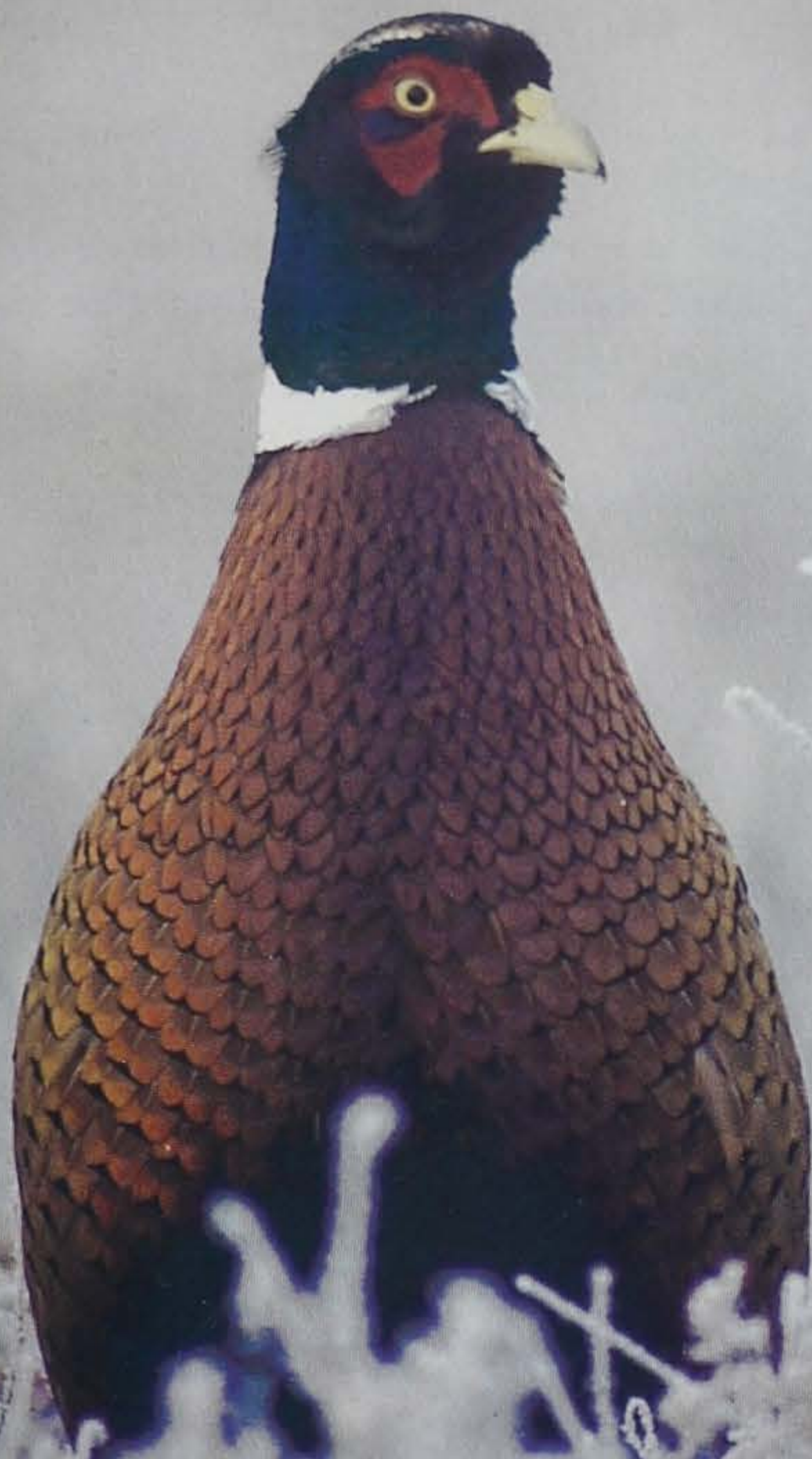


JANUARY/FEBRUARY 2000

CONSERVATIONIST

DEPARTMENT OF NATURAL RESOURCES





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COVERS
FRONT: Pheasant by
BACK: Winter scene

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Back: Winter scenic by Clay Smith



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Pheasants Forever, Winter 2000.

FIGHTING *for* SURVIVAL

*Researchers track the
struggle to survive a
plains blizzard*

W intering ring-necked pheasants in eastern South Dakota commonly use dense grass and forb cover, cattail stands and woody cover such as willow stands and shelterbelts to find protection from the elements and predators. In many winters, snows fill or flatten the mid-to tall-height grasses and forbs found on Conservation Reserve Program (CRP) lands and other idle areas, making them inadequate as winter cover.

At these times winter refuge sites for pheasants are reduced to areas with cover at least as robust as cattail stands. Dense stands of cattail, if available, are high-preference areas where pheasants seek protection from the wind as well as predators. Dense patches of willow or wild plum are also attractive to wintering pheasants. If blizzards persist and fill these dense areas of cover, pheasants may seek out available woody cover in dense shelterbelts.

BY AARON K. KUEHL
AND LESTER D. FLAKE

NICK VONOHLEN



There's no cover here to stop the winds from blowing or to help pheasants and other wildlife survive a raging blizzard.

A deadly winter

In the winter of 1996-1997, ice storms and blizzards relentlessly battered eastern South Dakota, Minnesota and other areas leaving almost all cattail stands buried and only the tops of many willow and wild plum thickets visible. Many shelterbelts featured snow drifts 10 feet or more in depth. Extreme cold and blizzard conditions continued into February and dead pheasants were commonly found protruding from the snowy plains.

However, in some areas people reported more pheasants than usual, indicating that in some habitats pheasants were concentrating and surviving. The extreme snow and cold presented a unique opportunity to identify the most useful habitats for pheasants in unusually severe winters. This infor-



RON SPOMER

“We conclude that the key to pheasant survival during the extreme snow and cold of 1996-1997 was multi-row shelterbelts with evergreens, all within a quarter mile or less of standing corn.”



RON SPOMER

Snow encrusted feathers, as on this hen pheasant, robs the bird of heat and lowers its chances of survival.

mation could be used by private landowners, managers for public lands and conservation groups to maintain or develop needed habitat for pheasants during the harshest of winters.

We conducted a survey in February 1997 to determine what habitats pheasants were using in that unusually severe winter. Forty plots, each a quarter section in size, were randomly selected from an area in eastern South Dakota that included western Brookings and Moody counties and northern Lake County.

A four-wheel drive pickup was necessary to travel to the selected plots, but even then it was difficult. Many roads were closed, left unplowed and impossible to travel. In some cases, we had to walk half a mile just to reach our quarter-section study areas. Each of the 40 plots was walked, and all habitat visible above the snow was mapped and recorded. Snowshoes were necessary to walk each plot to prevent repeated falls through the

snow. We looked for pheasants or for any evidence that pheasants were using the plot, including tracks and ground roosts.

On some plots, shelterbelts or unharvested standing corn protruded to various degrees above the drifting snow. Many plots had only a small shelterbelt surrounding a building site, but others had more extensive shelterbelts. Shelterbelts varied from narrow belts to wide deciduous tree belts and those with rows of protective conifers such as red cedar or spruce. Cattail cover was largely inundated, and even dense willow and plum thickets were mostly buried under snow.

Out of the 40 plots, 28 had no evidence of recent use by pheasants during our survey. These plots lacked dense winter cover and food due to the heavy drifting of snow. We found some sign of pheasant activity on 12 plots, but only four of these were being used by a concentration of more than 100 pheasants



and another supported approximately 50. We concluded that surviving pheasants had concentrated in the limited sites that provided food and cover.

In the areas where we found pheasants, we compared the number of males to the number of females and found a preponderance of roosters. In fact, we counted at least three roosters for every two hens observed. Normally there are three to four hens per male after the hunting season in eastern South Dakota in this polygynous species (one male mating with several females). Our observations suggest that the roosters had a much better survival rate than did the hens. We suggest that males, with their larger body size, were more able to cope with severe weather conditions than smaller females. Conditions that incapacitated females and made them vulnerable to predation probably had much less effect on the larger males.

Two critical needs

Each plot that had pheasants or showed signs of heavy use had two very similar and important qualities — food and shelter. All pheasants were located near a source of food. In our study, this food source was in unharvested





Pheasants need good cover close to feeding areas, below, to minimize exposure to ever present predators such as the red fox, above, and the great horned owl, left.

cornfields. Because of the large size of unharvested cornfields, the snow did not drift deeply all the way through the field. This left pheasants a food source and some shelter from the bitter winds while feeding and, in some cases, roosting.

The second, and perhaps the most important quality the plots shared, was dense cover. With only the top few inches of cattails left unburied and with willow and plum stands almost as useless, the only cover left was in shelterbelts. However, only a portion of available shelterbelts provided the needed cover for pheasants. Most shelterbelts only slowed the blustering winds, resulting in snowdrifts sometimes in excess of 15 feet deep. These drifts covered all the underbrush, leaving only branches and trunks of trees stretched above the frozen snow. Deciduous trees, which lose their leaves in winter, generally provided little protection unless the belt was unusually wide and dense.

In most cases, only dense, multi-row (10 or more rows recommended) shelterbelts that included evergreens such as red cedar and blue spruce had the qualities needed by the pheasants to serve as a refuge during such a winter. The needled branches or evergreens provided shelter even when the lower portions of the tree and undershrubs were buried by snow. Evergreens also created downwind pockets protected from drifting snows that were attractive to pheasants. We found evidence that pheasants used the evergreens for night roosting because of the protective cover from the winds. Nesting above the ground in conifers may also provide some protection from predators such as a red fox or coyotes.

We conclude that the key to pheasant survival during the extreme snow and cold of 1996-1997 was multi-row shelterbelts with evergreens, all within a quarter mile or less of standing corn. We know of other types of habitat, such as a dense cattail marsh located in the middle of Spink County (protected from drifting snow), that provided winter cover for hundreds of pheasants.

In most winters, dense cattails and willow patches will remain primary winter cover sites, and we suspect that these areas may allow for better protection from predators than shelterbelts. However, in the extreme years the situation leaves the birds little else other than dense shelterbelts with conifers for cover. Winters as severe as 1996-97 have historically occurred only every few

decades. Nevertheless, when they do occur, woody cover in shelterbelts is all that is left and may be important in allowing survival of enough birds to rapidly repopulate an area. Standing plots of corn in the form of food plots placed near emergency winter cover can be a dependable food source for many of these birds.

Establishing dense woody cover for emergency winter habitat requires long-term planning. When planting woody cover, we suggest the use of shrub rows, red cedars, (junipers), pine and spruce as preferable to trees such as green ash, Siberian elm or eastern cottonwood. Shrub rows of honeysuckle, wild plum and even lilacs can add to the wind protection. We suggest belts be 10 or more rows wide if possible. If a landowner developed a dense, wide shelterbelt in conjunction with a winter food plot, the area could provide valuable protection for pheasants in severe winters. Livestock should not graze these tree belts.

Existing shelterbelts that supported pheasant concentrations in the 1996-97 winter have already proven their worth and, coupled with food plots, could provide valuable sites for pheasants in the most severe winters.

Shelterbelts should not be looked at as replacement cover for dense cattail marsh areas and dense willow stands in most years, as these are preferred wintering sites until the worst of winters. We recommend a combination of dense cattail, willow or wild plum along with a shelterbelt as winter cover. Food plots near both cover types are recommended.

This study was completed with the much appreciated support of South Dakota State University; the South Dakota Department of Game, Fish, and Parks; individual chapters of Pheasants Forever (Northern S.D. and Sheyenne River Chapters); and other organizations. We appreciate the assistance of Jim Bauer and Jen Briggs during our field surveys and the many landowners for allowing access for our winter survey.

Aaron K. Kuehl, a Wildlife and Fisheries Sciences graduate from South Dakota State University, is currently a graduate student in Animal Ecology at Iowa State University. Lester D. Flake is a professor in the Department of Wildlife and Fisheries Sciences at South Dakota State University.



RON SPOMER

The windward side of this shelterbelt is catching the snow and protecting the inner row of trees from becoming snowbound and useless to wintering pheasants.

Shelterbelts Key to Survival

Pheasants Forever's extensive field experience supports the recommendations in the accompanying article "Surviving a Plains Blizzard." Good winter shelterbelts and nearby food are crucial elements for bringing pheasants through even the toughest winters year after year. If you don't have a shelterbelt and would like one, or your existing shelterbelt is inadequate, Pheasants Forever offers a variety of resources to help.

PF members and staff wildlife biologists have been building shelterbelts since the group's inception 17 years ago. Why? Most wild pheasants that die in winter die of exposure and predation, not of starvation — and that is why shelterbelts are so crucial to winter pheasant survival.

Matt O'Connor, a veteran PF wildlife biologist in northern Iowa, said building a quality winter shelterbelt is only half the challenge — convincing landowners to dedicate the land is the other half. Landowners should know that winter shelterbelts are not only good for wildlife, but the farm bottom line as well. First, not all landowners can afford to put shelterbelts just anywhere they want on valuable crop land. One practi-



RON SPOMER

cal and economical option is to place a shelterbelt around the farmstead.

"Shelterbelts can be a good management decision because they reduce winter home and other building heating expenses up to 30 percent by cutting the wind; lower livestock stress and food consumption; cut snow removal time and expense; and enhance property values," O'Connor said.

Building a shelterbelt doesn't have to cost much either, and it can even pay a landowner. Shelterbelt acres qualify for enrollment in the continuous CRP sign-up program, which pays landowners for up to 15 years. After 15 years, when the shelterbelt has matured, it will continue to pay for itself by providing the benefits mentioned above. Pheasants Forever chapters also typically offer lower cost or free tree

seedlings for shelterbelts as well as low cost use of seed planting equipment to do the job.

First, PF members and staff have learned that landowners who desire sustainable, long term populations of pheasants and other wildlife need to plan for the worst winters — not just the average years.

So, once you've decided to build a shelterbelt, you may as well do it right the first time. Plant at least 10 rows of trees, and on a typical farm that will require about 2.5 acres (see diagrams for details). "We can't emphasize large shelterbelts enough. A recent study in northern Iowa showed small shelterbelts (five rows or less) are places where predators kill a lot of pheasants. The birds just can't escape in such a small area, and if they bust out, they become vulnerable to other predators and the weather," O'Connor said.

If you already have a small shelterbelt, there are steps landowners can take to improve them for pheasants. Plant at least four rows of corn upwind and 30-50 feet out from the trees — the gap will act as a snow catch to prevent the trees from filling in with snow. If you have a 2-4 acre food plot, great, but that is normally too small to prevent the snow from burying the food and shelter. Food plots need to be at least 10 acres (block shaped not linear) to provide survivable winter feed and cover

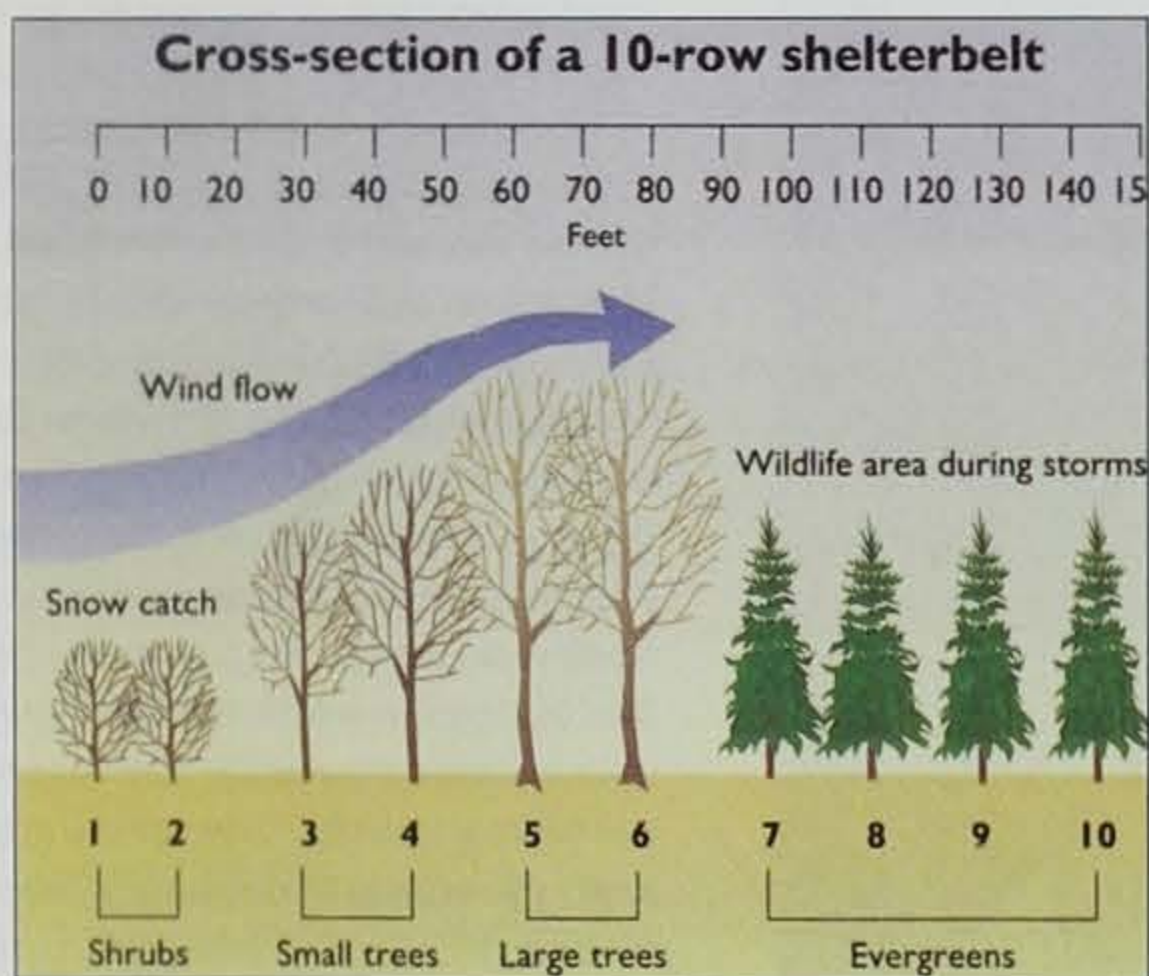
value. If your food plot is small, you can enhance its usefulness to pheasants by planting at least 10 rows of trees on at least the upwind two sides.

"Surviving a Plains Blizzard" mentioned that in most winters pheasants can survive the cold, wind and escape predators in dense cattail marshes. If you lack cattail cover in your area, a dense stand of switch grass can substitute in most winters, O'Connor said. Switch will also provide good nesting cover come spring because it largely remains standing despite snowpack.

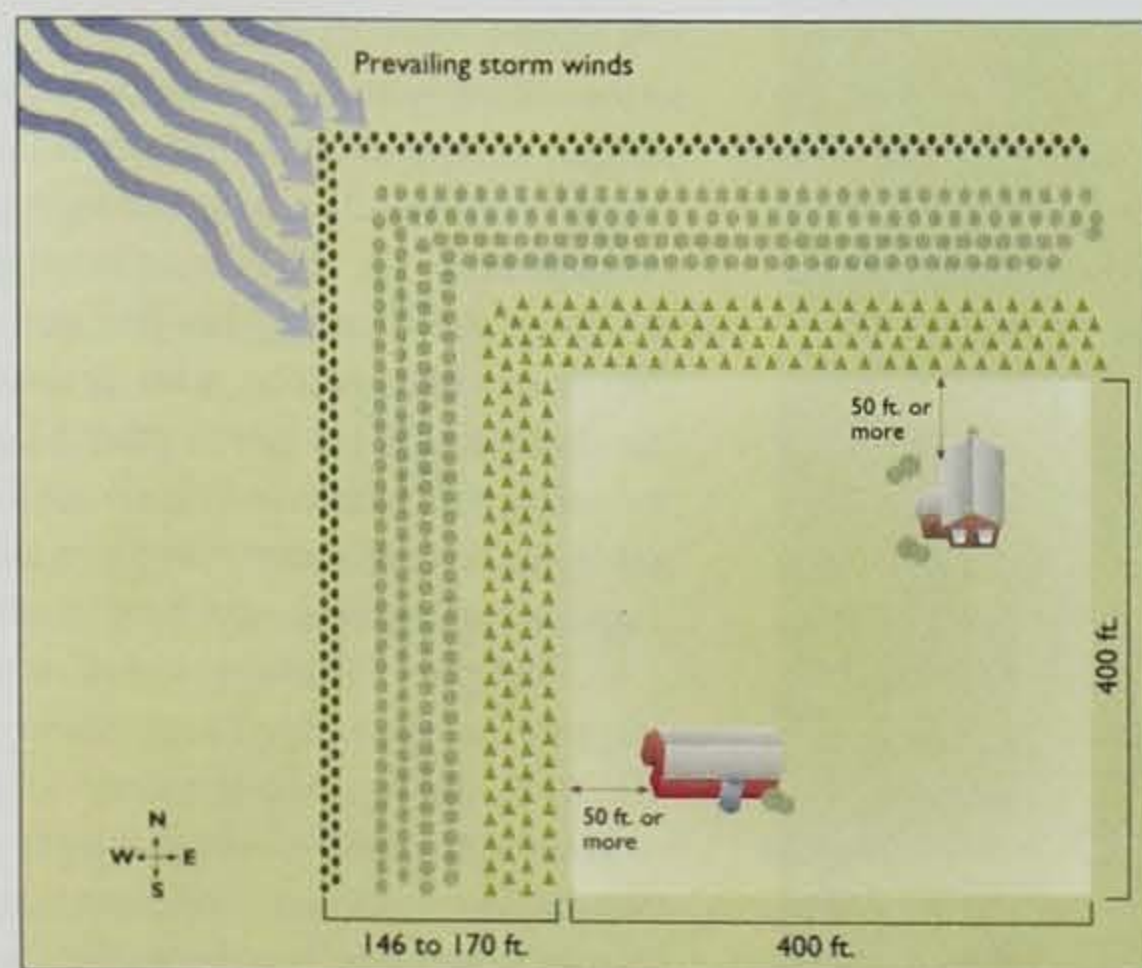
Brutal winters like 1997 don't come every year, but they do come, and if you want pheasants and other wildlife to survive, quality winter shelterbelts with nearby food are essential. —Editor.

For more details on properly planning, financing and building a quality winter shelterbelt, contact Pheasants Forever's national office or your local chapter for the PF brochure entitled "Establishing Farmstead Shelterbelts."

CROSS-SECTION OF A 10-ROW SHELTERBELT



TYPICAL SHELTERBELT LAYOUT IN RELATIONSHIP TO WIND DIRECTION AND FARMSTEAD



WHAT TO PLANT FOR A QUALITY SHELTERBELT.

SHRUBS

PLANT FOUR FEET APART.

Common Ninebark
Cotoneaster
Common Lilac
Red Osier Dogwood
Siberian Peashrub
Viburnums

SMALL TREES

PLANT EIGHT FEET APART.

Washington Hawthorne
(rust susceptible -
don't plant with cedars)
American Plum
Common Chokecherry
Russian Olive
Nanking Cherry
Crabapples

TALL TREES

PLANT 18-20 FEET APART.

Black Walnut
Green Ash
White Ash
Oaks

CONIFERS & EVERGREENS

PLANT 10-14 FEET APART.

Eastern Red Cedar
Northern White Cedar
Black Hills Spruce
Douglas Fir
Jack Pine
White Spruce
Rocky Mountain Juniper

Spring Light Goose Hunting Re-Opened

Article by Guy Zenner • Photos by Roger A. Hill

In an effort to manage the mid-continent light goose population, President Clinton earlier this winter signed legislation reinstating interim population control measures first adopted by the U.S. Fish and Wildlife Service (USFWS) last February. What that means for hunters is more opportunities to take light geese in Iowa.

State regulations adopted earlier this year set Iowa's split season as October 21 to December 26 and February 19 to March 10. However, the conservation order signed by President Clinton in November allows taking light geese from March 11 through April 16. Under the new legislation, hunters will be allowed to use electronic calls and unplugged shotguns during late season and the conservation order.

This unusual opportunity was offered last year as a result of years of study by federal, state and provincial biologists of the growth of light goose populations and degradation of their breeding habitat. These scientists concluded the mid-continent light goose population, consisting of snow and Ross' geese, was too large for the carrying capacity of its Arctic and sub-Arctic habitats.

They recommended the population be reduced to half its present size to stop further habitat degradation in those regions. The feeding activities (grubbing and grazing) of these geese have denuded hundreds of miles of the salt marsh that border Hudson Bay and the Arctic Ocean. In 1996, scientists estimated 35 percent of the habitat along the 1,200-mile coastline of west Hudson Bay had been destroyed, 30 percent had been severely damaged and 35 percent was overgrazed.

Light geese are causing ecological damage far beyond just their own populations. Salt marshes are home to many other wildlife species, and indications are a number of bird species nesting in the same areas are declining, including the semi-palmated sandpiper, red-necked phalarope, dowitchers, Hudsonian godwit, whimbrel, stilt sandpiper, yellow rail, American wigeon, northern shoveler, oldsquaw, red-breasted merganser, parasitic jaeger and Lapland longspur, among others.

It also appears the decline of the James Bay population of Canada geese may be directly related to habitat degradation caused by snow geese. In addition, the short growing season and fragile condition of Arctic and sub-Arctic habitats means much of this habitat could be lost forever. Scientists believe the new mix of plants and animals able to survive on these degraded areas will be much less diverse than what was there before. Even in the areas that are not yet destroyed, habitat recovery could take decades or centuries, if it occurs at all.

In 1999, under authority provided by federal regulations, the DNR allowed hunters to take light geese after March 10 using unconventional hunting methods. This resulted in the harvest of more than 12,000 light geese in about three weeks by 1,400 hunters. During the regular 1998-99 light goose season (107 days), hunters harvested about 16,000 light geese in Iowa.

