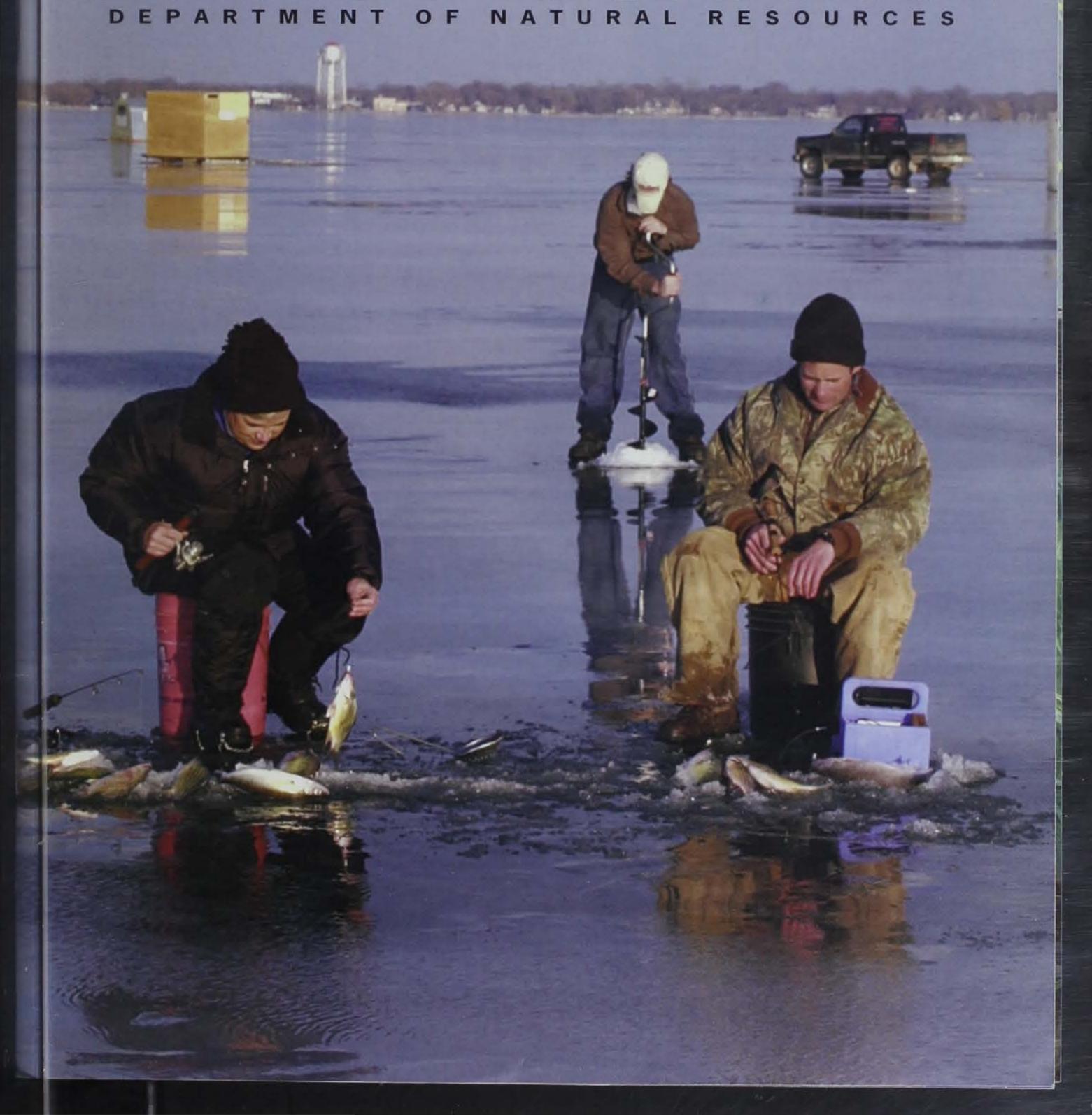
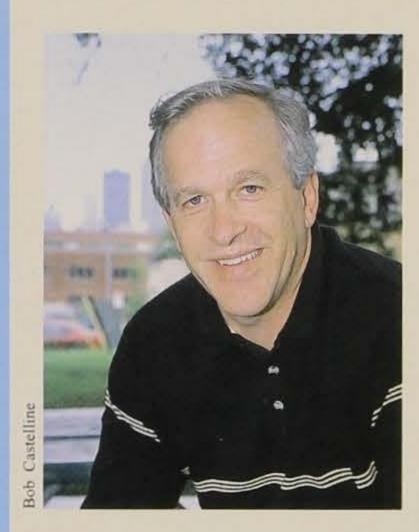
JANUARY/FEBRUARY 2005

CANSERVATIONIST



FROM THE DIRECTOR



A Road Map To Lake Improvement

Here's a fascinating passage in the *Iowa Conservation Plan* that I think is worth sharing:

"The natural lakes of Iowa constitute one of the state's most wonderful assets. They are of incomparable value for recreational purposes. They offer the finest fishing and the finest refuges for water birds. They serve as storage to equalize stream flow. They are enormously interesting from the biological standpoint and they comprise one of the loveliest features in the landscape."