During the March 10 – April 16 period, participants using unplugged shotguns and electronic calls harvested 2.77 light geese per day hunted whereas participants that did not use unplugged shotguns and electronic calls harvested

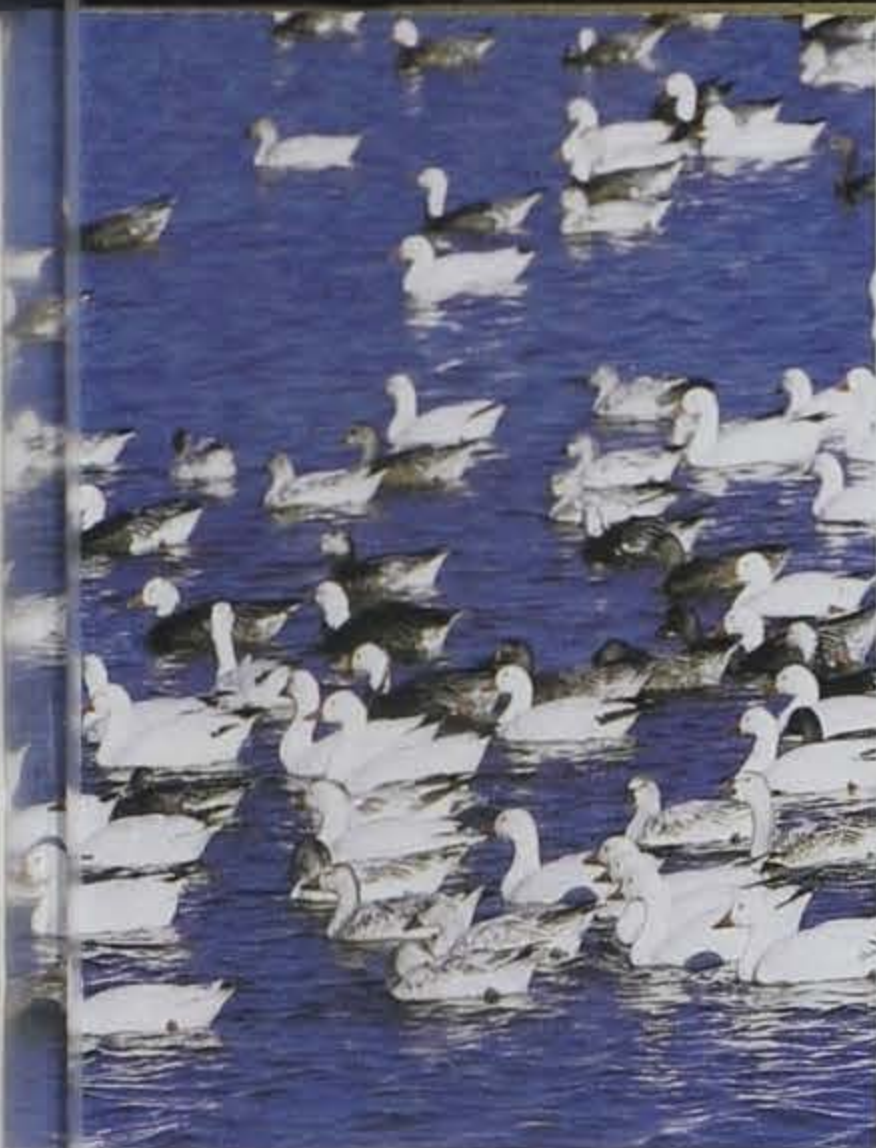
.62 light geese per day hunted. These results, in conjunction with those from other states, suggest hunters may be able to reduce the size of the mid-continent light goose population to objective levels given this additional harvest opportunity.

From a biological perspective, the key to reducing these populations is to reduce the survival of adult birds. Hunters provide a free, willing and highly motivated labor force that can be used to help curb the growth of this overabundant population. In fact, through license fees and the taxes hunters pay on arms and ammunition, hunters will actually pay to help solve this ecological problem. Without the help of hunters, resource management agencies would have to spend huge sums of money to effectively control these light goose populations.

The opportunity to take light geese after March 10 was nearly unavailable in 2000. This past spring, the Humane Society of the U.S., along with other animal-rights groups, filed a lawsuit alleging the U.S. Fish and Wildlife Service (Service) did not comply with all requirements of the Environmental Policy Act in developing the regulations to allow the taking of light geese after March 10. The court ruled in favor of the Humane Society and the Service withdrew the rules permitting the taking of light geese after March 10 or using electronic calls and unplugged guns until a full-blown environmental impact statement could be completed.

This past fall, however, Congress stepped in and passed legislation allowing the Service to continue actions to reduce the mid-continent light goose population while an environmental impact statement is prepared. The

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service's original environmental assessment indicated the actions they were proposing to reduce light goose populations would not cause populations to fall below objective levels in the short term.

As a result of legislation, the Service and each individual state can again allow the harvest of light geese after March 10 while the environmental impact statement is being prepared. The environmental impact statement, however, must be prepared by May 2001 before allowing any additional harvest of light geese. State and provincial biologists are working closely with the Service to prepare the statement to ensure appropriate actions can reduce the mid-continent light goose populations to sustainable levels in the future.

Regulations for taking light geese during the late segment of the light goose season in Iowa or between March 11 and April 16, 2000, will essentially be the same as 1999. The daily limit will again be 20, with no possession limit. Shooting hours will be one-half hour before sunrise to sunset until March 11, at which time they will be extended to one-half hour after sunset. Participants will need to be fully licensed to hunt migratory birds in Iowa, including being registered with the Federal Harvest Information Program (HIP) for the year 2000. Persons hunting after March 10, however, do not need a federal waterfowl stamp.

Guy Zenner is the waterfowl biologist for the department located at Clear Lake.

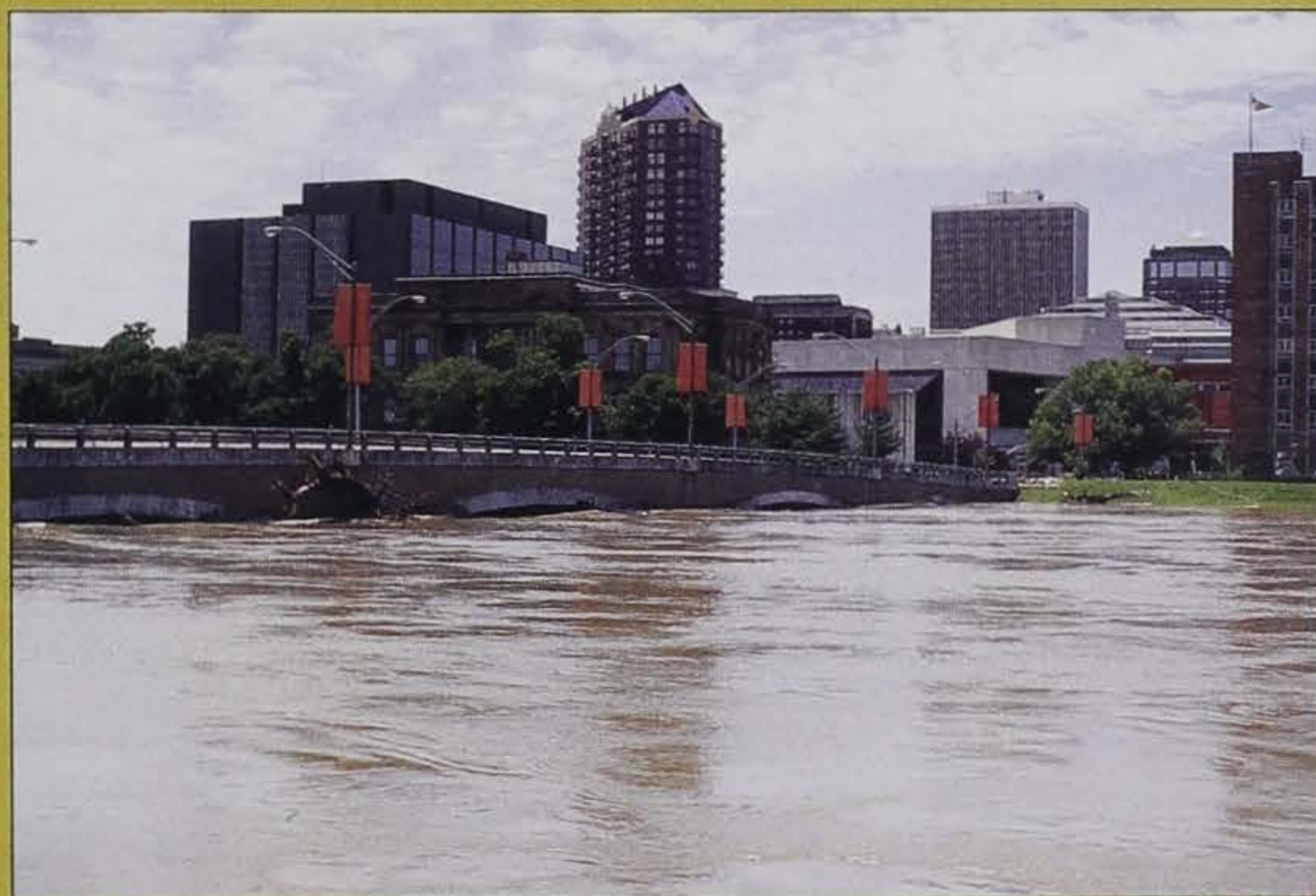




Saving Bridges Without Destroying Catfish

by Jerry Hudson

The air was filled with a soft murmur of falling droplets as rain fell gently from the darkening clouds, caressing the leaves on the trees before slipping quietly into the grass below. Everything was wet and the aroma of damp leaves and earth lingered on the landscape. The day started like any other, but soon the early spring rain had turned into a crescendo of falling droplets, quickly converging into large puddles before branching out into small rivulets. Flowing water began to increase in speed as it cascaded down the hills and throughout the valleys. The ground was already saturated; small streams turned into larger ones and rivers began to overflow their banks. Rain continued throughout the spring and summer and each day's rain only compounded the flooding problem. The year was 1993, better known as...



... The Year Of The Floods

Photos left and above by Ken Formanek

As a result of the constant and severe flooding, many stream channels were dramatically changed. Erosion widened streams and formed nearly vertical banks. In some streams, erosion deepened channels by as much as 15 feet, leaving many supporting bridge pilings exposed.

Water erosion had already done millions of dollars worth of damage to the state and county road systems even before the Flood of 1993. If something wasn't done, many roadways and bridges in western Iowa would be left impassable or in danger of collapsing during future rainfall events.

Farm fields were also being devoured by flood waters at an alarming rate. Even more at peril were the loess soils, the type most common in western Iowa. The fragile soil is highly erodible and severe erosion can occur whenever farming or any type of construction disturbs the soil. Gas pipelines and other utilities were also exposed.

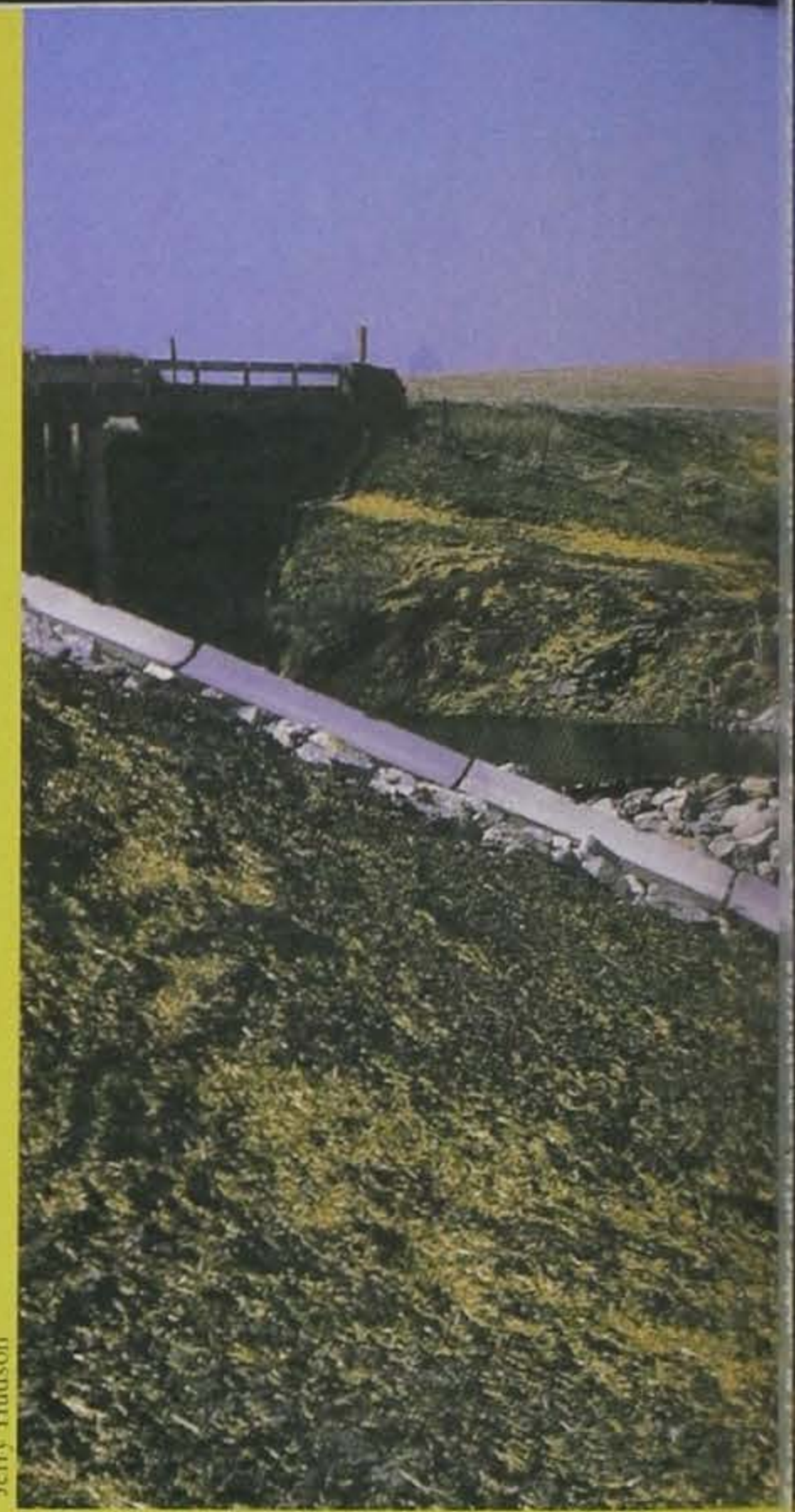
In 1992, the Hungry Canyons Alliance was formed to research and implement solutions to stream channel erosion in the deep loess soils of western Iowa. The Alliance, repre-

sented by 22 counties, is comprised of county engineers, landowners, county supervisor boards and the soil and water conservation districts.

Since 1961, nearly \$6.5 million in federal and state funds have been allocated for numerous Hungry Canyons stream stabilization projects. Most of these projects involved structures designed by county engineers, with technical review by the Natural Resources Conservation Service.

Some of the structures varied in design and material, however most included a raised weir (barrier) section, which trapped sediment upstream and reduced downstream sediment flow. The most commonly designed structures include sheet pile, rock sill and concrete block weirs. These structures have been effective in providing protection for bridges, roadways and utility lines. The reduced stream flow and accumulated sediments allow the stream banks to revegetate and help reduce stream channel degradation.

While protecting streams from erosion is an admirable goal, other considerations also have to be made to



Jerry Hudson

protect the natural resources and allow for up or downstream movement of fish. Under Iowa law, no permanent dam or obstruction across a stream which does not provided a fishway can be erected or maintained, except by written approval of the director of the DNR. It has been the DNR's position to allow stream stabilization structures of 4 feet or less in height, having a downstream slope ratio of four to one which are covered with course rock or rock and grout.

In theory, these structures are



Jerry Hudson

LEFT: What can happen if streams aren't protected from erosion.

ABOVE: Streambank stabilized by rock rip rap.

RIGHT: Stabilization structures often reduce or redirect the flow of water in a stream or river.



same. Under high water conditions, stream velocities over a weir may be so great fish may be unable to swim over the structure.

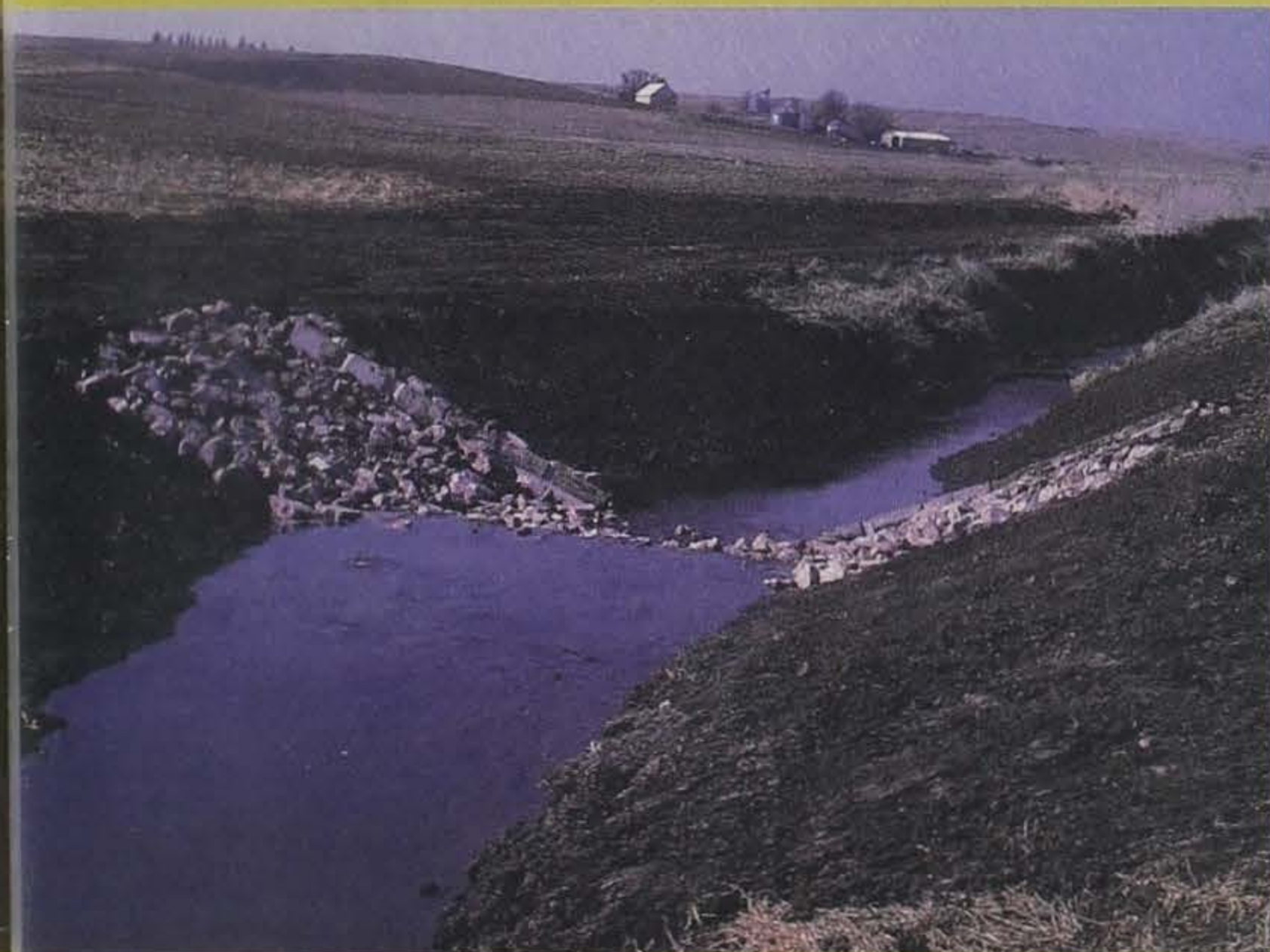
Stream stabilization structures were placed in streams many years prior to the 1993 flooding, and even today, there is hardly a stream in western Iowa that doesn't have at least one stabilization structure in place.

Yet many of the stream channels continue to degrade through head cutting (down cutting moving upstream). Course rock placed on the downstream edge of the weir is often swept away or is left at a much steeper angle. Structures originally 3 or 4 feet high

supposed to drown out or disappear from view under high water conditions. The course rock is designed to reduce the water velocity near the bottom, allowing channel catfish and other fish to pass over these structures. However theory and reality are not always the

same. Under high water conditions, stream velocities over a weir may be so great fish may be unable to swim over the structure. Stream stabilization structures were placed in streams many years prior to the 1993 flooding, and even today, there is hardly a stream in western Iowa that doesn't have at least one stabilization structure in place. Yet many of the stream channels continue to degrade through head cutting (down cutting moving upstream). Course rock placed on the downstream edge of the weir is often swept away or is left at a much steeper angle. Structures originally 3 or 4 feet high

soon become 5 or 6 feet high or higher and block the passage of fish. This is evident by fish sampling information collected by the DNR in southwest Iowa streams. Fish collections taken from 1997-99 upstream of several stream stabilization structures in Walnut Creek, Troublesome Creek and



Longbranch Creek indicate there is a lack of sport fish as well as a low number of overall fish species inhabiting these areas.

It is important all fish species have access to Iowa's streams. Many of these small streams do not have the habitat to support a population of channel catfish or other game fish during all seasons of the year. However, they do serve as important spawning and nursery areas for numerous species that inhabit the larger rivers they drain into.

Therefore, it is important to view the streams of western Iowa not as mere drainage ditches, but rather aquatic systems containing an important natural resource. In the future, our children may want to catch a catfish in Walnut Creek, the Little Sioux River or perhaps some other stream.

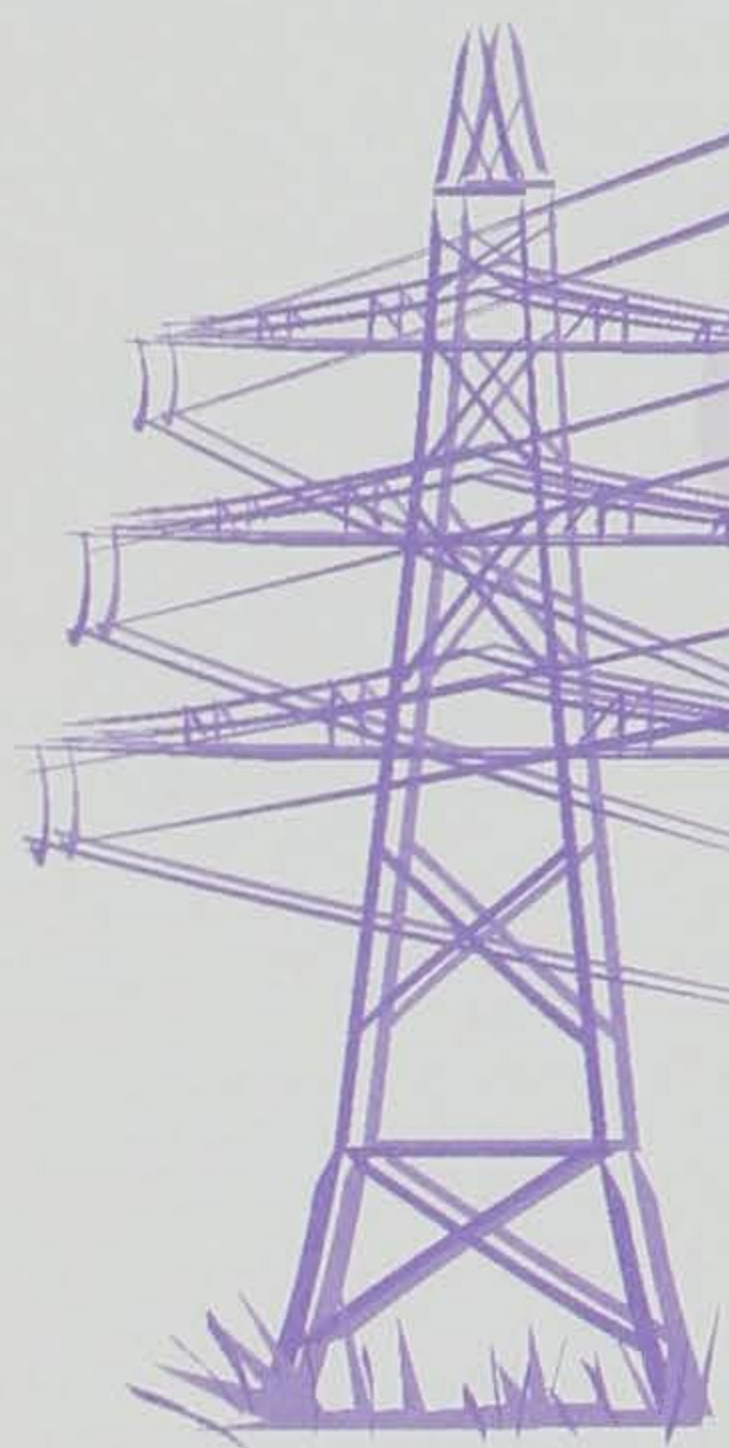
In 1997 and 1998 the DNR, the Natural Resource Conservation Service and the Army Corp of Engineers developed a stream stabilization structure design manual. It provides engineers and planners with the best available information on weir height, types of material needed and the types of structures best suited for western Iowa streams.

None of these structures will greatly improve fish passage at this time. But future development and design in weirs with an eight to one down stream slope may show promise in allowing for less restricted fish movement.

The task of saving bridges and trying to protect catfish is not an easy one, but it is well worth the effort.

Jerry Hudson is a fisheries management biologist at the southwest regional office in Cold Springs.

Jerry Hudson



Iowans now spend \$2 billion a year on electricity -- a hit not only to our pocketbooks, but our environment. By finding ways to use energy more efficiently and by cultivating renewable energy resources, Iowa can create financial savings, economic-development opportunities and a healthier Earth.

Utility Deregulation in Iowa

sustaining energy efficiency and renewable energy

by Julie Tack

The most historic change to Iowa's use of electricity in the near future will be the restructuring of the electric utility industry. Currently in Iowa, electricity generation and distribution are managed by a single utility for a defined service area, acting as a regulated monopoly. Through restructuring, electricity services will become increasingly competitive.

By law, Iowa is committed to establishing an electricity industry that provides reliable, efficient and environmentally safe energy at least-cost prices. The Iowa DNR believes future restructuring legislation must include energy efficiency and renewable energy funding as a component.

The DNR, in cooperation with several state and regional organizations, has established five core environmental objectives to be included in any future restructuring legislation for Iowa:

1. A Renewable Energy Portfolio Standard.

This requirement would specify that a percentage of Iowa's electricity be generated from renewable energy resources. Currently, 2 percent of Iowa's energy consumption originates from renewables. The requirement calls for an increase in contributions -- an additional 4 to 10 percent -- from renewable energy sources over the next decade.

2. Net Metering Arrangements.

This provision calls for all electric service providers to accommodate consumer choice in Iowa by providing net metering arrangements. Doing so offers a mechanism for consumers to interconnect their renewable energy generating facilities, while permitting them to offset electricity use that would otherwise be purchased at retail rates from their utility.

A recent district court decision in Iowa eliminated mandates for utilities requiring them to provide net metering. The decision is being appealed by the Iowa Utilities Board and the Office of the

Consumer Advocate. The Iowa Attorney General's Office, on behalf of the DNR, has filed a motion to join renewable energy advocates in a "friend of the court brief," or "Amicus Curiae" in support of net metering.

3. Preservation of Energy Efficiency and Renewable Energy Programs.

This condition provides \$52 million per year to fund energy efficiency and renewable energy programs. The money will be raised through a nonbypassable charge on all consumers' electric bills and assessed based on energy use.

The DNR will hire a consultant to conduct a needs assessment of the primary energy-using sectors (i.e. residential, commercial, etc.) and identify future programming priorities. Concurrently, the DNR will develop and contract for programs to be delivered, based on: existing analyses of public-sector energy efficiency needs; previous analyses by the Iowa Utilities Board; and the biennial state energy plan. An implementation plan will be made with assistance from a statewide advisory committee, and valuation of program effectiveness will be submitted to the legislature every three years.

This funding will sustain the energy programs and goals passed into law during the last decade.

4. Fuel Disclosure with Utility Bills.

This provision requires utilities disclose the sources of a customer's electricity supply, and the air emissions associated with those sources. The disclosure will appear quarterly with customer bills. This information ensures Iowans can make informed choices about competing suppliers regarding the amount of energy they produce from fossil fuels, nuclear and renewable resources.

5. Emissions Trading.

This stipulation provides for the monetary value of emissions reductions produced from programs funded through the nonbypassable charge (mentioned in point three) to be reinvested in further programming. This accommodation will ensure that the total value of these programs is returned to Iowa citizens through continued programming.

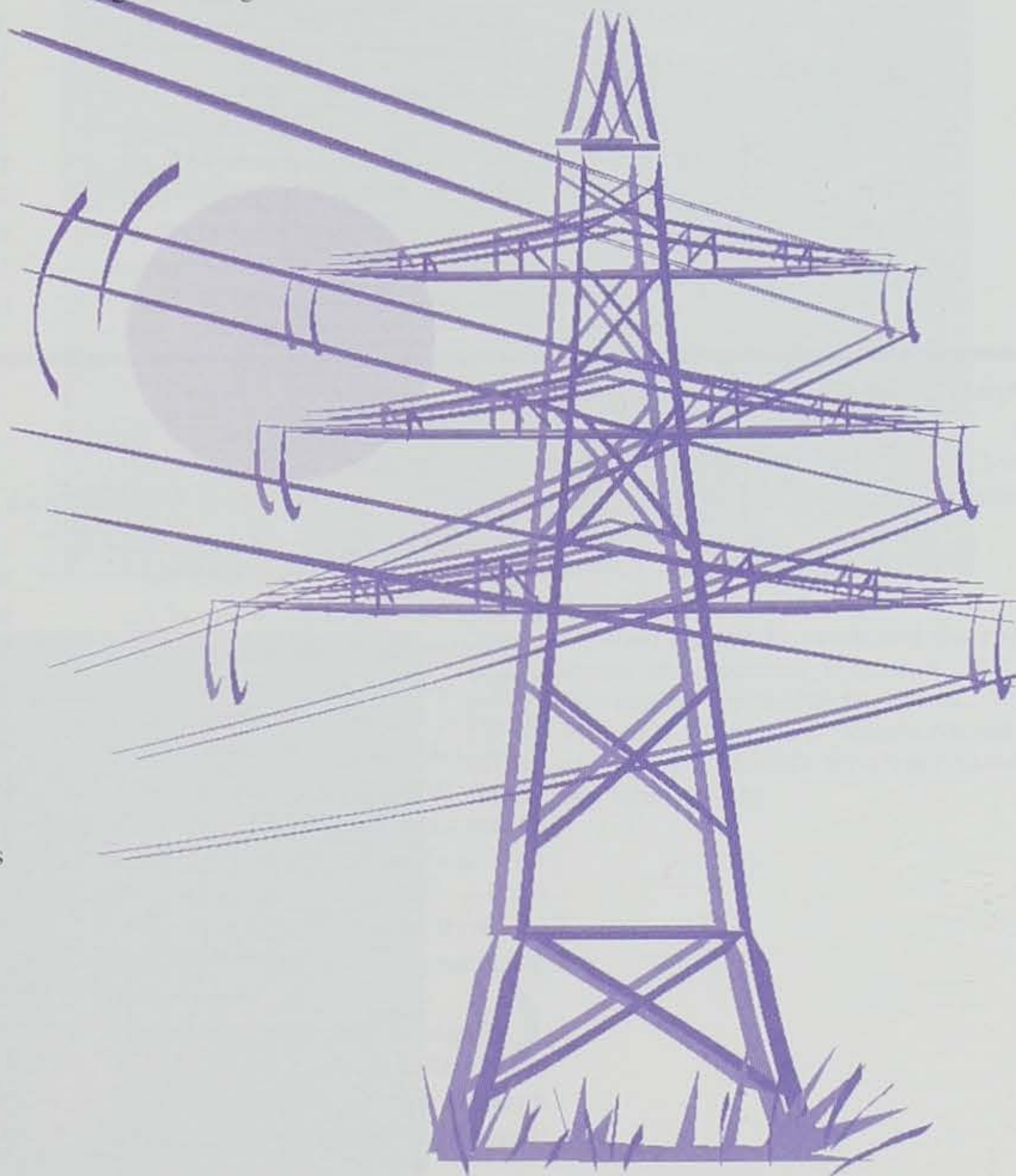
Electric utility restructuring will be an important issue discussed by Iowa's lawmakers this year. Energy efficiency and renewable energy will be critical components of those discussions. For more information about utility restructuring in Iowa, go to the DNR web site

at www.state.ia.us/dnr/energy/deregulation/index.htm

Or for a booklet called *Power to Choose: A Consumer's Guide to Utility Deregulation*, contact Julie Tack, DNR information specialist, at (515) 281-8665; e-mail: julie.tack@dnr.state.ia.us

Julie Tack is an energy information specialist for the department in Des Moines.

This story is a reprint from the Iowa Energy Bulletin, Fall 1999.



Ask Bernie the Biologist

by Bernie Schonoff

Well another year has passed. In fact another millennium has ticked away on the old human calendar making it the year 2000, which may seem like a very long time, unless you consider our finny friends the fish.

According to fossil records, fish predate even our earliest ancestors by about 400 million years. They predate all other vertebrates (animals with backbones, like mammals, birds, reptiles or amphibians) by at least 100 million years. How can such simple animals have been around for so long?

Well fish are very adaptable. They constitute about 43 percent of the current vertebrate population with birds being second with about 23 percent. One of the reasons fish species are so numerous is because of where they live approximately 71 percent of the earth's surface is covered with water. Fish can be found in a variety of habitats, from arctic waters reaching temperatures below zero to hot springs with temperatures exceeding 100 °F. And since fish can live in the bottom of the deepest ocean trench to mountain waters as

scared enough they wouldn't go down any more. Is that true?

A I have only talked to one diver that ever mentioned running into a large fish. He was a commercial mussel diver who mentioned he had a large fish rub up against him while he was diving on a mussel bed. However, because the clarity of the water in the Mississippi is normally low, divers are only able to see a few inches in front of them, so he could only guess at the size or what species fish it was. But there are some giant flathead catfish in Iowa. The current Iowa state record is an 81-pound monster that was 52 inches long. The current world record of 123 pounds recently caught in Kansas, however, would dwarf this. This fish was caught just below a dam for a city water supply. As you can see from the accompanying table, Iowa's state record flathead does exceed the record for all bordering states. While working around some of the dams on the Mississippi, I have seen large fish show up on my depth sounder, but these fish

Flathead Catfish Records for Surrounding States

State	Illinois	Missouri	Minnesota	Nebraska	Wisconsin	South Dakota
Record	78-0	77-08	70-0	80-0	65-0	56-8
Location caught	Carlyle Lake	Missouri River	St. Croix River	Silver Creek	Fox River	Missouri River

high as 15,000 feet, they have the greatest vertical range of any of the vertebrates. Even though birds can fly higher, they do not live at those high altitudes, and although whales may dive to great depths, they are forced to surface to breathe. That leaves fish habitat extending three miles above sea level to about seven miles below sea level.

Well it's time to get onto the questions.

Q I have always heard there are giant catfish lying at the base of the dams on the Mississippi and sometimes divers bump into them and are

usually too deep to sample with our gear. There are unsubstantiated reports from the past of giant catfish being taken from all over the Midwest. Some of these fish are reported to be more than 200 pounds. There are even some old photos of some very large catfish that could easily be in that range.

This summer, in collaboration with the Illinois Department of Natural Resources, we began a flathead catfish project on Pool 16 of the Mississippi River. During the study we handled several flatheads in the 50-pound range. Flatheads in the 40 to 50 pound range weigh about 1 pound for every inch they are long. We have seen at least

one flathead we guessed to be about 80 pounds, but were unable to get the fish in the boat to weigh it. So giant catfish, yeah we have them. But big enough to scare a man? Well, maybe not.

One other note in regards to the increase in awareness of and fishing activity for quality catfish. I predict we will see a new state record flathead sometime in the next couple of years. And I'm sure there's at least one state record fish swimming in the old Mississippi.

Q. I'm thinking of putting hybrid bluegills in my pond. How come the DNR doesn't stock them in ponds?

A. As any farmer can tell you, hybrids have their place and can do some things better than the original parents. But they also have some drawbacks. Currently, the department stocks largemouth bass, bluegill and channel catfish in ponds. These three species do well in Iowa farm ponds and with just a little bit of control will provide many years of fishing enjoyment. And a pond that takes very little in the way of management is just what most people want. The bluegills are stocked for two reasons; to provide food for the bass and to provide fishing opportunities for the pond's owner. The bluegills take the small insects, zooplankton and



Ron Johnson



Channel catfish are fun to catch and the current record stands at 36 pounds, 8 ounces. But, the really hefty catfish are flatheads, below. The current record is 81 pounds. Iowa's flathead catfish exceeds the records for all surrounding states (see table at left).

other small food items and convert them into more bluegills and bigger bluegills. The bass consume some smaller food items when they are young, but eat mostly bluegill by time they are 6 to 8 inches long. The bass take the bluegill and convert them into more and bigger bass. Without the bluegill as a food base, the whole system falls apart.



Hybrid sunfish are a cross between a bluegill (right) and green sunfish (below).

Ron Johnson



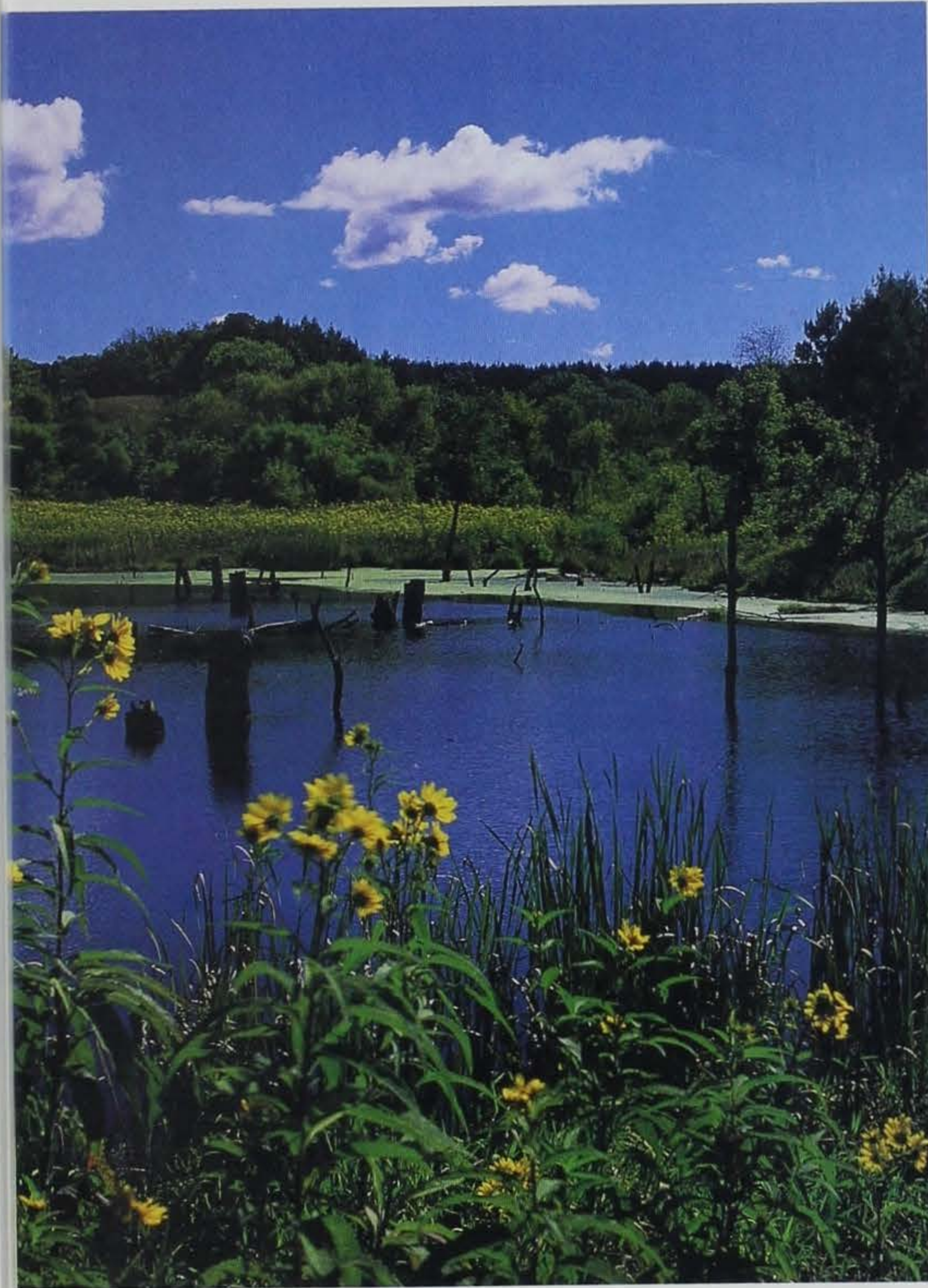
DNR Photo

GREEN SUNFISH
Lepomis cyanellus
Rafinesque

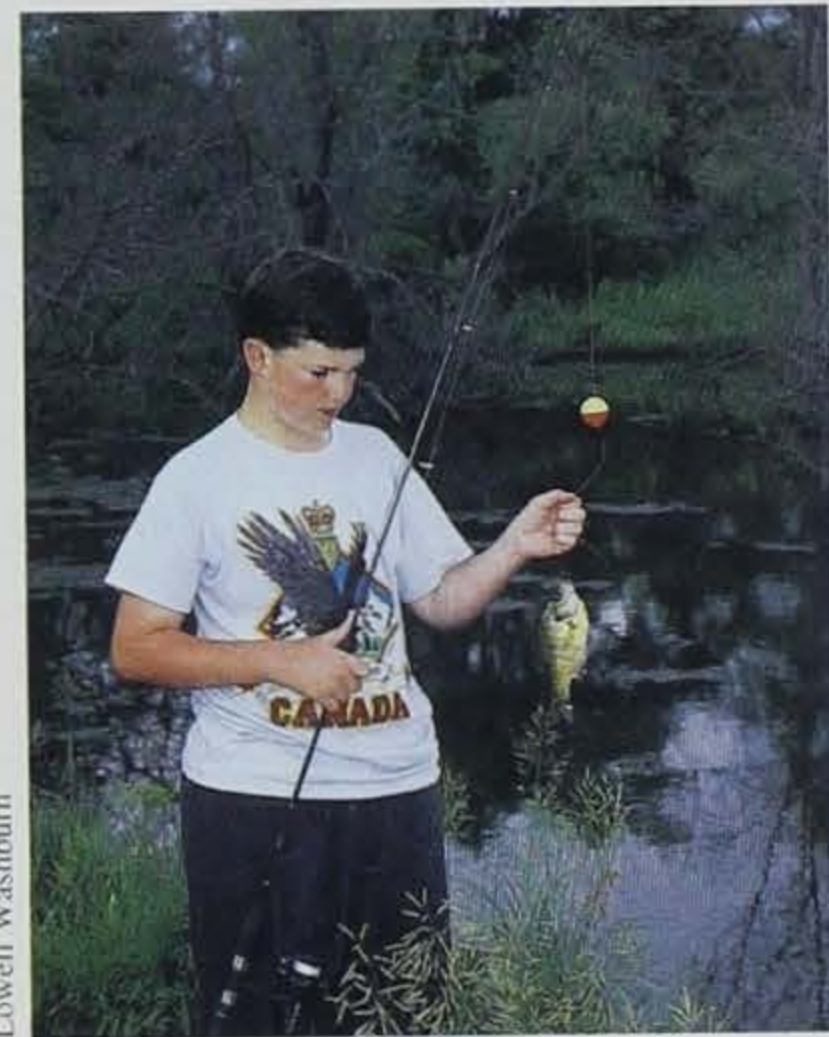
Hybrid sunfish eat the same things as bluegill and they convert that food to bigger hybrids quickly. As a matter of fact that is the greatest advantage of the hybrids, the fact that they grow much faster than bluegills normally will. However, hybrid reproduction is where the trouble starts to show up. As any farmer can tell you, when you're growing hybrid corn, you don't save any for seed the next year because it won't give you the same results. Hybrid sunfish are somewhat similar. When hybrid sunfish are spawned the female from one species is used for eggs and the male from another is used from fertilization. One of the most common hybrid crosses is a bluegill with a green sunfish. Green sunfish are used because they are aggressive and fast growing. The trouble with green sunfish is that they are often too aggressive and produce too many offspring. When that happens they will often over populate and become stunted. That means there are a lot of little hungry mouths out there trying to find something to eat and they will eat up anything, including the eggs of other fish like bass. And more bass is what is needed to help control the number of green sunfish. Sometimes the opposite occurs and the hybrids are not able to produce enough offspring to keep the system working, so the bass go hungry and do not grow properly.

Some argue they are using hybrids, not green sunfish. That's okay, right? Maybe not. When hybrids spawn, the offspring will be a combination of hybrids which are good, bluegill which are good, and green sunfish which are bad. Often when the green sunfish become too abundant they will out compete everything else in the lake. Which means they eat all the bass eggs and all the bluegill eggs and no young fish are produced.

Do hybrids have a place in a pond? Yes, in a pond that is heavily managed specifically to grow large hybrids. But in a system where you are depending on them as a stable food base for other fish in the pond, they often will fall short.



In 1999, 335 ponds were stocked, totaling about 700 acres.



Lowell Washburn

Q. So how many farm ponds does the DNR stock every year?

A. The number of ponds varies somewhat with how many new ponds were created and how wet the year has been. In wet years, we may stock a few more ponds than in dry years. In 1999, 335 ponds were stocked, totaling about 700 acres. During the hay days of the 1970s, it was not unusual for us to stock 500 ponds.

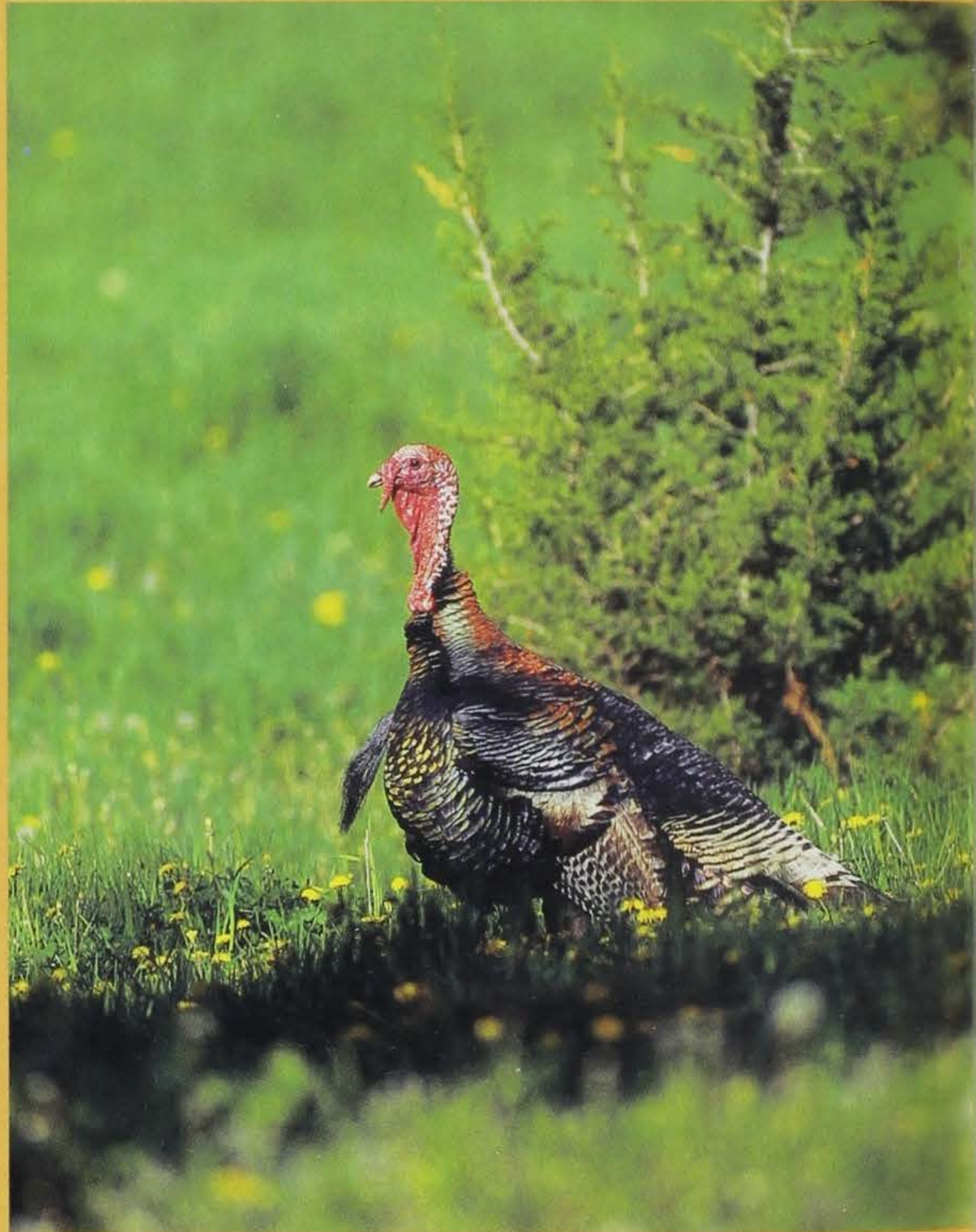
Bernie Schonoff is a fisheries biologist for the department located at the Fairport State Fish Hatchery.

First in a series

THE LAST GOBBLER

A Brief History of
Wildlife Conservation
In Iowa

Article by Terry W. Little
Photos by Roger A. Hill



In the gray light of a late April predawn, two shadowy forms, nearly imperceptible in the moonlight, slipped quietly along the pasture's edge headed toward Whitebreast Creek. It was a warm, tranquil morning, almost unnaturally quiet. The barred owls, whip-poor-wills and songbirds that should have been singing their mating choruses so passionately were strangely voiceless. Even the crickets and tree frogs were hushed. It seemed as if nature's early risers were aware that something momentous was about to take place and were paying their last respects.

As they approached the creek, the smaller of the two apparitions pointed and said, "Pa... it went across the pasture about there, where that big cottonwood stands next to the fence corner."

"All right son," the father, Josh, said quietly. "We'll wait right here and see what happens. But be quiet. They're real spooky and can hear a pin drop."

As they waited, Josh wondered if this was such a good idea after all. He could hear the cows starting to stir across the pasture and knew they soon would be heading for the barn. Milking

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ouldn't wait much after daylight, not with most of the plowing yet to do. Farm days were long enough without wasting his morning on a wild goose chase. Seth had sure been excited, though, and awfully certain about what he had seen while taking the cows back to pasture the night before. Maybe making a few minutes out of a busy day to humor his son would be worth it.

Gobble...obble...obble.

Gobble...obble...obble. The lusty double gobble of a newly-roused tom turkey shattered Josh's reverie and ended his indecision immediately. Seth was so excited that he said right out loud "It was a turkey Pa!"

"Shh...don't scare him now," whispered Josh, "Let's slip into the woods and get closer."

Josh knew what to do next. He found a log pile near the creek, quietly slipped Seth into it, slid down beside him and laid his shotgun across his lap. "Watch under that tree limb, son, but don't move even an eyelash. I'll try and call him if I can."

Josh pulled an old, discolored turkey wing bone from his coat pocket, wet his lips and began rhythmically inhaling on one end of the bone. At first there was no sound, but after a couple false starts he finally enticed a soft "Yup...Yup...Yup" from the ancient instrument. The gobbler immediately responded with another gobble so loud that Seth, startled, jerked his head up to look.

"Be still," Josh pleaded under his breath. "If you do that when he can see he'll be gone before I can shoot." Seth hung his head sheepishly and vowed to himself not to act so childish again.

As Josh was preparing to call a second time, the gobbler made an ill-fated decision. He sailed out of the tree toward the log pile, hit the ground with an audible thump, and began running directly at the startled hunters. Josh barely had time to raise his gun before the anxious tom stepped out from behind a bush just a few yards from their hiding place. Quicker than Josh could react the gobbler went into strut, pirouetting and drumming in all the splendor only an old tom in love can



muster. Seth was so excited he nearly quit breathing, but didn't move a muscle. Then the gobbler made his last mistake. He raised his head, wondering where the hen was and if she was suitably impressed. Josh didn't wait any longer. The old Greener double barrel belched out a cloud of smoke and the gobbler fell backward.

Seth couldn't contain himself. Before the smoke cleared he was at the gobbler's side and shouting "I knew it, Pa, I knew it! It had to be a turkey!"

Josh, strolling up only slightly more calmly, replied, "You were right, son, although I don't know how you knew. There haven't been any wild turkeys around here since before you were born. Let's go show your Ma what we got for dinner!"

Later, after Seth's mother Emma had offered words of praise and had begun plucking the immense bird, Seth asked, "What was that sound you made, Pa? It sure got that big guy excited!"

"It was the yelp of a hen turkey, son. It made the tom think I was a hen looking for company. I didn't think that old wing bone call of your grandpa's was going to work at first, but it finally made a sort of yelp. That gobbler must have been pretty lonesome to be fooled so easily and come running in that fast."

"How come Grandpa had a turkey call, Pa?"

"He told me that when he and your Grandma moved here from Illinois,

there were lots of turkey flocks all along the way. They would probably have starved to death their first winter here if it wasn't for wild turkeys. They didn't have any livestock yet, so Grandpa would slip down to the creek at night, find a turkey flock roosting together and shoot one silhouetted against the moon. Maybe he shot some out of that same cottonwood where our gobbler roosted. They used to shoot gobblers in the spring, too, just the way we did today. Your grandpa gave me that old wing bone call to use when I was a boy, but we only used it a couple of times. By the time I was your age the turkeys were about gone around here."

"Remember the two we saw on the way to Lucas the year Seth was born?" interjected Emma. "I don't remember seeing any since then until this one showed up."