The report continues:

"They (Iowa's lakes) have been greatly damaged. Uncontrolled erosion of banks and on drainage areas has deposited silt on the bottoms of most of the lakes and this has been aggravated by such heedless acts as taking natural rock protection The silt deposits are in no small measure responsible for the unbalanced biologic condition and growth of algae. The intensive occupation of adjoining lands has cut the public off from access to these finest public playgrounds."

What's interesting about this assessment of Iowa's lakes is that it was done more than 70 years ago in the *Iowa Conservation Plan* of 1933. We still face many of the same challenges today in protecting and improving the water quality in our lakes.

This issue of the *Iowa*Conservationist examines two critical studies currently being done by Iowa State University.

The first study is the completion of a five-year effort assessing the water quality in the lakes. The second study is a look at the economic value of our lakes.

Make no mistake, water quality and the economic value of our lakes are closely linked. The information from these two studies is going to be critical in prioritizing lake restoration projects not only from an environmental perspective, but from a return on investment standpoint.

While this additional research from Iowa State University will undoubtedly help us in our effort to improve the quality of water in our lakes, I believe the biggest challenge we face in improving water quality lies more on the social aspect. We need for our citizens to value water quality and recognize it as a fundamental requirement to the long-term

future of our state. In many cases, we can identify sources of water quality problems and there may be financial programs available to provide assistance, but it still takes willing participants to make the changes necessary to improve water quality.

Conservationist contains a number of success stories. The common thread linking these successes has been the interest and initiative local residents have taken to spearhead restoration efforts in their own communities.

One of the best examples we have to illustrate local leadership driving a successful lake restoration effort has been Storm Lake, which recently saw its hard work pay off in the form of an \$8 million Vision Iowa grant.

The leaders in Storm Lake have recognized the importance that improving water quality means for the economic well being of their region.

For those not familiar with the efforts in Storm Lake, you are missing a truly remarkable story of a community that has the vision to recognize its strengths and improve on them. Not only are locally led efforts being made to improve the water quality in the lake, but also of developing the additional amenities such as parks and green spaces that will allow their community to flourish.

Iowans must come to accept that water quality is not just an

Director's Message

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FRONT COVER: ICE FISHING ON CLEAR LAKE BY LOWELL WASHBURN BACK COVER: BEAR CREEK BRIDGE, STORY COUNTY BY ROGER A. HILL



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Data gathered from two water quality studies will be critical in prioritizing lake restoration projects, not only from an environmental perspective, but from a return on investment standpoint.

22 WHERE HAVE ALL THE BLUEBILLS GONE?

by Lowell Washburn

Massive migrations of scaup were the norm in the 1960s and 1970s. Now Iowa has become the focus of a study to determine why that's no longer true.

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For work crews at Green's Sugarbush, the impending change in seasons is a sure signal the sap is rising and it's time to hit the timbers for another sugar run.

35 IOWA WILDLIFE SPECIES OF GREATEST CONSERVATION NEED

by Bruce Ehresman

The list of threatened and endangered species has doubled in the last decade, yet stable funding for nongame wildlife has been all but missing. That may be changing.

/ ALCOA DAVENPORT WORKS

by Jill Cornell

Alcoa Davenport Works' commitment to environmental stewardship has earned it a Governor's Environmental Excellence Award.

COOKING CARIBBEAN-STYLE

by Joe Wilkinson

It's has to be the glaze that makes the Caribbean pheasant at Dubuque's Blackwater Grill so good.

/ O THEY'RE NOT IN IT FOR THE PAY

by Michael Dhar

A new feature highlights Iowa's volunteer brigade and the critical work they do.

2005 STAMP DESIGNS

Director's Message

cont. from page 2

agricultural problem or an urban problem or an industrial problem.

Too much valuable time that could have been devoted to finding solutions to water quality

problems has already been wasted playing the blame game. It is time for everyone in Iowa to understand we all have a stake in improving water quality and need

to be part of the solutions.

There is one other passage in the *Iowa Conservation Plan* of 1933 that I think is just as accurate today as it was 70 years ago:

"Economic security in Iowa is essential to good living in all of its aspects. With that achieved, the people of Iowa, living without congestion on this rich and beautiful countryside, can easily create for themselves as fine and, in most ways, as satisfying an environment as can be found anywhere in the world."

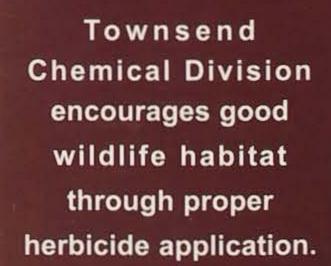
In the technological, less agricultural-based economic world that we live in, those thoughts are even more accurate today. We have the opportunity to reap the economic benefits of an improved environment and it all starts with water quality.

Jeffrey R. Vonk



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Not only do Iowa lakes have an environmental impact, they have an economic impact as well. Improving water quality is not a cost, but an investment.