"Maybe there are some more where this one came from, Ma. At least I hope so. Hunting turkeys is great!"

But Seth's wish would not come true. Wild turkeys, once abundant in all of Iowa's woodlands, had vanished. Josh and Seth had unknowingly shot the last wild turkey in Iowa. The year was 1910. Their farm was somewhere in the rolling hills of south-central Iowa's Lucas County. They had helped silence the voice of the wild turkey in Iowa forever. Or so it seemed.

Wildlife in Peril

When Iowa's first settlers crossed the Mississippi River in the 1830s they found a landscape quite unlike that which we see today. Most of the state was covered with verdant tallgrass prairies that stretched to the horizon. Northern Iowa was dotted with tens of thousands of lush and fertile wetlands. Portions of eastern and southern Iowa were covered with stately hardwood forests and open savannas. Forested river valleys penetrated the prairies to the north and west.

This intermingling of very different vegetative types provided a great diversity of wildlife habitat. Settlers found a startling abundance of many animals that far exceeded their experience in the East or in Europe. Bison, elk, prairie chickens and sharp-tailed

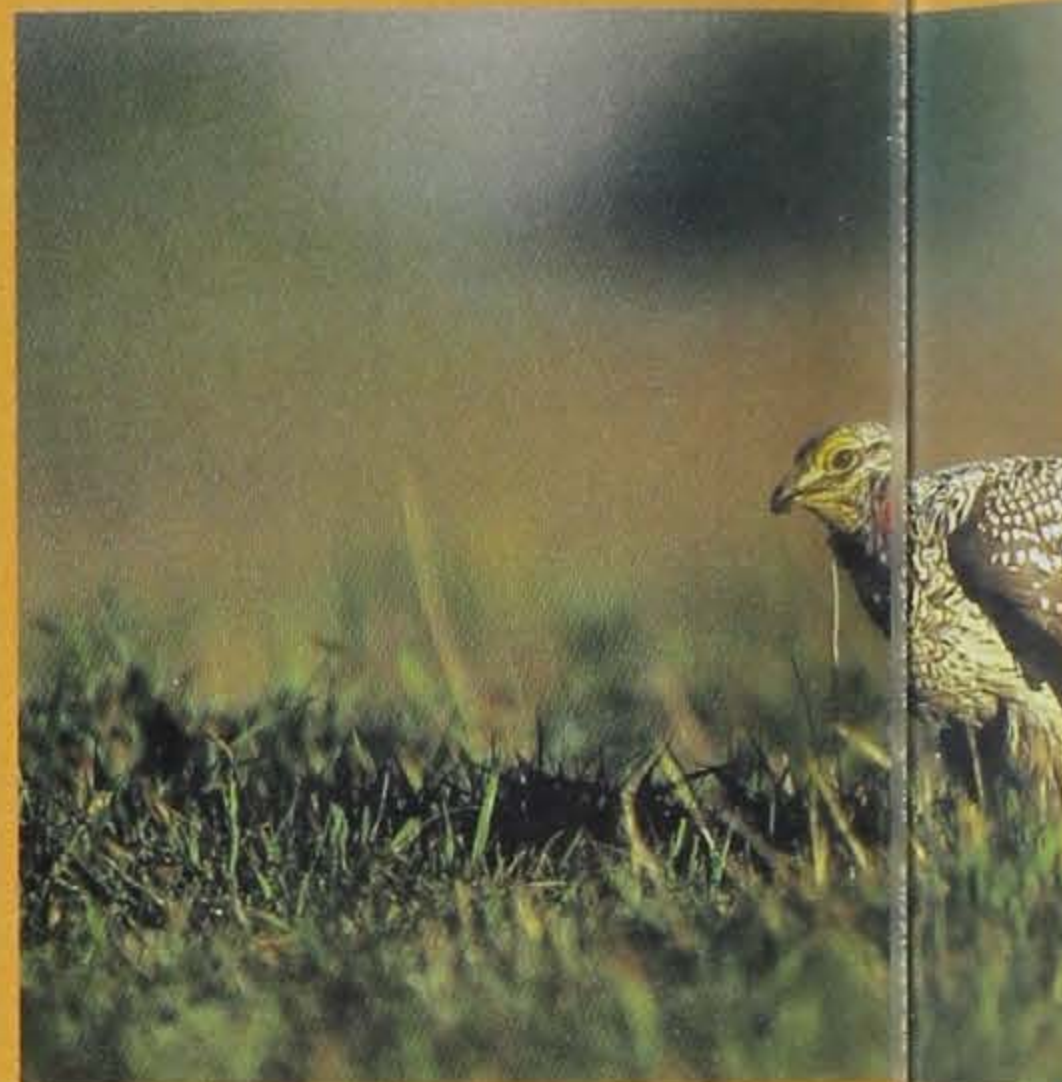
grouse roamed or flew over the prairies. White-tailed deer, wild turkeys, ruffed grouse and vast flocks of passenger pigeons inhabited the woodlands. Canada geese, trumpeter swans, sandhill cranes, mallards, blue-wing teal and a host of other ducks nested in the wetlands. Muskrats, beaver and river otters cavorted in the marshes and rivers. A variety of predators - gray wolves, coyotes, black bears, mountain lions, red and gray foxes, bobcats and lynx - pursued them all.

And these were just the game animals that were important to early settlers. The vast prairies, wetlands and woodlands also provided homes for millions of song birds, butterflies, salamanders, frogs and snakes that were not important enough in the day-to-day

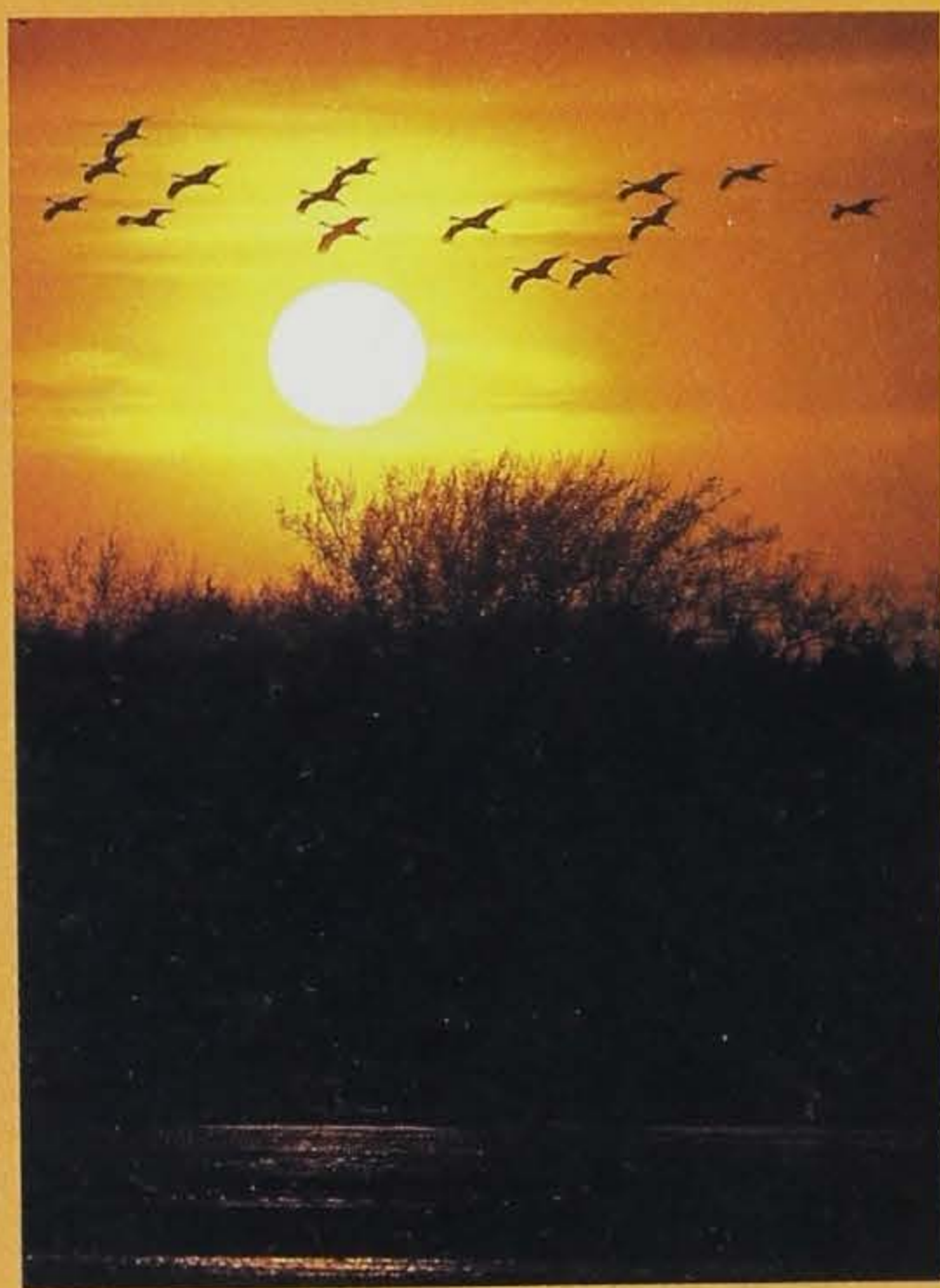
existence of early Iowans to be recorded

Unfortunately, too much of our native wildlife shared the fate of the wild turkey.

They provided food, or hides and



Sandhill cranes



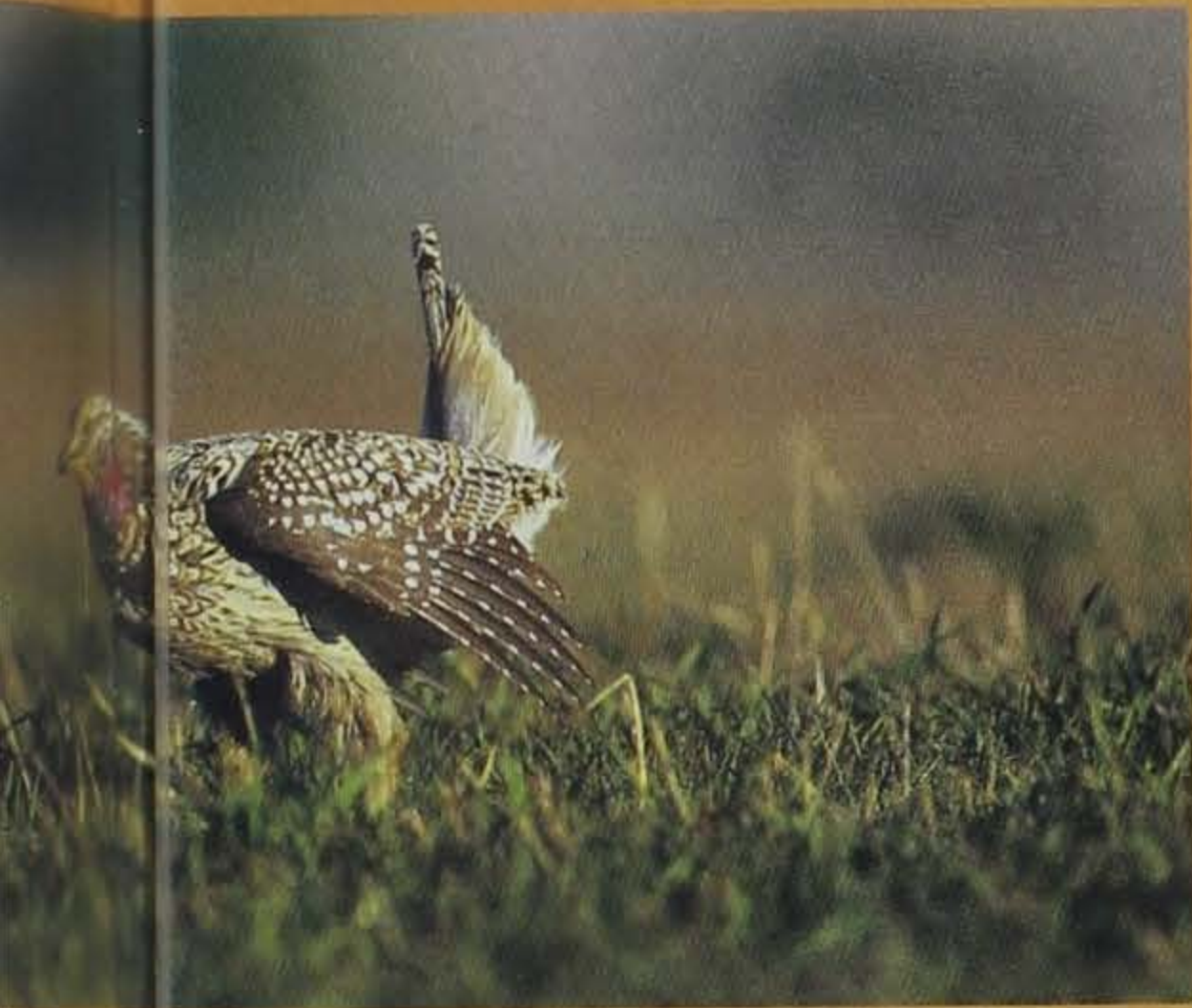
feathers for clothing or trade. Predators saw settlers' livestock as easy prey and were thus treated as a menace. Unregulated, year-around trapping, hunting and egg collecting were the norm for pioneer families. In later years market hunters shipped train loads of game to eastern cities for consumption in the better restaurants of Chicago and New York.

While this slaughter was occurring the land was also being tamed for agriculture - prairies were plowed, forests cut for lumber and wetlands drained. Habitat for most of our native wildlife was eliminated or drastically reduced.

By 1900 many native species could no longer be found in Iowa or were present in such low numbers their future survival was in peril. Wise and experienced observers felt that the white-tailed deer and wild turkey would never again be hunted here. Canada geese would only be seen briefly during their annual migrations. Bison and elk were nearly driven to extinction during the settling of the western frontier. Gray wolves, beaver, river otters and trumpeter swans, to name a few of the more glamorous species, were relegated to the scrap heap of Iowa's history.

Wildlife Renaissance

Readers of the *Conservationist* know that something obviously occurred during the last century to turn this bleak



Sharptail grouse

These efforts in the first half of the 20th century stopped the wholesale slaughter of animals and started the funding base necessary to begin sound wildlife programs. The corner was not turned for good, however, until the development of wildlife management as a science during

the last 50 years. After World War II the first college-trained biologists began showing up on the rosters of state and federal wildlife agencies. When professionals took over, wildlife restoration and management programs truly began gaining momentum.

The approach of a new century provides the perfect opportunity to

reflect on the past and do some gazing into the future. The history of Iowa's wildlife, from near-destruction through the long road back, is too long to tell in a single article. This is the first in a series planned to span the next year's issues of the *Conservationist*. It will mourn our losses, celebrate achievements and set the stage for much work yet to be done.

Terry W. Little is the Wildlife Research Supervisor for the department in Des Moines.

situation around. Deer and turkeys are now popular game animals. Both are so abundant Iowa is famed for the number and quality of trophy bucks and long-bearded gobblers it produces. Beaver are common in all streams and river otters are on the increase. Canada geese nest again in every county in Iowa and are now chased nearly as avidly by waterfowlers as mallards were traditionally. In fact, many of our native wildlife species are better off as we approach the turn of a new century than they were at the turn of the last one.

The story of how this resurgence occurred is truly remarkable. First came an awakening environmental conscience among a group of wealthy and influential hunters. They realized the carnage visited on the nation's wildlife in the 19th century and were determined to do something about it. President Theodore Roosevelt and famed Iowa political cartoonist Ding Darling come immediately to mind, but many others, including several Iowans, played prominent roles. Through their influence Federal and state wildlife protection laws were passed and game wardens hired to enforce them. Hunting and fishing licenses were required and federal excise taxes on arms, ammunition and fishing gear were introduced to provide sources of revenue.

American bison



Lowell Washburn

New web site can help you stay warm this winter . . .



. . . while cutting your energy costs

Each winter Iowans prepare for cold weather and increased energy bills. In fact, the average homeowner in the Des Moines area spends 47 percent of his or her annual energy costs on heating. Eighteen percent of energy costs are spent on appliances and 9 percent on hot water annually as well. Looking for ways to cut those costs?

The U.S. Department of Energy and the U.S. Environmental Protection Agency have teamed up to create the Home Energy Saver. This innovative web site can help you save money by suggesting upgrades that reduce energy use in your home. And depending on the type of improvements you make, your home can have increased comfort (warmer in winter, cooler in summer), lower maintenance costs and effort, and improved safety and security.

The Home Energy Saver provides improvement suggestions for the average house in your region, or you can create a list specifically for your home. With key information like the year your house was built, square footage, types of insulation, appliances, windows, and average energy prices, the Home Energy Saver can create a customized breakdown of your home's energy costs and a list of recommendations for saving energy.

A Few Tips

Here are some simple improvements that can help every home save energy and money this winter:

- ◆ Upgrade ceiling and wall insulation
- ◆ Choose Energy Star® appliances
- ◆ Seal duct joints and insulate ducts in unconditioned spaces
- ◆ Install a programmable thermostat
- ◆ Use compact fluorescent lighting fixtures.
- ◆ Wrap your water heater
- ◆ Install interior or exterior storm windows

At the Home Energy Saver web site, you can view examples of new and existing homes that have been built or remodeled using these techniques to maximize energy efficiency.

Making It Happen

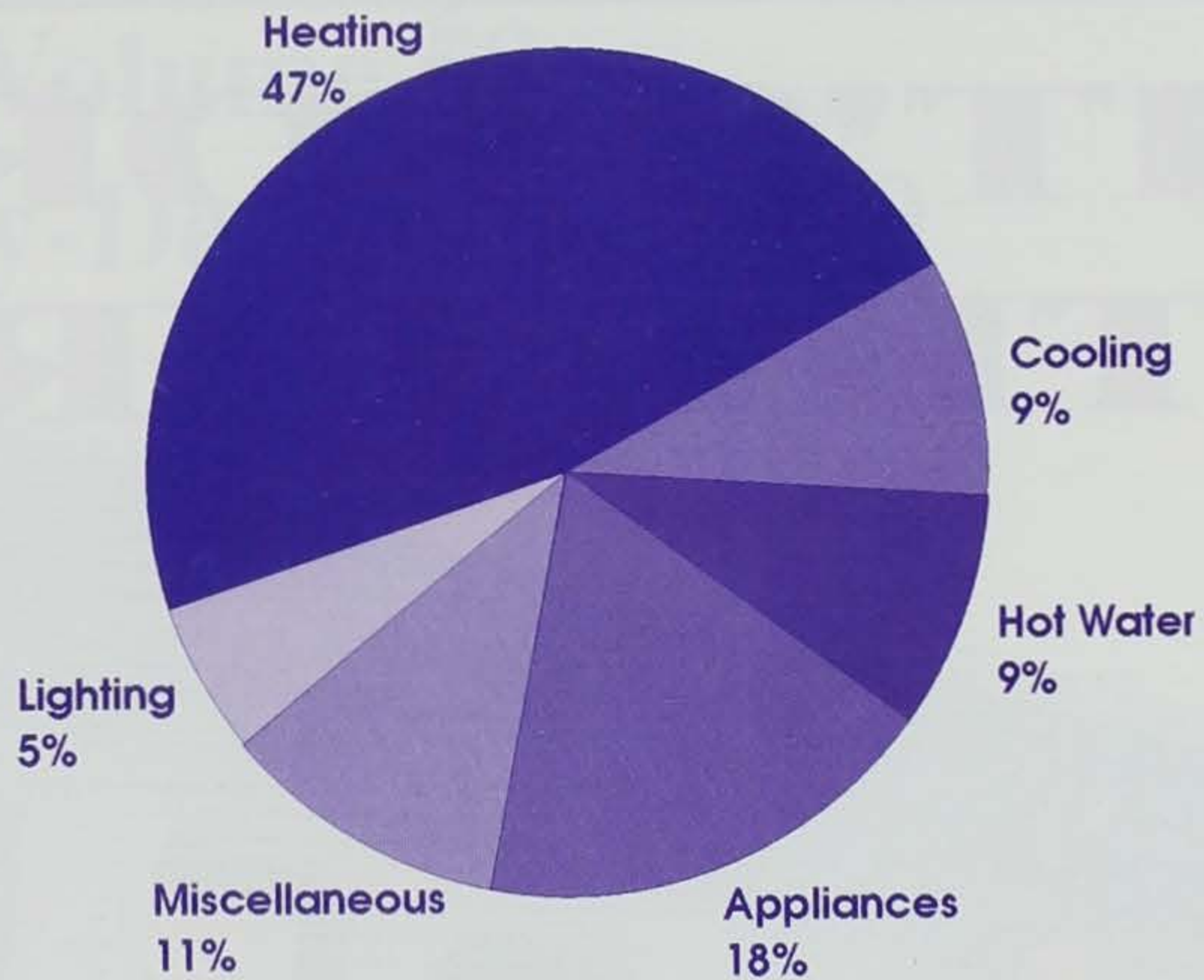
After deciding which changes you'd like to make, the Home Energy Saver provides information on how to find energy-efficient products, choose contractors and find financing for home improvements. From the *Advice* page, you can send e-mail to an energy expert at the U.S. Department of Energy who will answer your questions. You may also contact Craig Stark with the DNR at craig.stark@dnr.state.ia.us or (515) 281-4739 for more information.

To learn how to stay warm this winter while cutting your energy costs, visit the Home Energy Saver website today at: www.homeenergysaver.lbl.gov

This story is a reprint from the Iowa Energy Bulletin, Winter 2000.

Where does your energy dollar go?

average breakdown for the Des Moines area



From www.homeenergysaver.lbl.gov

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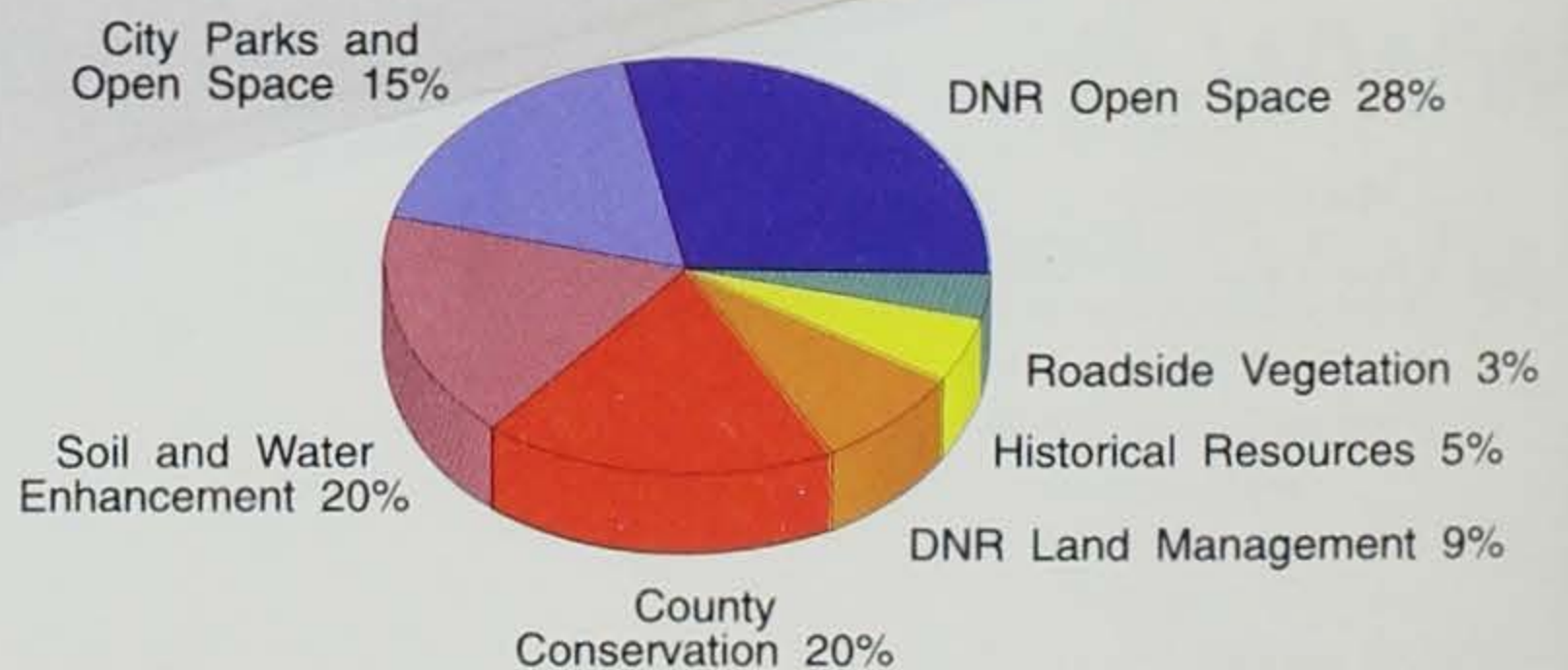
www.homeenergysaver.lbl.gov

► The money from natural resources license plates goes to the Resource Enhancement and Protection Fund—REAP. Created in 1989, REAP has received the highest national award for conservation programs. So far, it has generated \$70 million and rising. To buy a set of the \$35 plates, take your current plates and registration to your county treasurer and request the natural resource plates.

IT'S FOR THE BIRDS



REAP In Action



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Iowa's Statewide Land Cover Inventory

by James D. Giglierano

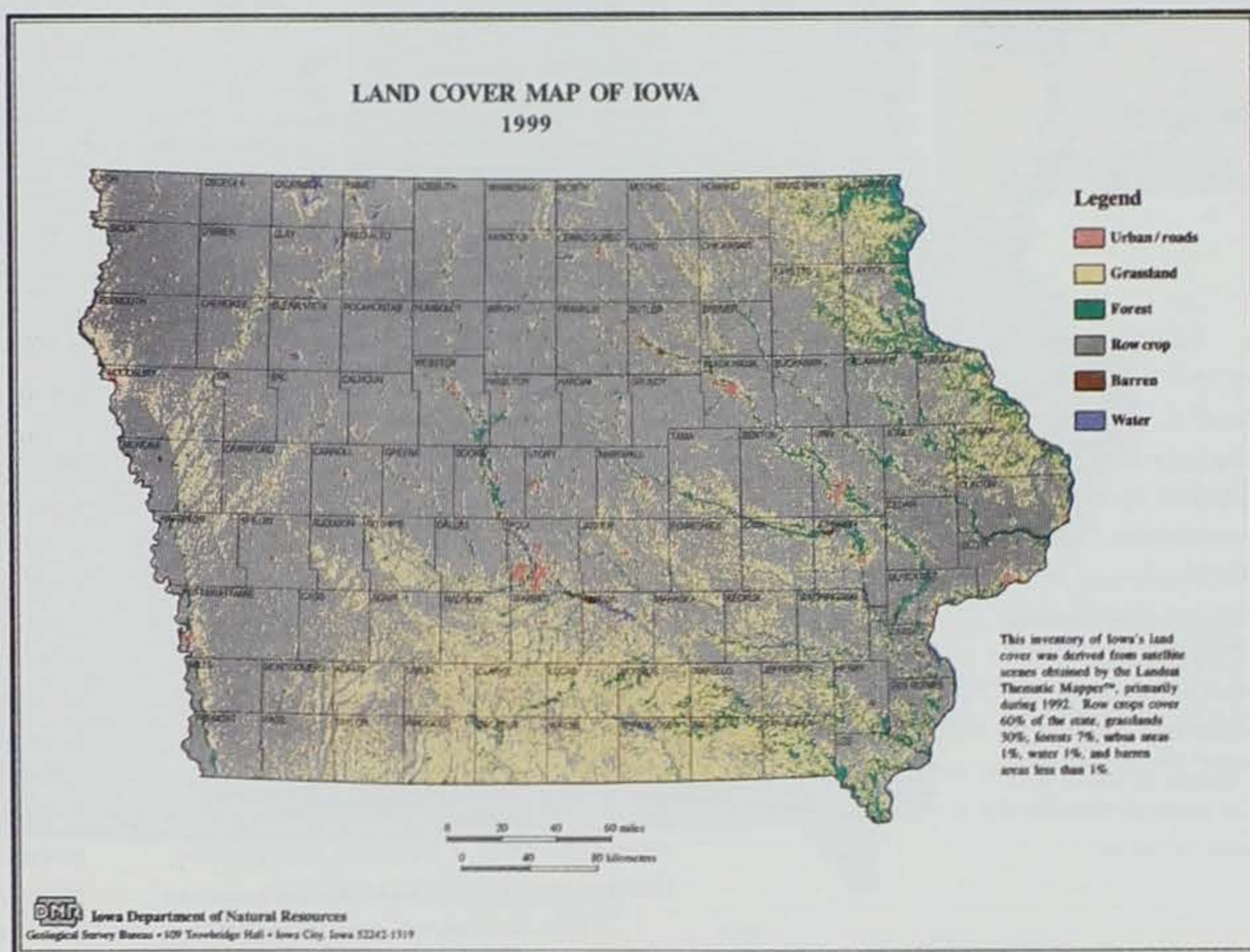
The Geological Survey Bureau (GSB) has used aerial and space-borne imagery on a routine basis for the last 30 years.

The discipline of imaging and measuring a subject without physical contact is called "remote sensing." Techniques for counting migrating geese, assessing flood damage, geological mapping and determining land use and vegetative cover have been developed at GSB using this remote sensing technology. In the last 20 years these techniques have advanced beyond manual interpretation of photographs to computer-assisted processing of electronic imagery that allows enhancement of an image's appearance; the identification of patterns of vegetation, urban areas, and water; as well as the use of combined imagery from different sources. These new digital techniques do not replace the need for manual interpretation of images, rather they supplement GSB's ability to perform natural resource inventories and mapping.

Satellite imagery is particularly adaptable to conducting land cover inventories over large areas of the earth's surface. The Thematic Mapper™ instrument on the current series of Landsat satellites can image a 185-

square-kilometer area anywhere on the planet every 16 days. Once images are taken, the satellite sends them to a ground receiving station by radio transmission. Electronic versions of imagery are distributed to users for manipulation and analysis on their computers. Objects smaller than 30 meters are not resolved by the Thematic Mapper™ sensor, but patterns of fields, forest tracts, waterways and large artificial structures are easily seen.

Several years ago, GSB began to map the major land cover types across Iowa as a baseline inventory for natural resource management programs of the Iowa Department of Natural Resources (DNR). Twenty-four Landsat satellite scenes were needed to cover the entire state, and many months of computer processing and image interpretation were required to complete the land cover inventory. A preliminary version of the completed mosaic for the entire state is shown above. Most of the





VEGETATION MAP
of JOHNSON COUNTY
1850s

Yellow Prairie
 Green Forest
 Grey Field
 Purple Wetland
 Blue Water



VEGETATION MAP
of JOHNSON COUNTY
1990s

Red Urban / roads
 Light Green Grassland
 Green Forest
 Dark Grey Row crop
 Brown Barren
 Blue Water

The Thematic Mapper™ imagery for this inventory was made possible by the U.S. Geological Survey's GAP Analysis Project for Iowa, which is a detailed inventory of natural vegetation communities, land ownership and the distribution of terrestrial vertebrate species. The Natural Resources Conservation Service collected information essential to "train" computer programs to identify the land cover types of every county, and to provide test data to assess the accuracy of the classification.

images are from 1992, but in some areas clouds dictated the use of imagery from 1990, 1991 or 1993. The land cover map shows that 60 percent of the state is covered by row crops; 30 percent by grasslands, including pasture, hay land, prairie, and wetland vegetation; and 7 percent by forest lands. Urban areas, including pavement, buildings, and other large structures, account for 1 percent, and water bodies cover another 1 percent. Too small to see on the map are barren areas (less than 1 percent) that include flooded cropland and sand bars.

While land cover and cropland acreage statistics are collected on a routine basis, for each county, DNR's land cover inventory is unique in that it visually shows the distribution of cover types across the state's entire landscape. The map clearly shows most forest lands are concentrated in eastern Iowa along river corridors. Large areas of pasture and hay land are located in northeast Iowa, along with a broad, semi-circular swath in south-central Iowa. Rich cropland is particularly noticeable in north-central Iowa. Along the western border of the state, grass and trees mark the boundary of the Loess Hills with the fertile Missouri

River floodplain.

One of the most valuable uses of the land cover inventory is as a tool for evaluating changes through time. Recently, Iowa State University completed a series of county maps showing the distribution of pre-settlement vegetation taken from maps and notes of original Government Land Office surveyors in the mid-1850s. The map at left shows this pre-settlement vegetation for Johnson County. Most of the county (70 percent) was covered with prairie vegetation, and included large tracts of forest and oak savanna. A few small fields of crops are evident throughout the county. Compare this with the 1990s land cover information for Johnson County at left, taken from the statewide land cover inventory.

Today, row crops cover 49 percent of the county, and very few prairie tracts remain. Almost all the grassland represents residential lawns, parks, pasture and hay fields. Seeing that most of the vast expanse of original prairie disappeared during the last 150 years makes one realize the importance of protecting the small remaining tracts.

What will Iowa's landscape look like 10, 20 or 50 years from now? What patterns will be written on the land by agricultural market forces, government policies, technological progress or perhaps human-induced climate change? Now, more than ever, there is a clear need for repeated assessments of Iowa's changing landscape. Future generations may look in wonder at the striking similarities or differences between their own landscape and that portrayed on this present inventory of Iowa's land cover.

James D. Giglierano is a geologist with the Geological Survey Bureau in Iowa City.

This story and the following page are reprints from Iowa Geology 1999.

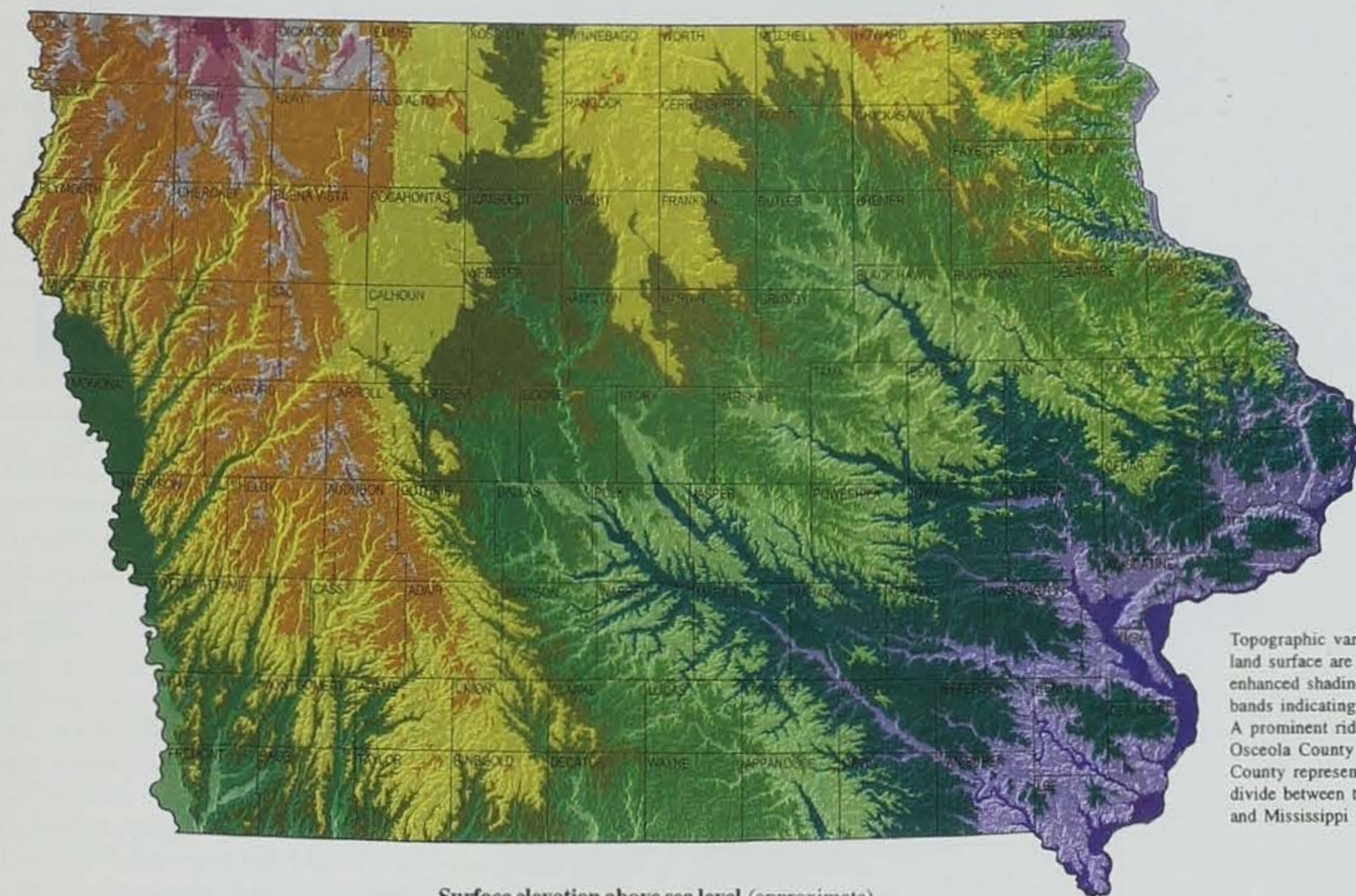
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DNR Iowa Geological Survey

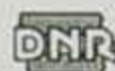
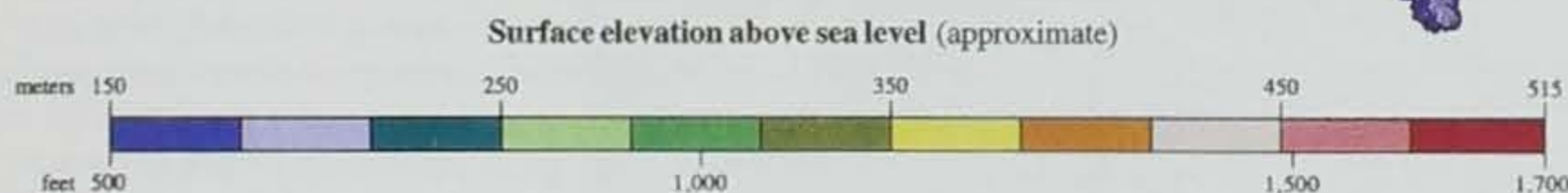
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Shaded Relief Map of Iowa

SHADED RELIEF MAP OF IOWA
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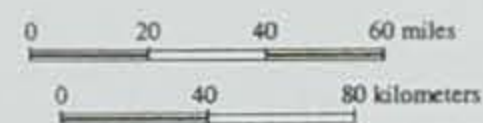


Topographic variations in Iowa's land surface are shown by computer-enhanced shading, and with color bands indicating ranges of elevation. A prominent ridge curving from Osceola County south to Union County represents the drainage divide between the Missouri and Mississippi rivers.



Iowa Department of Natural Resources

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This striking view of Iowa's land surface is the product of a computer-generated model of elevations, illuminated by an artificial sun elevated 45 degrees above the northwest horizon, with colors applied to the elevation ranges. The lowest elevations are in blue, and the state's lowest point of 480 feet occurs where the Des Moines River enters the Mississippi in southern

Lee County. Elevation increases are marked by green, yellow, orange and red colors. The highest elevation is in Osceola County in northwest Iowa at 1,670 feet. A prominent ridge curving from Osceola County south to Union County represents the drainage divide between the Missouri and Mississippi rivers. The relief revealed on this map depicts a landscape shaped by water,

wind and ice.

While this computer-generated, shaded-relief model may exaggerate the topography somewhat, it clearly shows Iowa is far from being a flat, featureless plain. The map illustrates an intriguing variety of terrain features and elevations across our state.

--JG



BLACK AND YELLOW ARGIOPE SPIDER. BY JEFF MILTON.

Reprinted with permission from *Pheasants Forever*, Fall 1999

A Web of Life

How PF's habitat work benefits entire ecosystems

"When we pick out anything by itself, we find it hitched to everything else in the Universe."

— JOHN MUIR



MONARCH ON SWAMP MILKWEED. BY TY SMEDES

BY MARK HERWIG

While Pheasants Forever's work targets ringnecks, Muir would have agreed everything PF does is intimately tied to and benefits the entire ecosystem of plants, animals, air, water and soil.

When a hunter picks up a rooster from his gun dog, he is literally plucking but a single strand of a giant web of life, interactions between plant, animal, sun, soil and water so intricate we will never completely understand them.

But, as hunter conservationists, we should try.

In 17 years, PF has spent upwards of \$14 million on 600,000 acres of food plots; \$7 million on 522,000 acres of nesting cover; \$6.7 million on 63,000 acres of trees/winter cover; \$3.4 million on 30,000 acres of wetlands; and \$7.3 million to outright purchase and restore another 53,000 acres. Are pheasants and their uplands the only natural systems to benefit from this largess — absolutely not.

In the book *A Hunter's Heart*, Thomas McIntyre wrote that some detract from the work single-species organizations perform "as if this somehow nullifies all

the work they do, as if we can suddenly afford the enormous luxury of rejecting any genuine assistance given to any wild animal for any reason, even perceived selfishness; as if the world is somehow not a better place for there being more wild sheep, quail or ducks in it. ... What every (group like PF) is about is habitat, the environment, 'the land' as Leopold defined it. No means exists to separate the wild from its wildlife and expect either to survive, and the benefits received by game animals by and large spill over onto nongame species as well."

Everytime a PF member donates a buck to habitat; everytime a volunteer tucks another evergreen into the soil for a shelter-belt or plants a pound of switchgrass seed into a CRP field, a myriad of environmental benefits ensues — gains everybody enjoys, not just PF members who footed the bill.

Everybody wins

Do the advantages of cleaner water, for example, from a buffer strip planted along a creek stop at the end of the strip planting? No, considering anglers down stream enjoy a healthier fish population; swimmers clearer water; and city people who derive their drinking water enjoy more pure refreshment. Many never know the water they are enjoying was made possible, in part, some late Saturday night when a PF member anted up three bills for a wildlife print or a shotgun.

Some farmers would not enroll their over-worked land in CRP were it not for the financial support of Pheasants Forever making either free or reduced cost prairie grass seed available for planting.

This is not idle rhetoric. Several studies have documented the explosion of non-game bird life in CRP fields — a program that probably would have ended or been greatly curtailed in 1996 were it not for PF's legislative leadership and membership clout. PF members heavily promote CRP enrollment across the country, enticing farmers to sign-up with a combination conservation message, free or low cost seed and trees, buying or cost sharing planters and other assistance.

A 1990 study by Doug Johnson and Mike Schwartz, U.S. Fish and Wildlife Service, North Dakota, looked at 240 fields CRP in nine counties and found 73 species of birds. "Several prairie species that seriously declined in abundance during 1966-1990 were common in CRP fields. ... early results indicated the tremendous value of restored grasslands to a host of breeding prairie birds," the researchers concluded.

The birds benefiting from PF's CRP work include the Lark Bunting, Grasshopper sparrow, Red-winged Blackbird, Western Meadowlark, Horned Lark, Eastern Kingbird, Barn Swallow and Mourning Dove - a great gamebird in its own right.

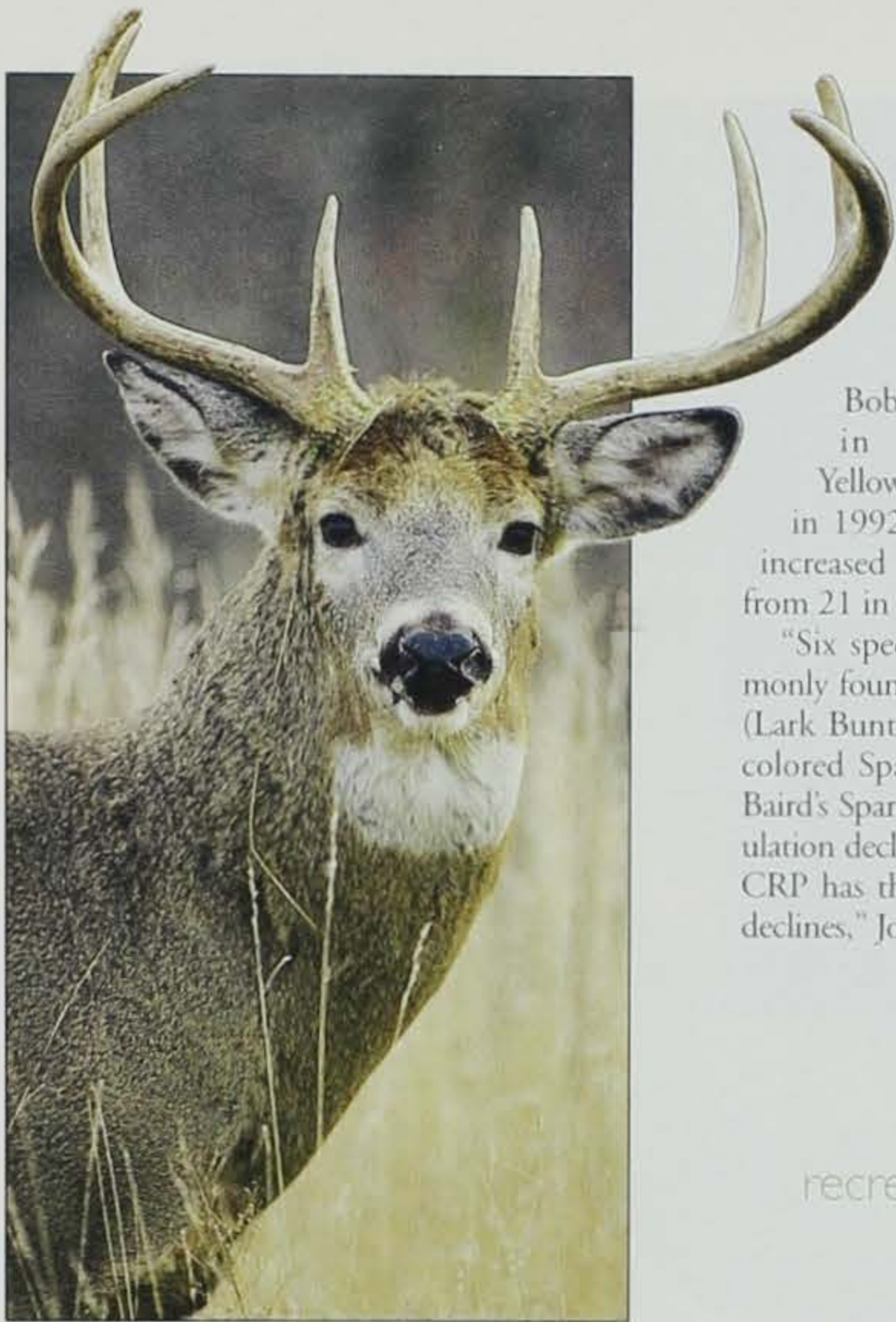


SHOWY LADY SLIPPER. BY TY SMEDES

"Bird watchers on a Sunday drive along a lonely prairie dirt road may stop next to a CRP field to glass over a meadowlark perched on a fence post and never realize that bird is there because of PF's work."



MEADOW LARK. BY TY SMEDES



WHITE-TAILED DEER, BY ROGER HILL

The Red-winged Blackbird, for example, increased in the target CRP fields from 624 in 1990 to 1,222 in 1991; the Bobolink from 158 in 1990 to 402 in 1992; and the Common Yellowthroat from 103 in 1990 to 372 in 1992. Not surprisingly, the pheasant increased in the same fields, for example, from 21 in 1990 to 60 in 1992.

"Six species that were much more commonly found in CRP fields than in cropland (Lark Bunting, Grasshopper Sparrow, Clay-colored Sparrow, Bobolink, Dickcissel and Baird's Sparrow) had suffered significant population declines during the past 25 years. The CRP has the potential to help reverse those declines," Johnson and Schwartz wrote.

Larry Igl, an ecologist with the Northern Prairie Wildlife Research Center (NPWRC), Jamestown, North Dakota, said he has found 110 species of birds, most non-game, in CRP fields in a survey of several hundred fields in Montana, South Dakota, North Dakota and Minnesota.

Non-game species conservation is important to the nation, according to Iowa's Jim Wooley, PF's senior regional wildlife biologist. "Look at the interest in non-consumptive wildlife recreation in this country. The number of people interested in these pursuits outnumber hunters by 4:1," he noted.

H.A. Kantrud, a NPWRC wildlife biologist, conducted a study from 1989-1991 that found a 23 percent waterfowl nesting success rate on CRP lands compared to only an 8.2 percent rate on similar federal Waterfowl

"Look at the interest in non-consumptive wildlife recreation in this country. The number of people interested in these pursuits outnumber hunters by 4:1."



HORSEWEED, BY TY SMEDS

"What every group (like PF) is about is habitat, the environment, 'the land' as Leopold defined it. No means exists to separate the wild from its wildlife and expect either to survive, and the benefits received by game animals by and large spill over onto nongame species as well."

—THOMAS MCINTYRE.



BULLFROG. BY TY SMEDES

Production Areas (WPA). Pintails, for example, hatched out 37 percent of the time on CRP lands compared to 3.9 percent on WPAs; gadwall, 60 percent on CRP and only 2.7 percent on WPAs; and mallards 25 percent compared to 10 percent.

Clean water

What plant or animal, including humans, doesn't need clean water? There aren't any. CRP and other lands planted by PF such as shelterbelts, food plots, nesting sites and buffer strips along waterways protect soil that, in crops, would be more exposed to erosion by wind and water. Ton for ton, the main item rolling down the Mississippi River is not barges loaded with corn, coal and oil, but valuable top soil.

Soil, fertilizer and chemicals such as herbicides and insecticides used in farming regularly wash into waterways when the land is farmed, but put that ground into CRP or other protective cover and these water contaminants are greatly reduced.

In a 1994 study, Johnson and Igl of the NPWRC had this to say about CRP's soil protection qualities: "The primary benefits of CRP include major reductions in soil erosion in the Great Plains; from 1987 to 1992 North Dakota croplands experienced a 68 percent reduction in erosion from wind and a 22 percent reduction in erosion from water (USDA 1994). CRP ...offers far greater benefits to breeding birds and other wildlife populations than do other agricultural programs such as annual set-asides and summer fallow."

PF's habitat projects keep more than soil from running into our surface and ground water.

Jeff Gaska, PF's regional wildlife biologist in Wisconsin, helps farm corn, soybeans, winter wheat, alfalfa and cattle on his family spread near Madison. He said there are significant reductions in chemical contamination to the environment attributable to CRP and other PF programs. Many factors affect



PRAIRIE BLAZING STAR AND CONEFLOWERS. BY ROGER HILL



EASTERN BLUEBIRD. BY TY SMEDES

“Several prairie species that seriously declined in abundance during 1966-1990 were common in CRP fields. ... early results indicated the tremendous value of restored grasslands to a host of breeding prairie birds.”



BUTTERFLY MILKWEED. BY TY SMEDES

farm chemical use, such as soil type, so the following figures are general. Were it not for farmers idling land, none of these benefits would be realized.

For corn, if soybeans were planted the prior year, the Gaska's would apply 140 pounds of nitrogen/acre and 90 lbs of potash.

If corn was the previous year's crop and they were planting corn again this year, 180 lbs of nitrogen and 90 lbs of potash would be applied per acre. Some growers also use phosphorus.

If corn was planted last year and this year, 5 lbs of insecticide/acre would be needed. For herbicide, the amount applied depends on the tillage practice. With no or minimum till crops, a little more herbicide is used, or about 2 quarts/acre. On tilled ground, only about 4.5 oz/acre are used. Gaska noted that some new herbicides quickly bio-degrade and don't get into ground water, etc.

Fuel consumption and the resulting air contaminants represent another significant improvement in environmental quality due to idling crop land. A 145 Horsepower diesel tractor, depending on soil and other factors, will use 1.78 gallons/acre chisel plowing; 1.10 gallons/acre soil finishing; .99 gallons/acre planting corn; and 2 gallons/acre harvesting.

To drive home the message of chemical reduction achieved by PF's habitat work, the Minnesota DNR's Kurt Haroldson related a



BLAZING STAR AND BUMBLE BEE. BY TY SMEDES

personal story: “I have a cousin who lives in Lake Benton, Minnesota. She told me the lake is much cleaner now. How did she know this? She simply noticed the algae blooms (caused by fertilizer runoff) were not as bad since a lot of CRP went into the area. It is profound that a citizen would realize that. CRP is more than a habitat program for a few people - everybody benefits.”

Carbon filters

All the tangible benefits of PF's habitat work are great, but strip them away, the song birds, clean water, clean air, etc. and there is still reason to applaud all those CRP fields, food plots, wetlands and winter shelterbelts.

Since 1982, PF members have planted over 14 million trees and 1.2 million acres of grasslands. Vegetation is not only great habitat for wildlife, but makes great air cleaners as well. Plants consume carbon dioxide from cars, power plants, fires, etc. Plants reduce carbon in the atmosphere, which is the main driving force behind the greenhouse effect that is warming the planet.

“I went to dinner with a friend last week, and drove through the countryside on the way back. He mentioned how beautiful the country was, how lush the fields of grass were — some of which was PF habitat. It's definitely more pleasing to the eye, to have some diversity on the landscape. It increases the quality of life,” Wooley said.

PF's habitat projects don't plant themselves, either. It takes a community — a

group of like minded people that might not have joined together except for the PF mission and call to action.

"PF buffer projects in Iowa are an example. A diverse group of individuals and agencies are working together in that effort. Turn the coin over and you have a variety of users, all interested in cleaner water: Farmers who want to do the right thing for the land, hunters, wildlife watchers, anglers and more. PF projects foster a community effort directed at a wildlife problem with a solution that has broad environmental benefits," Wooley said.

Noah's arc

Data on the benefits of PF's habitat work for less conspicuous creatures such as reptiles, amphibians and insects is sketchy, according to Haroldson. A CRP field of largely switch grass, for example, is too simple to support a diverse insect community, he said. "But, as a general rule, any grass you put out in the environment is better for grassland dependent critters than corn or soybeans." PF chapters are helping farmers plant broadleaf forbs in their CRP plots to increase insect diversity, and thereby chick survival. PF chapters have also helped purchase many prairie



SHARPTAIL GROUSE, ROGER HILL

"PF projects foster a community effort directed at a problem that has broad benefits,"

—JIM WOOLEY,
PF SENIOR WILDLIFE BIOLOGIST.

remnants. Prairie plant and animal communities are the nation's second most threatened only after wetland communities.

Re-established grasslands are also good for small animal populations such as mice, chipmunks, gophers, snakes, tiger salamanders, the rare Blandings turtle and the like. "Small mammals thrive as a CRP field gets older, denser, lays down and forms a thick sod. This is pretty predator proof (avians), especially compared to cropland," Haroldson said.

And of course, when you increase prey species, predators follow. The marsh hawk, for example, is a ground nesting prairie bird that has benefited from CRP and other grassland restorations. "They prey mostly on frogs, mice and small birds — including pheasant chicks if they get the chance, but I would be real surprised if a marsh hawk could handle an adult bird," Haroldson said.

Plants, insects, water, air, predator and prey — they are all linked and all benefit from PF's hard work. The next time a rooster takes to the wing, imagine the great chain of life from which it sprang working in unison — its beginning financed at some late night PF banquet. 🐔

Herwig is editor of Pheasants Forever Journal.



PRAIRIE WETLAND, BY ROGER HILL

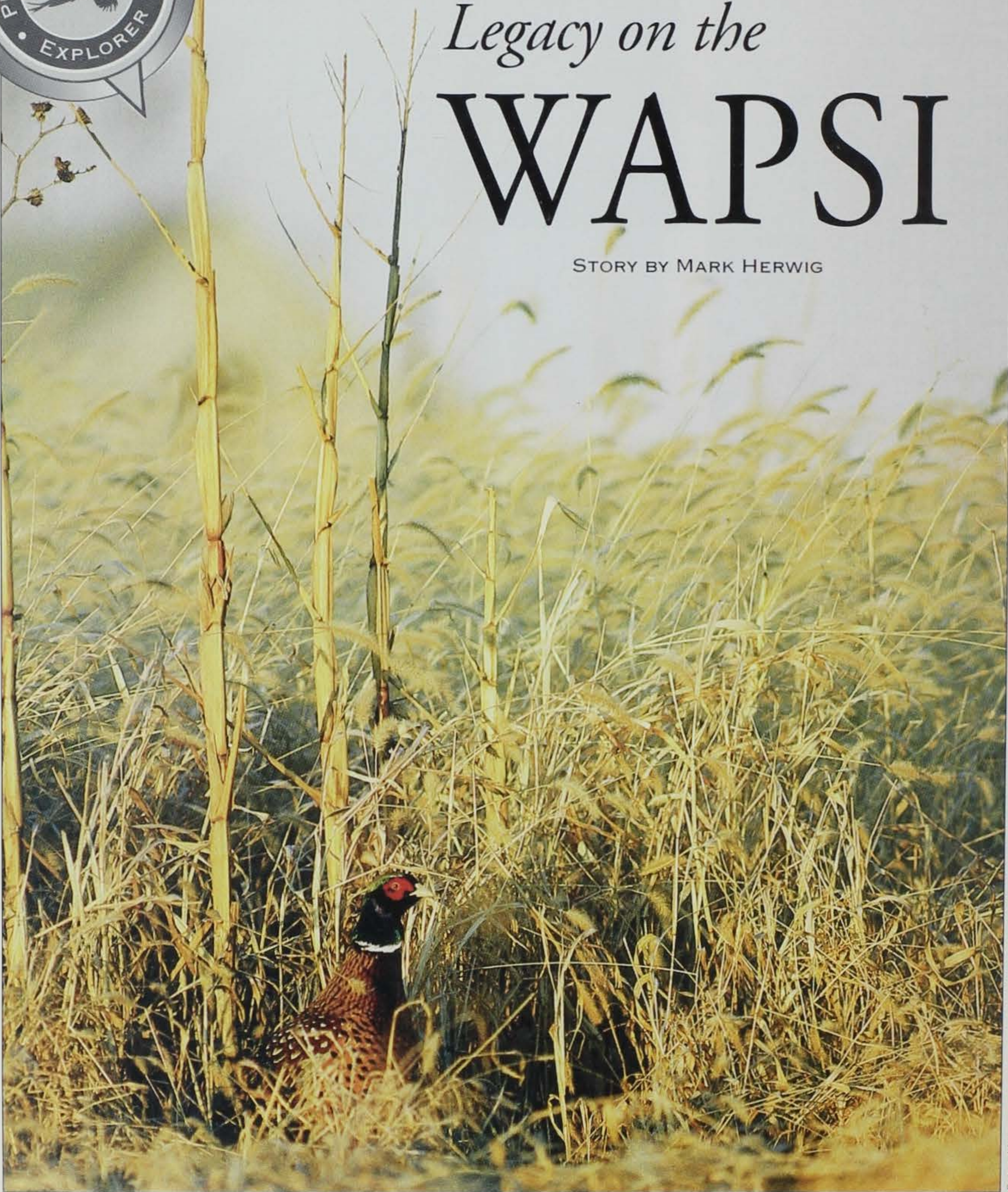


Pheasant Country Explorer regularly presents some of the best pheasant hunting from around the nation. So, grab a snack, put up your feet and enjoy the adventure as we take up the chase with your fellow PF members on their chapter projects.

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Legacy on the **WAPSI**

STORY BY MARK HERWIG



ROGER HILL

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MARK HERWIG

Scott Gade, left, Bremer County PF; and Ross Brase, right, chapter president, hunt the edge of Iowa's Aldo Leopold Wetland Complex.

The fall of 1932, a slim forester, notebook in hand, happened upon an untouched, wild floodplain on the Wapsipinicon River in north east Iowa. He noted a large population of prairie chickens and an abundance of other wildlife before moving on in search of more wild places.

The man was famed conservationist Aldo Leopold, and he was conducting a game survey for the state of Iowa — field work Leopold later used to form the basis of modern wildlife management. He later recommended the area for protection. Leopold, who died in 1948, wasn't around in 1970 when the floodplain was cleared, ditched and tiled for farming.

But the Wapsi, as the river is called, and Mother Nature had not forgotten what their native son (Leopold was born in Burlington, Iowa) had wished for. Repeated flooding, crop losses and increased interest in conservation finally forced man to bend and grant Leopold's wish in a very personal way. On June 2, 1993, the Iowa DNR and several conservation groups led by Pheasants Forever dedicated the 927 acres of the 1,500 acre floodplain as the Aldo Leopold Wetland Complex.

Establishment of the Complex came too late for the area's native prairie chickens, but the ringnecked pheasant has held on.



MARK HERWIG

Northern Iowa's
die-hard PF
members will
increase pheasant
numbers the old-
fashioned way.

Leopold, who mentioned hunting pheasants in Kossuth County four counties west of the Complex, noted in his reports that farming "old timers think there are more pheasants in the best counties of north Iowa today (1932) than there were prairie chickens in the old days." He also noted "the great majority" of farmers of the day "joined with interest in the discussion of measures for (pheasant) conservation and management."

Fortelling his conservation greatness, Leopold's report criticized the state for a "grand splurge of liberality" when it reopened pheasant season in eastern Iowa during a drought. "One warden estimates 80 percent of the stock was killed," he wrote. He complimented "many hunters," however, for not shooting hen pheasants even though they were legal game in those days — noting it took the average hunter 2.1 hours to bag a rooster. "This should rebut the assumption, common among swivel-chair moralists, that all pheasant hunting is too easy to constitute sport."

Leopold would no doubt be pleased to know, if he were alive today, that many Iowa farmers and hunters are still caring for the land and its wildlife. He no doubt would be very pleased, and not the least surprised, to learn that local PF members, mostly farmers and hunters, contributed \$58,000 towards the purchase of his namesake, the Aldo Leopold Wetland Complex.

PF Journal got a first-hand look at this historic conservation project when we hunted the area November 1998. We found things are looking up habitat-wise for the Leopold Complex. There, the Iowa DNR is restoring about 200 acres of habitat each year — with some seed provided by local PF chapters. Pheasants and other wildlife are responding.

The air was still that full moon morning as we arrived at the Complex. Temps were in the low 30s and a light frost covered the ground. Boot laces were tightened and game vests adjusted before we headed into the Leopold area with Ross Brase, Bremer County Chapter president; Scott Gade, Bremer County; and Matt O'Connor, PF's regional wildlife biologist in northern Iowa. A brittle crust of thin ice noisily splintered as we walked into some damp, but promising looking cover.

Brase's springer Lady enthusiastically quartered through a sorghum foodplot bordered

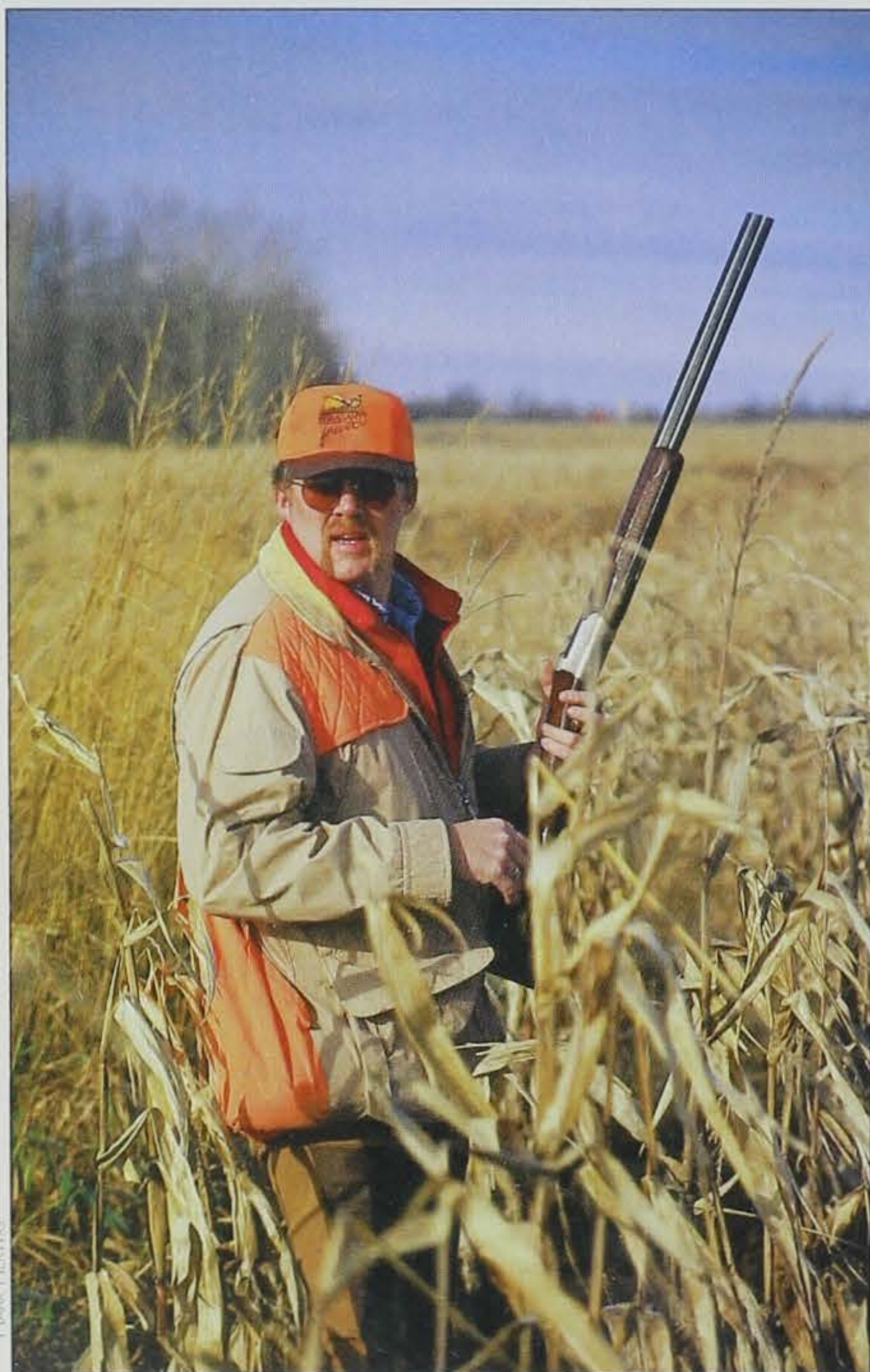
by marsh grass. She had a flock on the run, half of which busted long before we got our chance. But Lady finally caught up with one young rooster, pinned between an opening in the field and some water on one side and two guns coming up from behind. The rooster back tracked and flushed behind us. Brase wheeled and leveled his over-under. One shot, and it was over. O'Connor picked up two more birds on a rough cross-country march through the marsh — leaving us three birds by 11 a.m. Several more forays into cover that day and the next produced a few flushes, a lot of fun — but alas our game bags remained empty, fluttering in the wind. (A week earlier, one chapter hunter and his group scored 45 birds in four days — down from 72 in '97.)

The first hunt in my home state, a state that from the mid-1980s to late 1990s was regarded as among the best in the nation for pheasants, has obviously slipped. While Iowa

PF, the organization's top member state, continues to make great habitat strides year in and year out, there's no quick fix for Chickasaw County, which alone lost 20,000 acres of CRP in recent years.

PF has been working hard with Congress since fall 1998 to increase CRP from 30 to 45 million acres, and given the current farm crisis and upcoming elections, such an increase is possible and would likely benefit Iowa.

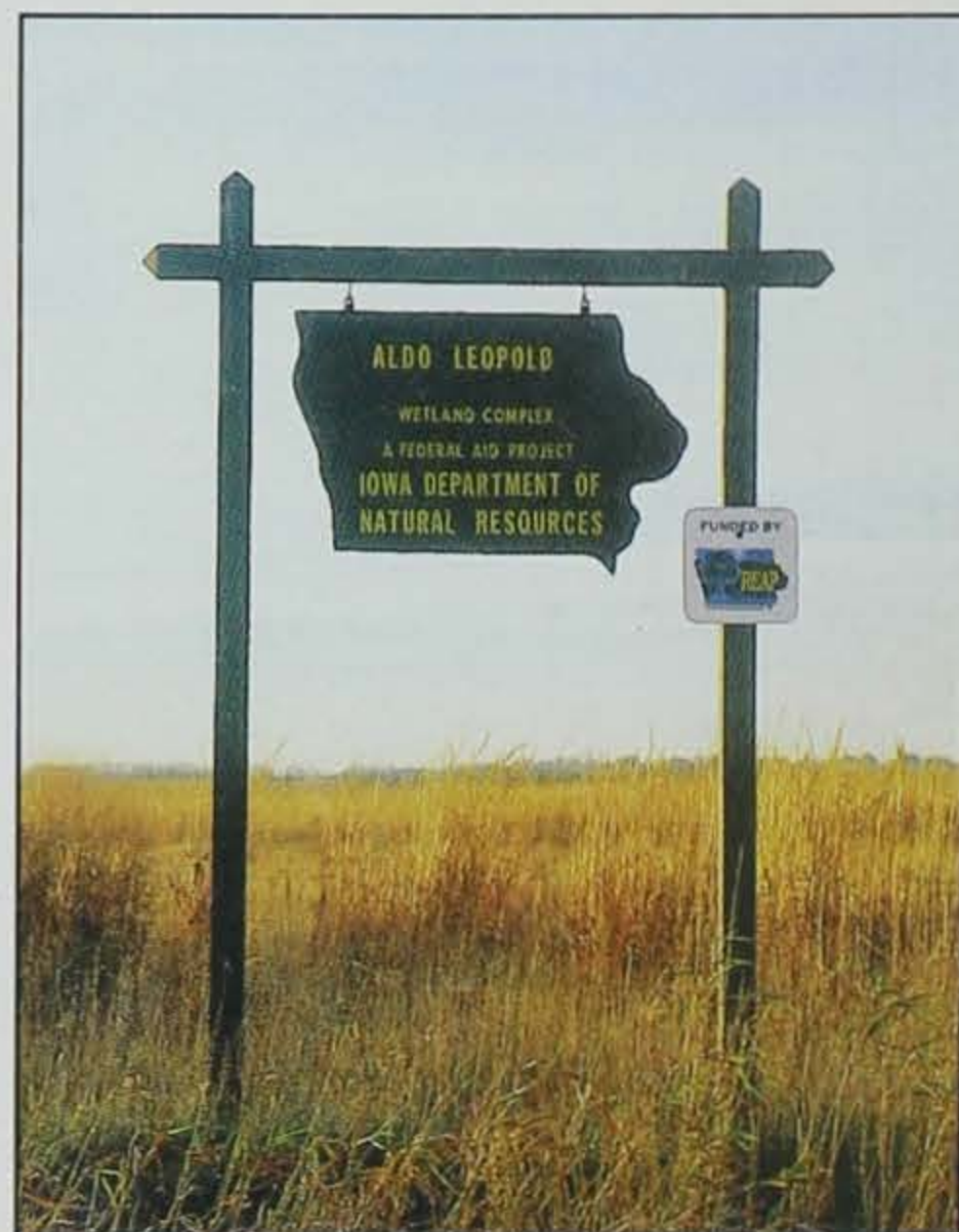
Chuck Ungs, treasurer Iowa Pioneer chapter and Chickasaw County naturalist/conservation officer, estimated pheasants were down by about half from 1997 to 1998. One Minnesota outdoor writer, who hunted the 1998 opener in northern Iowa, wrote that "unless the CRP is resurrected, this could be the beginning of the end of fine pheasant hunting in Iowa." Grim words indeed, and according to some chapter members, not altogether unjustified.



Mark Herwig

Brase checks the 'backdoor.'

The chapter is fighting back with an ambitious program to establish 80-acres of permanent pheasant habitat in every township.



Mark Herwig

“The great majority”
of farmers of the day
“joined with interest in
the discussion of mea-
sures for conservation
and management.”

—ALDO LEOPOLD

Before the hunt, PF Journal met with local chapter members for dinner, to discuss likely hunting areas and ruminate about habitat. Paul Hereid, Iowa Pioneer chapter, is concerned. “We used to give away a semi-load of sorghum seed each spring. Now, with CRP cut, we’re down to 15 bags.” Others observed that since CRP was cut, northern Iowa has experienced two mild winters. They warned that an inevitable hard winter, combined with a lack of habitat, will mean the loss of even more pheasants.

After hunting the next day, we gathered that evening at the home of Kevin Bill, Iowa Pioneer banquet chair. There, we nibbled on a fine tray of hors d’vours and quenched our thirst before a warm fire to discuss habitat and hunting. Ungs described a former CRP field “that was now bare soybean stubble: flat and clean as a golf course.” Bill pointed to a photo of he and Ungs, roosters piled at their feet, as proof of the good times just a few short years ago when CRP was plentiful.

Despite the whims of government programs, Bill said the chapter is “fighting back” with an ambitious program to: establish 80-acres of permanent pheasant habitat in every township in Chickasaw and Bremer counties; conduct on-going tree plantings; providing seed to landowners; and hire a field person to promote buffer strips. And there’s a good chance Congress will beef up CRP as well. Time and PF’s hard work will tell the tale.

The last day in Chickasaw County, I headed out early to an excellent stand of habitat on the property of Darwin Peters, past president of the Bremer County Chapter for 13 years. “You can’t miss there,” he said of my chances to bag my first Iowa rooster.

Wolf, my springer, launched from his kennel. We were soon pushing into some strips of sorghum and corn than ran next to a thick stand of tall evergreens. Wolf wheeled around into some fresh scent and soon had a rooster on the wing, which complained loudly for being busted from his morning meal.


Peters was right about finding birds, but he



ROGER HILL

A brilliant Iowa harvest, above. Gade’s English setter Mandy, below.

was wrong about me missing — my shot didn’t ruffle a feather. Maybe next year, I leisurely headed back to my truck, enjoying the fresh autumn air and exercise all the more as I faced a long drive back home to Minnesota.

I have no doubt, increases in CRP or not, that northern Iowa’s die-hard PF members will increase pheasant numbers in their home range the old fashioned way — building habitat on private land with private funds raised by their own hands. On that point, I’m sure, I won’t miss. 

Herwig is editor of Pheasants Forever.



MARK HERWIG

2000 Nursery Stock Available

Species	Quantity Available	Price
Jack Pine 10-18"	12,500	\$20/100
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Scotch Pine 10-18"	174,700	\$20/100
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Cottonwood 8" RC	800	\$35/100
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Silver Maple 24" TP	38,800	\$40/100
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White Ash 8-16"	67,700	\$35/100
Willow 8" RC	119,412	\$35/100
Honeysuckle 6-12"	31,200	\$35/100
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TP = top pruned RC = root cutting

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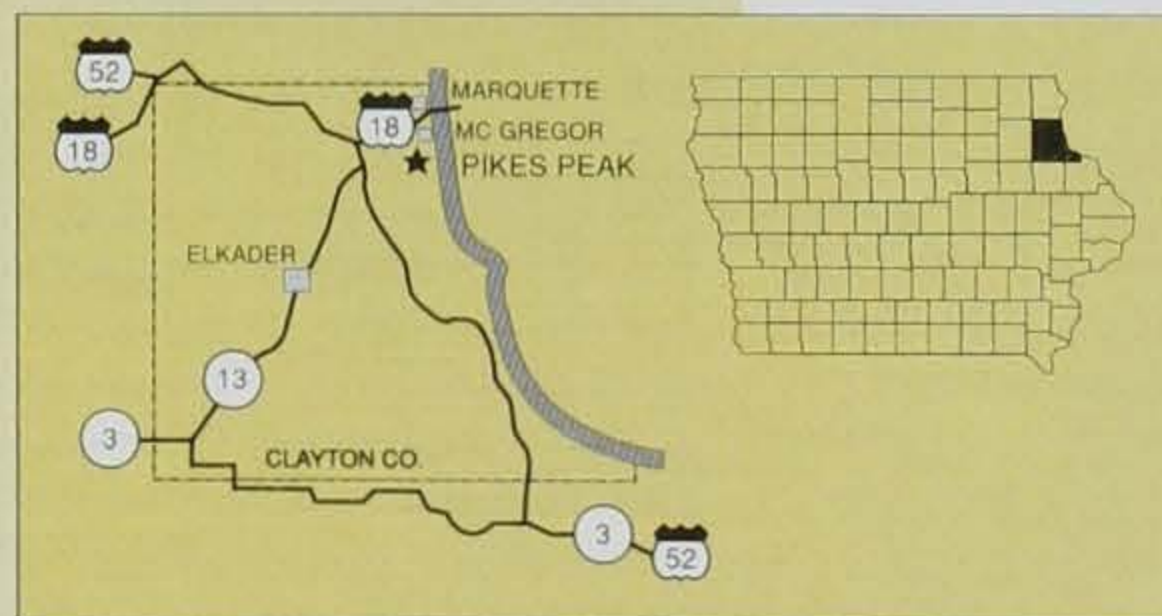
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Home Sweet Home

Pikes Peak State Park

by Jim Farnsworth
Photos by Clay Smith



Welcome to northeast Iowa, welcome home, that's what greets me at Strawberry Point as I turn north from state highway 3 onto 13. There is no sign, it's just the feeling I get as I head north and east on 13. The highway bends, rises and falls, like a big ribbon fallen from the sky and left to lie as it landed. In this corner of Iowa, the roads no longer follow the north-south surveyors' section lines, which so often are straight and flat to the point of boredom. Look at an Iowa road map and compare the lines making up the rest of the state with those in northeast Iowa. The people who routed roads in northeast Iowa had to be a little more artistic. There the highways look like abstract art.

Home for me is Pikes Peak State Park on the eastern edge of a unique part of the state naturalists call the Paleozoic Plateau. "The Peak," as it is locally known, is located just south of McGregor on a bluff about 500 feet above "The River," as the Mississippi River is locally known. It offers modern camping, picnicking and a chance to view and explore an area rich in history and prehistory.

A Long, Long Time Ago

The term Paleozoic refers to the old bed rock units influencing the landscape in northeast Iowa. Iowa's bedrock units are tilted from northeast, growing ever deeper towards the southwest. They have been exposed to erosion and weathering longer than nearly any other part of the state. The scenic hills and valleys of Pikes Peak escaped the flattening influence of

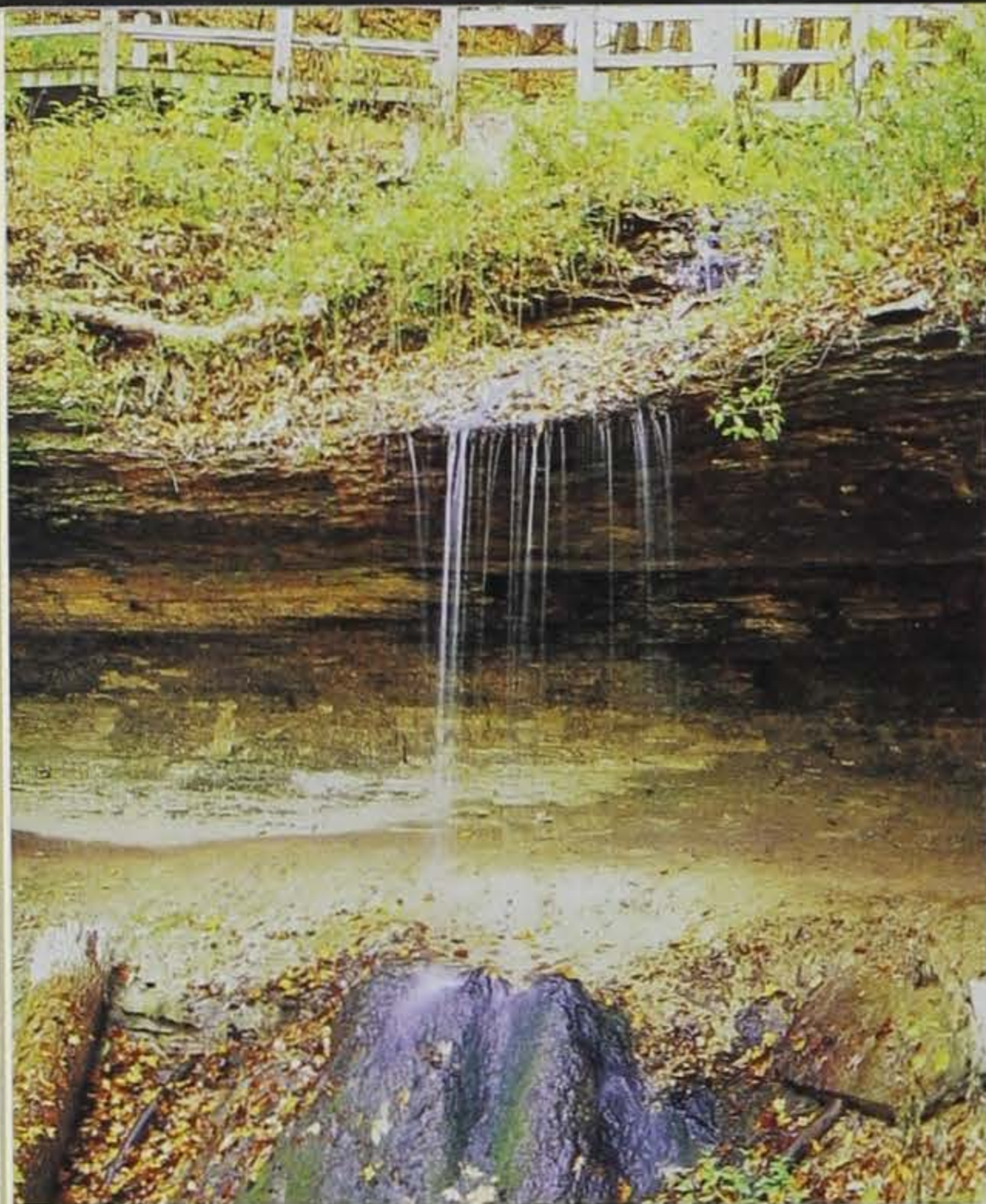
glaciation during the ice age.

But even in their absence the glaciers had a profound influence on the Paleozoic Plateau. Tremendous volumes of melt water ran through the area during warm

periods and as the ice age came to an end. Streams and rivers carrying large volumes of water, gravel and stones from the retreating ice cap ripped through the landscape, cut through the hills and fed a raging torrent we now call the Mississippi. The Mississippi valley was at one time as much as 150 feet deeper than it is today.

The oldest exposed rock formation at the Peak is the Jordan Sandstone, believed to be more than 500 million years old. The Jordan sandstone is an important aquifer from which the park's water supply is drawn from a well 560 feet deep.

On top of the Jordan Sandstone is the Prairie du Chien group of limestone. The Prairie du Chien formation



Bridal Veil Falls

was once dry land, as evidenced by the eroded surface upon which the St. Peter Sandstone was deposited.

The St. Peter Sandstone formation is of local interest. The sandstone is richly colored with reds, oranges, browns and purples coursing through a mostly buff to pure white matrix of quartz sand. The sands were stained by deposited minerals, mostly iron. The colored sands of the St. Peter are a source of material for area artists'

bottled sand paintings. Examples of the artwork can be seen at the McGregor Historical Museum.

The Platteville and fossil-rich Decorah formations lie on top of the St. Peter. The Decorah formation was deposited in an environment exposed to periodic supplies of mud and high biologic activity. The mud gave rise to impervious shale units of the Decorah formation and provide the year-round water source for picturesque Bridal Veil Falls. Groundwater percolating vertically begins travelling horizontally when it comes to the impenetrable Spechts Ferry shale and seeps out of the valley walls above the falls. The Platteville formation's McGregor Unit below the Spechts Ferry shale is very resistant to erosion and thus forms the ledge of Bridal Veil Falls.

The Galena limestone is also of local importance. This formation is just below or at surface level and is approximately 1 million years old. Water carrying acids from decaying vegetation percolating through the formation dissolved the stone, giving rise to the caves and sinkholes in the area. Known as karst topography, this phenomenon is more evident west of the park where groves of trees in the middle of fields mark sinkholes where a cave roof has

collapsed, as well as the privately operated Spook Cave. The cave is west of McGregor on U.S. Highway 18 and offers a unique boat tour of the area.

The unique nature of this part of the world was recognized by humans when they first set eyes on it in the dimness of prehistory. Life was good here for the first inhabitants. Food and fiber were abundant, the rivers created travel and trade opportunities.

From approximately 800 to 1200 AD, these cultures celebrated their good fortune and belief in oneness with mother earth by constructing earthen mounds on the landscape. Many are simple conical- or linear-shaped structures, although some are more elaborate effigies of area animals. A bear effigy stands in the picnic area at the Peak, just a short, easy walk from the parking area. Effigy Mounds National Monument, just four miles north of Marquette on Iowa 76, features an in-depth interpretation of the mound builders' culture. An audiovisual presentation, a museum and ranger-guided hikes help bring this part of the area's history to life.

The first Europeans to visit the area were Father Jacques Marquette and Louis Joliet. They arrived one June day in 1673 via the Wisconsin River, which empties into the Mississippi just opposite the lower main overlook at Pikes Peak. Leaving Lake Michigan they paddled their canoes up the Fox River to the Grande Portage — now Portage, Wis. — where they accessed the Wisconsin. Native peoples, early explorers and trappers used the Mississippi much as it is used today; for trading, trapping, fishing and transporting their goods.



ABOVE LEFT: Bridal Veil Falls

LEFT: A portion of the 13 miles of trails running through Pikes Peak

RIGHT: The view from an overlook

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With the acquisition of the Louisiana territory in 1803, giving the fledgling United States claim to land on both sides of the Mississippi, exploring and finding the source of the river became important. In 1805 Lt. Zebulon Pike was dispatched from St. Louis to do just that. On his way up the river he selected the bluff which is now Pikes Peak State Park as a possible site for a fort. With its commanding view of the river valley below it was a good choice. Possibly due to the difficulty of supplying a fort perched on the bluff, a site was chosen on the flood plain just to the north and east. Fort Crawford was built at a settlement known as Prairie du Chien.

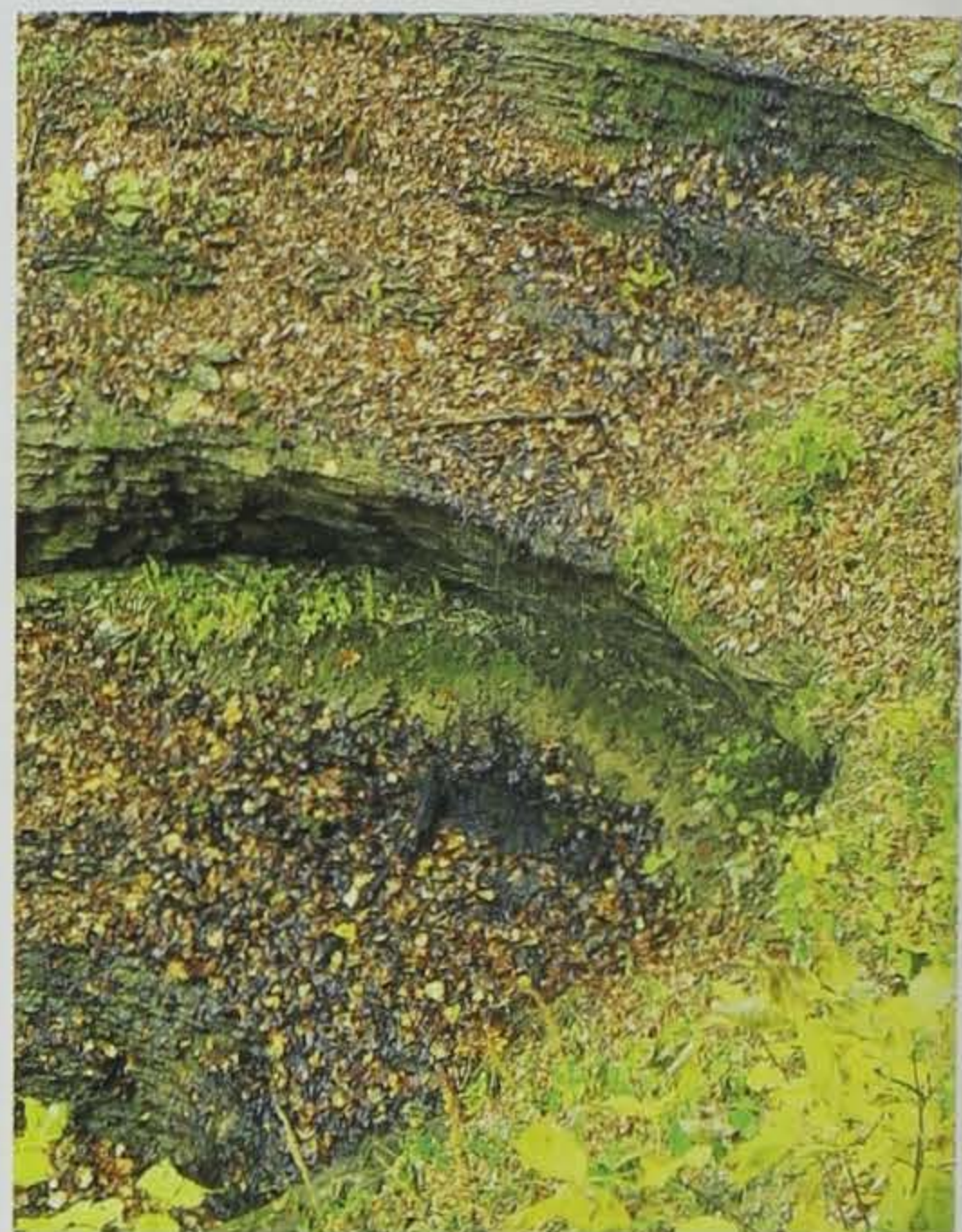
Later Zebulon Pike was commissioned to explore the west, giving rise to the more famous Pikes Peak in Colorado. I used to joke that old Zeb must have been pretty full of himself, going around naming places after himself. A Pike historian from Colorado I met at the Peak this summer indicated Pike was in fact a quiet, unassuming man and that Pikes Peak in Colorado, at least, was not named by Pike but by his men. And while he was not able to scale the Colorado mountain, history records that he did make it to the top here in Iowa.

In 1922 the land for the park was conveyed to the U.S. government by the Munn's, descendants of Alexander

McGregor — a ferry operator, entrepreneur and for whom the town is named. The deed restrictions stated the land must be used for a park. When the social programs of the 1930s were instituted in an effort to put people to work, the Munn lands were given to the state of Iowa through an act of congress. The original Pikes Peak portion of these parcels was always a local picnic spot and the McGregors' and Munns' kept it from being logged for fire wood to feed the hungry riverboat boilers. Several old oaks in the picnic area bear testament. They are estimated to be more than 300 years old.

Originally, there were three separate parks considered for the Munn lands.

Pikes Peak, Point Ann on the southern boundary of McGregor and McGregor Heights on the bluff on the north edge of town. Development of Point Ann, McGregor Heights and the other parcels was not undertaken. In the late 1960s and early 1970s the Iowa Conservation Commission started acquiring the private lands in between Pikes Peak and Point Ann. The park now consists of



Sink hole caused by earlier water erosion

960 acres with 13 miles of trails.

Pikes Peak underwent a major renovation in 1990. Overlook structures have been constructed giving access to the magnificent view of the area. They are connected to the parking area by concrete walks. A series of boardwalks and improved trails give firm footing and easy access to areas such as Bridal Veil Falls and the Bear Mound adjacent to the picnic area. The overlooks and boardwalk to Bridal Veil Falls are kept clear of snow in the winter. The picnic area has a playground for the kids, modern toilets and a park store for snacks and souvenirs. The 77-unit camp area has modern shower and rest rooms facilities (open May through October); nonelectric, 30 and 50 amp electric sites and 23 camping pads.

So come and explore Pikes Peak. You'll know when you arrive, no sign needed.

Jim Farnsworth is the park ranger at Pikes Peak State Park.



The Wisconsin River can be seen from atop Pikes Peak.

"Preseason Deer Scouting Doesn't Have To Wait Until Next Year"

by A. Jay Winter

Photos by Roger A. Hill

Deer season is over and you are wondering what to do. All the equipment is put away, the deer is at the locker being processed and now it is time to sit back and catch up on the articles in the Iowa Conservationist (or is it)? Actually now is the perfect time to get out into the woods and do some scouting for next deer season.

Many of the mysteries of the past season can be unraveled after the season is over by observing the signs left in and under the snow. This can be done around your "old faithful" stand or a new area you have always wanted to try. Once collected, this information can be used to formulate a plan for next year. Some of the signs to look for include:

Trails

Trails can be either people trails or deer trails, both of which are important components in scouting. People can be patterned very easily by following their tracks in the snow to determine where they have hunted and how they got there.



Trails are great for finding bedding and feeding areas.

This will stay remarkably consistent from year to year, because the majority of people hunt the same place, in the same way year after year (even if conditions have changed).

Deer trails tell a story like an open book and are easy to observe either immediately after the season closes or as the snow leaves. The trails show tracks and wear from the past season and will lead to the preferred bedding and feeding areas.

Rubs

Rubs can be located very easily with all the foliage gone by watching for the trees with shredded, peeling bark.



Rubs are easy to locate and are indicators of bucks in the area.

They are a great indicator of the presence of bucks. The direction of deer movement can also be interpreted by which side of the tree the rub is on. When a deer is walking along a trail and makes a rub, it will rub the side of the tree that it is facing and keep walking. So if you are walking a trail and see a rub beside the trail, chances are the buck was walking the same direction you are.

Scrapes

Scrapes are best located immediately after the snow leaves and will look very similar to those observed during the fall. They will appear as bare dirt with an overhanging branch, usually on the edge of a field. Sometimes you can still smell

Practical Conservationist



Scrapes are bare patches of dirt, usually under overhanging tree branches. They are a great way to locate buck activity.



Finding a shed is a bonus during scouting.

the musky smell of the deer by getting down on your hands and knees and smelling the dirt. Scrapes are a great way to locate buck activity from the past year and can help pattern the deer for next year, since bucks will often make scrapes in the same area the following year.

Stands

It is very beneficial to know the location of other hunters whether you are hunting with a bow or gun. You can then position yourself with this knowledge in mind. Hunters positioning influences deer movement and can be a safety issue as well.

Empty Shells

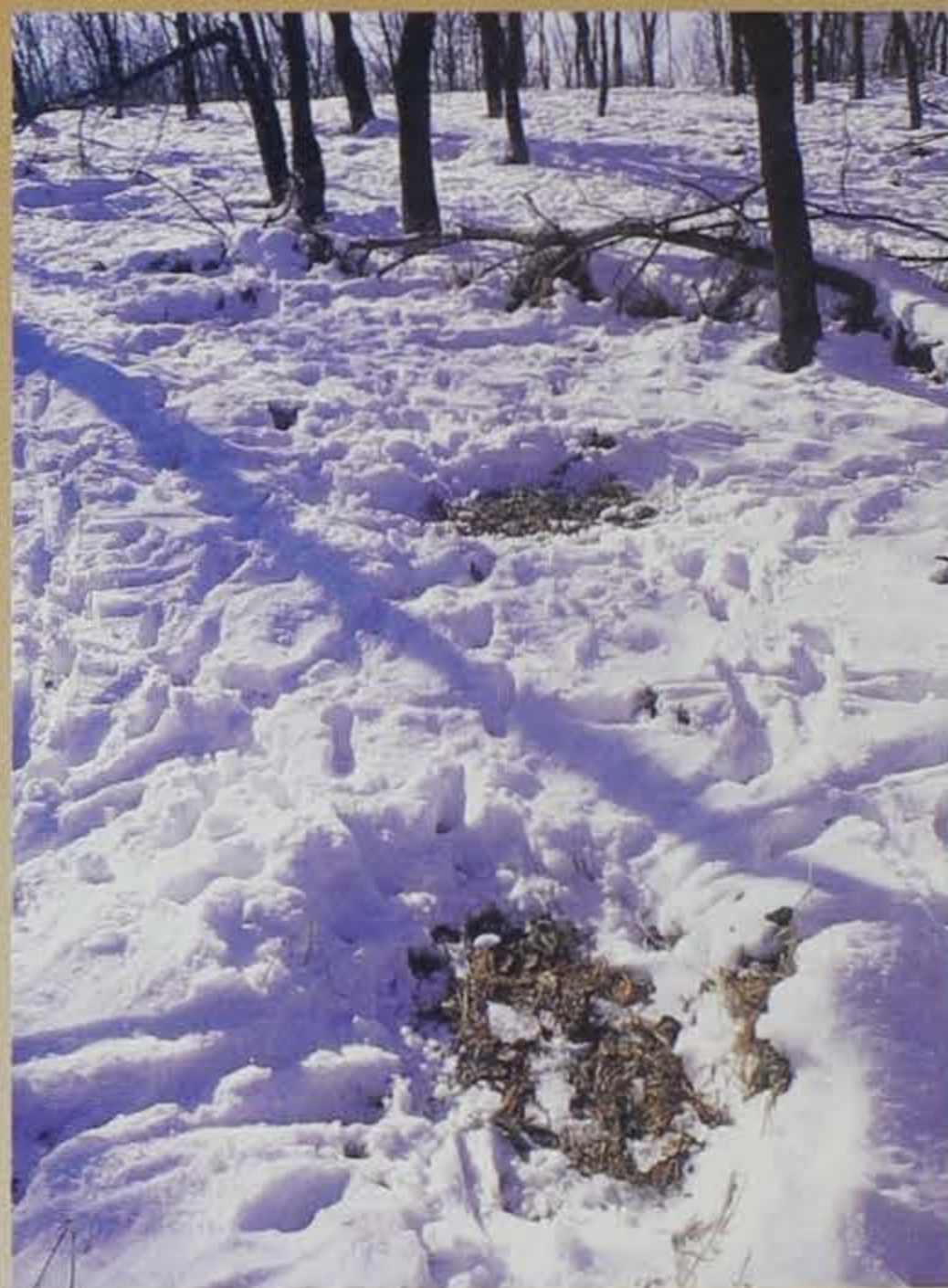
You can tell the difference between slugs and shot by looking at the open end of the hull, the crimp on slugs will appear smooth and the crimp on shot will have grooves. Spent shells will indicate the level of hunting activity in the area and whether the hunters are after upland game or deer, and will also show where deer were sighted and shot at. It is a good idea to pick up the hulls to reduce litter and improve landowner relations.

Sheds

It is a real highlight to come home from a scouting trip with a shed antler. To find a shed there must be bucks in the area during

January to April and you must do some major walking. It is like the proverbial needle in a haystack, but your odds can be improved by looking along fences or creeks where the deer have to jump and subsequently jar their antlers. **WARNING**—hunting for shed antlers can be addicting (ask my wife)!

So get up and get out of the house. It



Deer bedding areas, like the one above, aren't always the best places to set up for a hunt. However, they do indicate where deer can be found when they are not out moving.

feels great to spend time in the outdoors and as an added bonus these activities can be incorporated with other outdoor activities such as rabbit hunting (until Feb. 28), photography, or cross-country skiing.

A. Jay Winter is a training officer at the DNR's Springbrook Conservation Education Center in Guthrie County.

Rock On!

by A. Jay Winter

Iowa has a rich supply of rocks that have played an important role in the state's history and economy. Since settlement, Iowa has been involved in mining coal, lead, gypsum, and limestone for a variety of uses.

During this activity, students will learn how to separate rocks into different groups. One of the major ways rocks are classified or grouped is by the way in which they were formed. There are three major formation processes, which students will learn and be able to remember through the following three activities.



Igneous rock

Igneous:

Igneous rocks are formed directly from molten magma. Sometimes the magma reaches the surface of the earth through a volcano and cools rather quickly (called lava); other times magma stays underground and cools slowly. Different rocks are formed depending on the contents of the magma and

speed at which it cooled.

In a medium saucepan mix 1/3 cup water, 1 cup sugar, a pinch of salt, 3 tablespoons cocoa and one teaspoon vanilla. Heat the mixture to boiling, stirring constantly for 7 - 10 minutes. Pour half the mixture into a greased pan placed in a tub of ice and leave the other half in the saucepan. After they have had a chance to cool, take a taste of each batch. Can you feel the bigger sugar crystals in the magma (fudge) that cooled slowly.

In this demonstration the cooling rate was different for each batch, causing different results. This is similar to different types of igneous rocks formed by different environmental conditions.

Sedimentary

Sedimentary rocks are formed from small pieces of rocks, plants and animals compressed over time. They are very common and cover approximately 75 percent of the earth's surface.

Have students work in small groups and give each group member a different color of fresh bread (wheat, white or rye). As the students tear the bread into small chunks talk about how rocks erode and/or weather (break down into small pieces over time). When the bread is all crumbled, layer the pieces by color in a zippered sandwich bag. Place the bag on the ground and have the students step on it to simulate the pressure of thousands of pounds



Sedimentary rock

Classroom Corner



Metamorphic rock

of earth (they will like this part!). After a few minutes of pressure, lift the bag up and look at the newly formed "sand"wich rock.

Sedimentary rocks are formed in a similar fashion. The process starts by layers of debris (rocks, plants or animal matter) accumulating in one location followed by the application of pressure. This causes sedimentary rocks to exhibit layers.

Metamorphic:

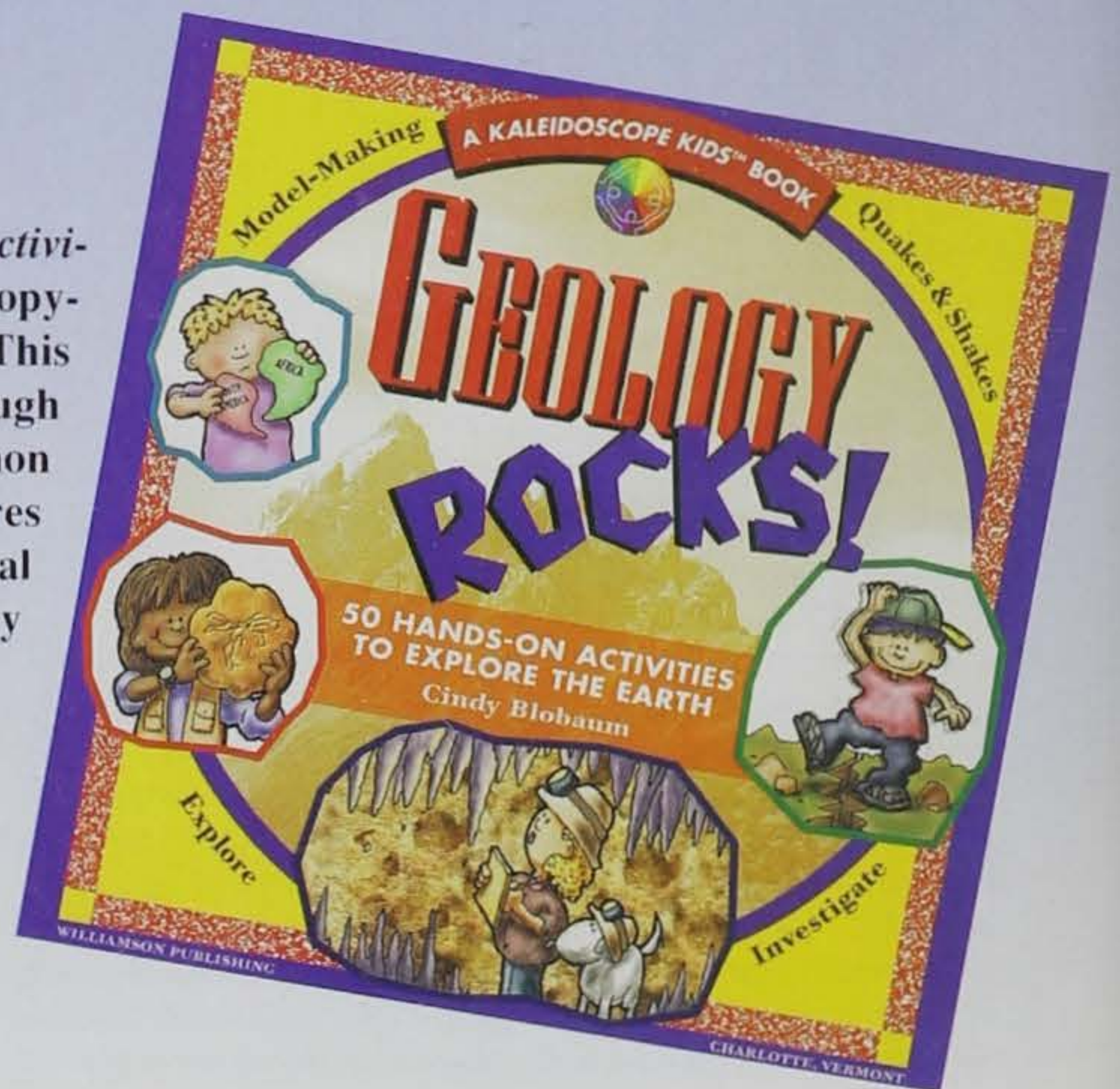
Metamorphic rocks are igneous or sedimentary rocks that are changed through heat or pressure over a long period of time.

Give each student two pieces of Starburst® or taffy and a piece of waxed paper. Unwrap each piece and place one on top of another. Wrap the two pieces in waxed paper and place the packet between your hands. Squeeze your hands together as hard and for as long as possible (at least several minutes). When you unwrap the paper, notice

how the pieces are getting softer and are starting to squish together. This is similar to the formation of metamorphic rocks through intense heat or pressure.

Adapted from *Geology Rocks! 50 Hands-on Activities To Explore The Earth* by Cindy Blobaum. Copyright 1999, Williamson Publishing Company. This resource allows students to explore geology through fun, hands-on experiments performed with common household items. It is available through bookstores for a suggested retail price of \$10.95. For additional geology learning opportunities, contact Cindy Blobaum at cindybb@juno.com.

A. Jay Winter is a training officer for the department at Springbrook Conservation Education Center.



2000 REAP Assemblies Scheduled At 16 Statewide Locations

A series of 16 public meetings will be held across the state in February and March to help define and direct Iowa's Resource Enhancement and Protection (REAP) program for the next two years.

REAP Assemblies, held every two years, are designed to give Iowa citizens an opportunity to learn more about REAP and what the program has accomplished since its initiation in 1989. Those in attendance will be given the opportunity to provide input and ideas about REAP.

A second essential component of the assemblies involves electing five representatives from each region to serve on the REAP Congress to be held this summer. The Congress makes recommendations regarding REAP to the governor, Iowa Legislature and state agencies.

REAP is a multipurpose program designed to enhance and protect Iowa's natural and cultural resources. Elements of REAP include conservation education, open space development and acquisition, soil and water enhancement, historical resource development, roadside vegetation and state park facility improvements. It is funded through legislative appropriations from the general fund and from the sale of REAP license plates. Following is a list of meetings, including region, date, counties involved and location:

REGION 13 AND 17 (FEB. 1)

CASS, FREMONT, HARRISON,
MONTGOMERY, PAGE, SHELBY,
MILLS, POTTAWATTAMIE
Oakland, Community Building on highway 6.

REGION 16 (FEB. 3)

DES MOINES, HENRY, LEE, LOUISA
Burlington Medical Center,
Burlington Center for Rehabilitation.

REGION 15 (FEB. 8)

APPANOOSE, DAVIS, JEFFERSON,
KEOKUK, LUCAS, MAHASKA, MONROE,
VAN BUREN, WAPELLO, WAYNE
Ottumwa, St. John Auditorium, Indian
Hills Community College.

REGION 10 (FEB. 10)

BENTON, IOWA, JOHNSON, JONES,
LINN, WASHINGTON
Cedar Rapids, Ballentine Auditorium
Cedar Hall, Kirkwood College.

REGION 12 (FEB. 15)

AUDUBON, CARROLL, CRAWFORD,
GREENE, GUTHRIE, SAC
— Carroll, Carrollton Inn, Newton
Room.

REGION 7 (FEB. 17)

BLACK HAWK, BREMER, BUCHANAN,
BUTLER, CHICKASAW, GRUNDY
— Cedar Falls, Rotary Reserve Lodge,
5932 North Union Road.

REGION 1 (FEB. 22)

ALLAMAKEE, CLAYTON, FAYETTE,
HOWARD, WINNESHIEK
— Calmar, Northeast Iowa Commu-
nity College, Wilder Building.

REGION 4 (FEB. 24)

CHEROKEE, IDA, MONONA,
PLYMOUTH, WOODBURY
— Correctionville, Community Cen-
ter.

REGION 5 (MARCH 2)

CALHOUN, HAMILTON, HUMBOLDT,
POCAHONTAS, WEBSTER, WRIGHT
— Fort Dodge, Iowa Central Com-
munity College, Vocational Tech Build-
ing rooms 1 and 2.

REGION 6 (MARCH 7)

HARDIN, MARSHALL,
POWESHIEK, TAMA
— Marshalltown, Best Western Re-
gency Inn.

REGION 2 (MARCH 9)

CERRO GORDO, FLOYD, FRANKLIN,
HANCOCK, KOSSUTH, MITCHELL,
WINNEBAGO, WORTH
— Mason City, Public Library.

REGION 14 (MARCH 14)

ADAIR, ADAMS, CLARKE, DECATUR,
MADISON, RINGGOLD, TAYLOR, UNION
— Creston, Southwestern Commu-
nity College, room 220.

REGION 9 (MARCH 16)

MUSCATINE, SCOTT
— Muscatine, Muscatine Commu-
nity College, Strahan Hall Little Theater.

REGION 3 (MARCH 21)

BUENA VISTA, CLAY, DICKINSON,
EMMET, LYON, O'BRIEN, OSCEOLA,
PALO ALTO, SIOUX
— Arnolds Park, City Hall.

REGION 8 (MARCH 23)

CEDAR, CLINTON, DELAWARE,
DUBUQUE, JACKSON
— Maquoketa, Community Center.

REGION 11 (MARCH 30)

BOONE, DALLAS, JASPER, MARION,
POLK, STORY, WARREN
— Des Moines, Izaak Walton League
Clubhouse.



The Des Moines Botanical Center has benefitted from REAP funding.

Ken Formanek

Conservation Update

Fishing Regulations, Resident Turkey Applications Available

The 2000 Iowa Fishing Regulations brochure and 2000 Resident Turkey Application booklet are now available.

Major changes were made this year in the 2000 spring turkey hunting regulations, all of which are explained in the application booklet. Changes include:

- Fourth season, for all zones, has been extended from 12 to 19 days.
- No one may apply for or obtain more than two combination gun/bow licenses, paid or free, unless at least one is for zone 4, season 4.
- There is no quota for any season in zone 4. Applicants for zone 4 will be

guaranteed a license for their first choice of season.

- Quotas will remain in zones 1, 2 and 3. The only second license choice allowed on zone 1, 2 or 3 applications will be season 4, zone 4.

- The application period will be reopened ONLY if licenses remain in zones 1, 2 or 3. Only those licenses available for those zones will be sold during the second application period. There will be no reopening for any season in zone 4.

- Licenses for zone 1, 2 and 3 will NO LONGER be valid in zone 4.

Turkey applications will be accepted through Feb. 11 for all combination gun/bow licenses and March 3 for all archery-

only licenses. The second application period, if needed, will be March 13-17.

The 2000 fishing regulations brochure is filled with the information most used by Iowa anglers, including 2000 license fees, fishing seasons and limits. It has been redesigned to make it easier to read. Special to this year's brochure is a contest celebrating the 50th anniversary of the Federal Aid in Sports Fish Restoration Act. Participants who correctly answer five questions can enter for a chance to win a rod and reel outfit or a life vest.

Both publications are available at most license vendors, county recorder's offices or by contacting the DNR at 515-281-HNTR.

Memorial Fund Benefits Henry County Hunter Education

Future students of the Henry County hunter education program will benefit from a memorial fund created by the family of a Mt. Pleasant man.

The family of Wendell R. Prottzman recently donated two Remington .22 caliber rifles, two Remington 20 gauge shotguns, four gun cases and a Trius trap thrower to Henry County for use in its hunter education program. Medallions in memory of Prottzman will be placed on each item. A second memorial fund was also established for wildlife rehabilitation efforts in Henry County.

An avid hunter and trapper, Prottzman took a buck in 1988 scoring 231 1/8 points, which still stands today as the 10th best non-typical deer rack taken by shotgun.



Above: Wendell R. Prottzman with record deer taken in 1988. Left: Memorial medallion mounted on each donated item.

Solid Waste Characterization Computer Model Available

A computer software program designed to assess the composition of municipal solid waste is available from the DNR's Waste Management Assistance Division. The modeling program is available on CD-ROM for local communities, solid waste planning agencies and recycling centers.

The model, developed by R.W. Beck Inc., an environmental consulting and engineering firm, Minneapolis, will help municipalities avoid the need to hand sort their solid waste materials to determine the amounts and types of solid waste going to their landfill.

Mathematical equations are used to determine the relationship between a specific community's population, employment, availability of recycling facilities and waste stream characteristics. The model estimates the percentage of each type waste component that would be found in the landfill based on each community's demographics.

The model also can be updated as individual communities' demographics and waste characteristics evolve.

A copy of the CD can be ordered for a nominal fee by contacting the DNR at (515) 281-0649.

Task Force Formed To Develop Guidelines for ATV Lands

The DNR has formed a statewide task force to develop policy guidelines for acquiring and developing lands for all-terrain vehicle (ATV) riding areas.

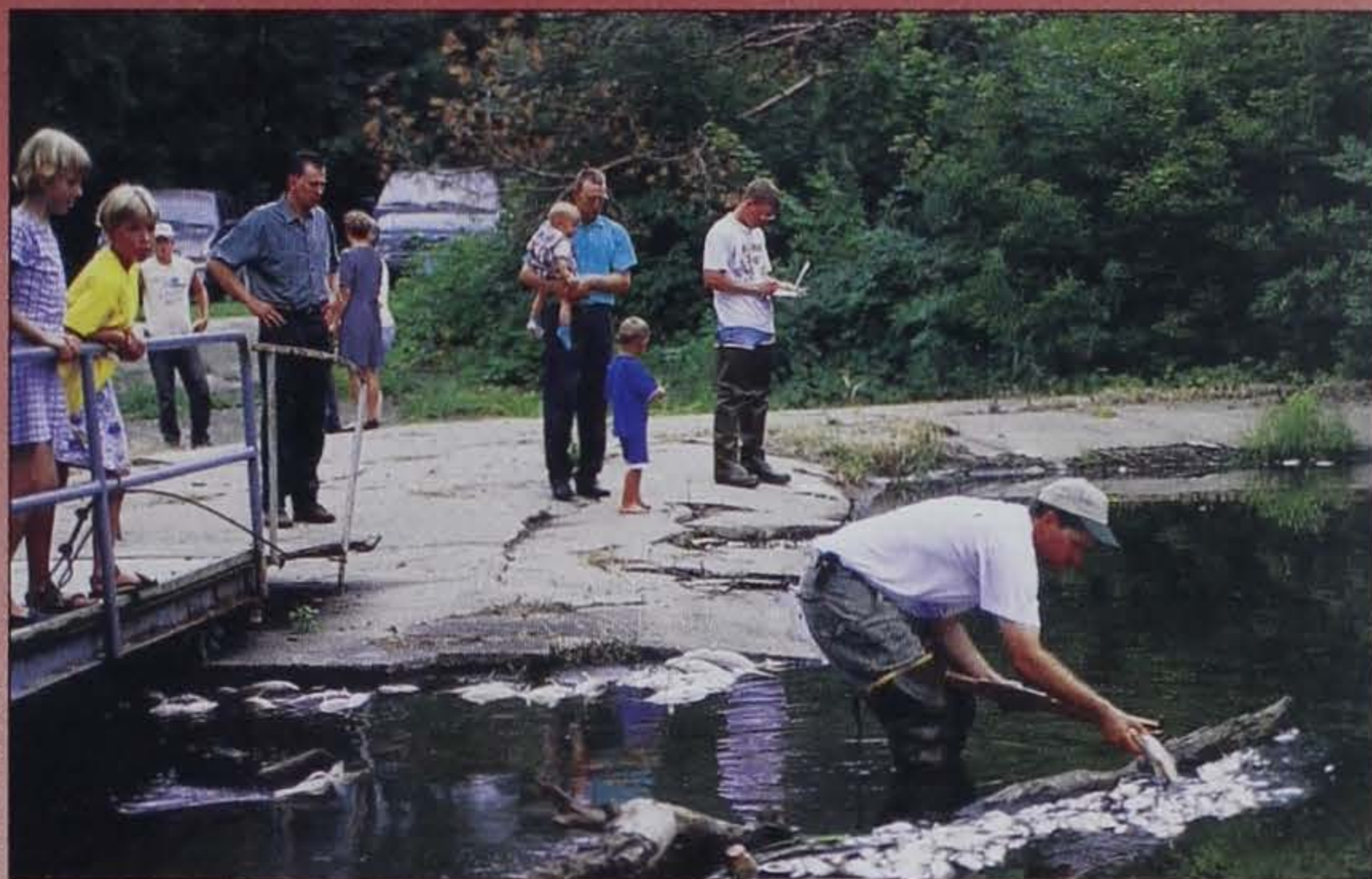
The task force is in response to concerns voiced during recent state land purchases regarding the environmental impacts of ATV use. The task force will develop policy guidelines for future identification, selection, public input processes and environmental criteria when purchasing land for off highway vehicle (OHV) riding. The task force is made up of representatives from the State OHV Association and clubs, the DOT, DNR, Audubon Society, Iowa Association of County Conservation Boards, National Trails Advisory Committee, Natural Heritage Foundation, Sierra Club and the Farm Bureau.

A moratorium has been placed on the acquisition of additional private lands for OHV riding areas pending recommendations by the taskforce and approval of the policy by the Natural Resource Commission. The DNR will proceed with the acquisition of land near Peterson in northwest Iowa with the intent to develop it as an OHV riding area. However, if the land does not fit the criteria set forth by the task force, the area will be managed for other purposes.

"The DNR seeks to reassure ATV riders that there are opportunities and lands available and suitable for development of riding areas," stated Mike Carrier, division administrator of the DNR's Parks, Recreation and Preserves Division. "We will continue to work with the clubs and the State OHV Association to find, develop and maintain these riding areas."

Ice Shack Reminder

Ice anglers are reminded all ice fishing shelters must be removed from state-owned lands and waters by Feb. 20 or ice melt, whichever comes first, unless the deadline is extended.



Lowell Washburn

Fish Restitution To Be Used For Environmental Improvements

Money collected from fish restitution will now be used for environmental improvements on or as close as possible to the streams where the fish kills occur.

The change in policy was made possible through an agreement between the Department of Natural Resources and the Division of Soil Conservation in the Iowa Department of Agriculture and Land Stewardship.

Under the proposal, money collected from restitution when a fish kill occurs will be made available to the county Soil and Water Conservation Districts where kills occurred.

To jump start the program, more than \$110,000 from the Iowa Fish and Wildlife Trust Fund representing the amount of fish restitution money collected last year is already being made available to the Division of Soil Conservation this year for use in 11 counties. Eligible stream improvement practices for which the money can be used include stream bank stabilization, riparian wetland development, fencing livestock from streams, sediment basins, buffer strip establishment, animal waste management systems and in-stream fish habitat structures.

Until now, money collected for fish

restitution went directly into the Fish and Wildlife Trust Fund, but was not specifically earmarked for use on streams where fish kills have occurred.

DNR Director Paul Johnson said using fish restitution money in the streams that are actually affected by pollution is a common sense approach.

"This program will not only seek to improve water quality where problems have happened, but also try to put structures in to prevent more damage from occurring in the future," Johnson said.

The program specifies that fish restitution funds will be targeted to the counties where fish kills occur, with the streams sustaining fish kills getting the highest priority for improvements. Streams within the watershed of the impacted area receive the next highest priority followed by other streams in the county being given the lowest priority.

The program will also avoid providing significant economic benefits to parties responsible for causing a fish kill. For example, the program would not be used to help a responsible party establish buffer strips and then receive Conservation Reserve Program (CRP) payments as well.

Conservation Update

DNR To Work With Landowners To Develop Conservation Areas

The DNR is stepping up efforts to work with private landowners to improve water quality and wildlife habitat.

Two wildlife biologists are being added, one in north central Iowa and the other in the southwestern part of the state. The biologists will work jointly with local Natural Resource and Conservation Service offices as well as local chapters of conservation organizations such as Pheasants Forever, Ducks Unlimited and Trees Forever in helping farmers develop conservation areas on their land, particularly conservation buffer strips.

Farmers can receive yearly rental



Buffer strip

payments from the federal government to idle land along waterways through the continuous Conservation Reserve Program (CRP).

"Buffer strips have proven ability to improve water quality and provide wildlife habitat. Often times, the rental payments for enrolling in the program can be more financially beneficial to the landowner than raising crops," said DNR Director Paul Johnson.

Johnson points to Carroll County where local Pheasants Forever chapter members went door-to-door encouraging landowners to participate. The result of the effort has been 2,960 acres — more than 290 stream miles — being put in conservation buffer strips.

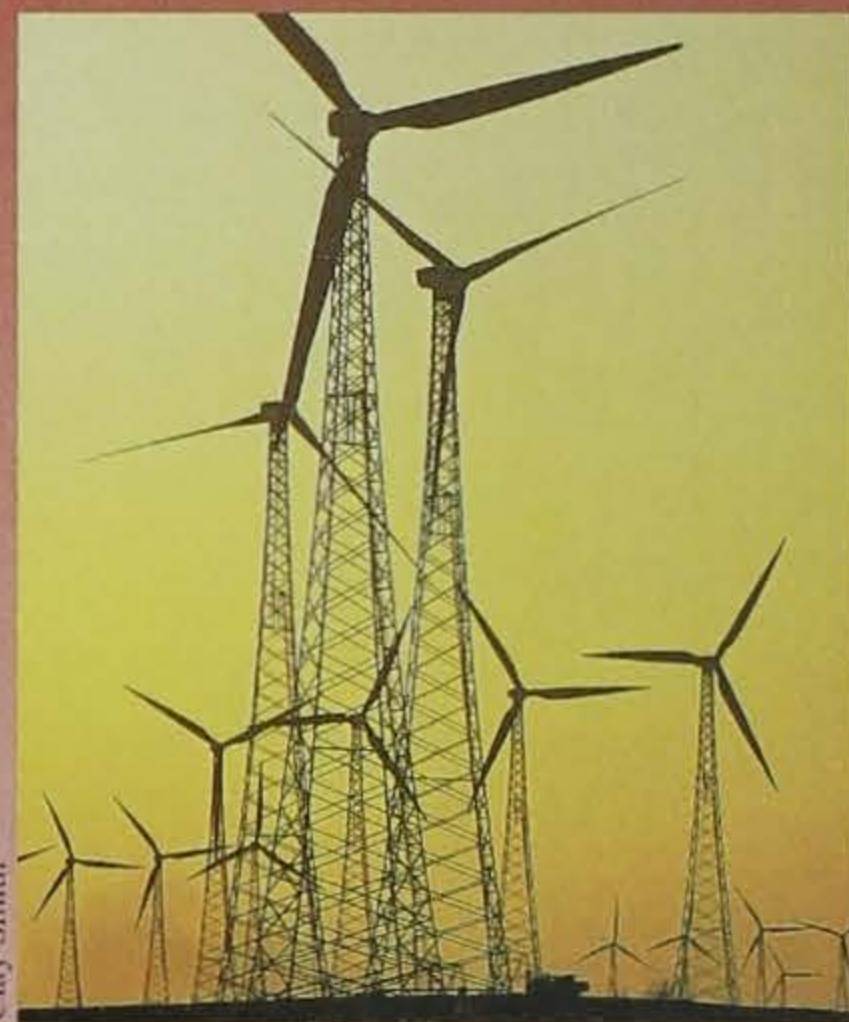
Buffer strips around streams are proven havens for a number of bird species. Research by Iowa State University on Bear Creek in Story and Hamilton counties has found that more than 30 species of birds can be found in the buffer compared with just eight species in a neighboring, nonbuffered stretch of stream.

Iowa State's research on Bear Creek shows nitrate levels were reduced from 13 parts per million on the cropped area of the field to less than one part per million in the tree zone of the buffer. Atrazine levels showed a similar reduction reducing readings from 12 parts per billion to less than one part per billion.

The buffers are also highly effective in controlling Iowa's number one water pollutant, soil erosion. The research has shown the 21-foot switch-grass component of the buffer strip is capable of reducing

sediment contained in runoff from nearly 1,000 parts per million to less than 250 parts per million, a 75 percent reduction in sediment load.

In addition to working on buffer strips, the new wildlife biologists will also be providing expertise to NRCS and local Soil and Water Conservation Districts on such projects as tree sales, native grass sales and purchase of special equipment used for conservation planting.



Clay Smith

Wind generators near Alta

Tax Credit Given To Wind Energy Producers Extended

U.S. lawmakers agreed last week to extend the federal wind energy production tax credit for two and one-half years. The extension, which was introduced and advocated by Iowa Sen. Charles Grassley, is an important avenue for continued wind power development in Iowa.

"The tax credit gives an incentive to developers and utilities to install wind projects, similar to those Iowa already has built," said Larry Bean, division administrator at the DNR. "It's a great boost for our economy and for cleaner energy resources."

The production tax credit provides a 1.5 cent/kWh tax credit for electricity produced from wind. Electricity from wind currently costs between 4 and 6 cents/kWh to produce, compared to around 3 cents/kWh from traditional power plants. The credit will be effective retroactively to June 30, 1999, the date when it expired.

Iowa's two large wind farms near Alta and Clear Lake began producing electricity last spring, just months prior to the June 30 expiration date. Currently Iowa is the third largest producer of electricity from wind, behind only California and Minnesota.

Iowa Ornithologists' Union



The **IOWA ORNITHOLOGISTS' UNION** is a non-profit group, organized in 1923 to promote the enjoyment and study of birds. Membership is open to anyone with an interest in birds.

The purpose of the Iowa Ornithologists' Union is to encourage interest in the identification, study and protection of birds in Iowa and to unite those who have these interests in common. Members vary in their level of interest in birds. The I. O. U. serves as a forum for exchange of information and ideas about field identification, birding locations, habitat, distribution and other topics. It provides an organized outlet for birding activities, bird study projects and provides a repository for records of Iowa birds.

Spring and Fall I. O. U. Meetings are held annually at good birding locations across the state. Meetings include an informal Friday get-together, Saturday and Sunday field trips, a Saturday afternoon program (presentations on Iowa birds), and a Saturday night banquet with a featured speaker. These meetings highlight many members' birding calendars.

Members receive two quarterly publications. Iowa Bird Life, which features profiles of Iowa's birders, bird-finding guides, and articles on identification, general interest, original research on Iowa birds, unusual sightings, seasonal reports of Iowa bird sightings, and Christmas Bird Counts, as well as reports of I. O. U. meetings. **The I. O. U. News** newsletter provides shorter notes and announcements of meetings, field trips and events of interest to birders.

The **Christmas Bird Count** brings out more than 600 birders in more than 40 15-mile-diameter areas to count as many birds as possible for one day during the Christmas period. These counts are fun and provide opportunities to meet other birders and improve birding skills.

Field Trips may be scheduled throughout the state and the year. In addition to exploring Iowa's nooks and crannies, recent trips have been taken to Minnesota and Mexico.

Memberships are on a calendar basis and include all publications for that year. Membership is \$20/year. For a membership application, e-mail oldcoot@iastate.edu.

To learn more about Iowa's Birds, call the Iowa Birdline (319-338-9881), visit our web site, Iowa Birds & Birding (<http://www.iowabirds.org/>) or join IA-BIRD, an email discussion list for birders in Iowa [information e-mail richard-hollis@uiowa.edu or hologrambirds@worldnet.att.net]. Three excellent books are *Birds in Iowa* by T. H. Kent & J. J. Dinsmore; *The Iowa Breeding Bird Atlas* by L. S. Jackson, C. A. Thompson and J. J. Dinsmore; and *Iowa Birdlife* by Gladys Black.

— Richard Hollis
Ann Johnson

Upcoming NRC and EPC Meetings

The dates and locations have been set for the following meetings of the Natural Resource Commission and Environmental Protection Commission of the Iowa Department of Natural Resources.

Agendas for these meetings are set approximately 10 days prior to the scheduled meeting date. For additional information, contact the Iowa Department of Natural Resources, Wallace State Office Building, Des Moines, Iowa 50319-0034.

Natural Resource Commission:

- January
No meeting
- February 10
Des Moines
- March 9
Des Moines
- April 6
Des Moines
- May 11
Anamosa
- June 8
Ottumwa
- July
No meeting

Environmental Protection Commission:

- January 18
Des Moines
- February 21
Des Moines
- March 20
Des Moines
- April 17
Des Moines
- May 15
Des Moines
- June 19
Des Moines
- July 17
Des Moines

"Bridge To My Past"

This time of the year, for the sportsman, it can seem like there is not much to do except wait. The cold winds blow rattling the windows, sending blowing snow across the landscape.

It's during those times that I find myself once again cleaning the shotgun that doesn't need cleaning. I rearrange the boxes of flies, hoping this will be the year I finally find the foolproof storage system resulting in me never again having to say, "Now where did I put that deer hair floater?" I sit on the edge of my chair after disassembling, cleaning and reassembling the fly reel for the umpteenth time, reattaching it to the seat, checking the leader for nicks, rearranging my tippets. I hold the flyrod as if ready to finally throw the perfect cast, the tightest loop, the perfect placement. I watch the smallmouth crash into the fly after being fooled by the craftiness of my approach. It's almost as if these tools can speak. They do. In a way they impart images of past experiences and hold promises of challenges and successes to come.

It was this kind of a day when the phone rang, shaking me out of my daydream of conquering the Iowa. "Hello?" I answered.

"My name is Jim Machholz." The man said. "I read your articles in the *Conservationist*." I was a state trooper in Wayne County. Your grandpa and I used to chase crooks together."

My heart skipped a beat. I had met Jim. He was a former assistant chief of what was then called the Iowa Highway Patrol. He was a longtime family friend.

"I have a rifle that belonged to your grandpa. I traded him a shotgun for it. I think you should have it."

A trembling "Yes sir, I'll come down to Des Moines" was all I could answer.

I hung up the phone almost in shock. I went to my dresser and dug out a small, old, well-worn leather case my grandmother had given me shortly after I went into law enforcement. I raised the leather flap revealing the worn, but shining badge. Emblazoned around the state seal of Iowa were the words, "C.C. Hogue, Sheriff, Wayne County. My maternal grandfather. A man I never knew. He died the year before I was born.

I looked at the badge, sat down and remembered the stories. I remembered how Machholz, one of the "first fifty" troopers, would stop in and visit with my family. I remembered going to the Lucas Building when I was little and sitting on the lap of this huge man wearing a highway patrol uniform; those huge hands holding me gently as if I was his own.

But I have no memory of the touch of my grandpa because I never had a chance to know it. I looked at a picture of him my grandmother gave me. He was in the forest in Canada on a fishing trip. A lean man with a warm smile, he looked dashing in a fedora standing with a group of men.

I looked at it and wondered how much of him is part of me. My mother was not surprised when I chose law enforcement as a career, telling me, "It's in your blood." I love to fly fish. Why? I am told my grandfather spent many hours tying his own flies. I have always wished I could have met him. Just for one minute. I feel my life is incomplete for never knowing him. Several times during my career I've asked myself the question, "What would he have done in this situation? Am I like him?"

The next week I gathered up the badge and the picture and went to Jim's house. He answered the door, and directed me to a chair at a table. He went to another room and returned with an old, time worn guncase. Wrapped inside was a Remington Model 8 semiautomatic .30 caliber rifle.

"This was your grandpa's. It was made specifically for law enforcement back in the 'gangster' days. I had a shotgun he thought would work better for him, so we traded. I want you to have it."

I took the rifle and checked the action. The blueing was unmarred, and the walnut stock gleamed. I held it in my lap. By simply touching it, I felt as if I was finally touching the hand of the man who was so important to me, but yet I had never known. I found myself gripping it so tightly my knuckles rattled. Jim brought out pictures from his career. I was fascinated listening to him tell about what it was like in an era without a radio, computers and the other advantages we have today. We sat and talked for most of the morning, his kind wife keeping us fueled with coffee.

I left my family friend, little knowing it would be the last time I would see him. He died last year. But before he left, he gave me the greatest gift I could receive. He helped me know my grandfather and myself a little better.

So during these times — like the flyrod, like the tackle, like other stored and polished accoutrements of sport — the gun sits in a place of honor I have made for it. To some it may seem a simple inanimate object, a wall hanging. Probably for some it is hard to understand. But in some way to me it is a connection, a small bridge to a person I never knew, but in a way who defined who I am.

And in some ways I guess I do know him. We both have worn a badge. Those who have ever been in law enforcement would understand. So might those of us who take these cold days, hold some remembrance, close our eyes, and let our minds carry us to some special place, experience or time where the sky glowed, the waters flowed clear and the breeze ran softly over our face.

We smile and we are there again. Or maybe, better yet, we finally find a place we have been searching for.

by Chuck Humeston

Parting Glance



Roger A. Hill

Until next year . . .