Measuring the Value of Lakes

Iowans go out of their way for water quality.

They will travel farther to visit a lake with exceptional water quality and are willing to invest in lake improvements to provide more opportunities for better water quality.

That's according to an Iowa State University study that has joined economists and ecologists to investigate what Iowans value most about their lakes.

by Jessie Rolph

Winter at Clear Lake

Led by Iowa State University
(ISU) economists Joseph Herriges and
Catherine Kling, the Iowa Lakes
Valuation Project works to understand
the connection between physical water
quality data and the value that Iowans
place on water quality. The study is a
partnership between the ISU
Department of Economics and Center
for Agricultural and Rural
Development, the DNR and the U.S.
Environmental Protection Agency.

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Using a number of water quality measurements and a survey to chart Iowans' feelings on water quality, findings from the study can be used to

6

elp set water quality standards and rioritize lake restoration projects.

To gather information on how
owans value water quality and use
owa lakes, the researchers created
ne Iowa Lakes Survey, which is being
dministered yearly for four years.
he survey gauges how Iowans value
rater quality, measuring the degree to
hich Iowans will make trade-offs to
nake water quality improvements
ossible. The survey collects
formation on trips planned and taken
lowa lakes, knowledge and
erceptions on water quality, as well
s Iowans' willingness to pay for

water quality improvements.

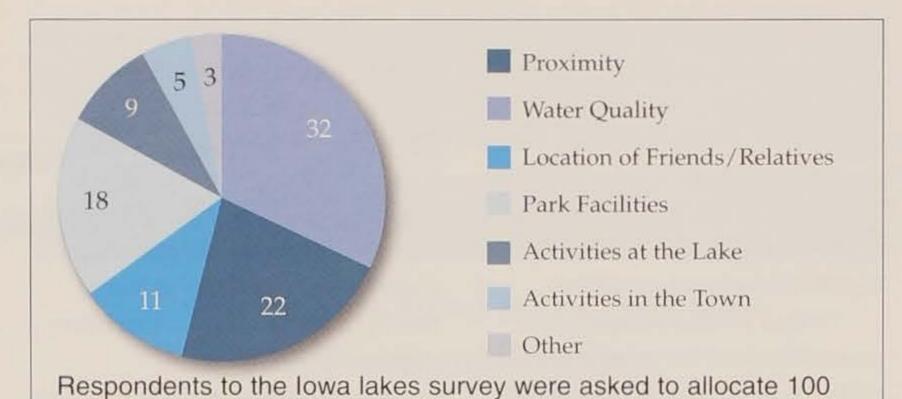
In combination with the survey, the study will also utilize physical water quality data from 129 principal recreation lakes in the state. The water quality data is part of another research effort by John Downing at the ISU Limnology Laboratory.

Of the 129 lakes being studied, about 40 percent are located in state parks. Roughly half of the 129 lakes are included on the state's impaired waters list, which includes water bodies that do not meet state water quality standards because of some type of pollution.

"We're trying to get at how people value water quality," said Herriges, an ISU economics professor and researcher on the Iowa Lakes Valuation Study. "We're looking at how they spend their time and money to get to a lake. For example, people visiting the Okobojis rather than a nearby lake indicates how much they value water quality."

A random sample of 8,000 Iowans were included in the initial mail survey, with a 62.1 percent response rate among deliverable surveys. A random sample of 531 households that did not respond to the original survey were





importance points to factors they consider in choosing a lake for

recreation. The average point allocation is shown above.

contacted for a follow-up phone survey. Researchers had a 66 percent overall response rate from the phone

survey.

Water quality tops the list

When it comes to choosing a lake to visit, Iowans base their decision on water quality, according to the survey. While water quality carries the most weight, potential visitors also consider the proximity of the lake to their home and activities at the lake. By looking at Iowans' behaviors — how far they travel, how much they spend — researchers are able to determine what they value in a lake.

"How people choose to travel to lakes of different qualities gives an idea of how much they value water quality," Herriges said.

Survey respondents also listed safety from bacteria contamination as the most important characteristic in a lake, followed by water clarity and lack of water odor.

While only 8 percent of those



Searching for Answers by Kevin Baskins

Even after years of work and thousands of scientific measurements, Iowa State University researcher John Downing has a very quick, concise response when asked what he has learned about Iowa lakes.

"Iowa's lakes are special even on a world scale. Iowa's lakes are very fertile systems that are less predictable over time and have higher risks of problems. A lot of problems become magnified because of the high fertility and the diversity of our watersheds," said Downing.

Downing is nearing completion of a five-year assessment of Iowa's 132 significant, publicly owned lakes. His research, dove-tailed with economic research being done in another Iowa State University study, will provide value data on how to protect and



John Downing

improve water quality in Iowa's lakes and also measure the economic benefits.

The current research being done can also be compared to studies of Iowa's lakes done by Iowa State in

1980 and 1994 to determine more longrange changes that may be occurring in water quality.

Like the landscape around it,
lowa's lakes are extremely fertile,
providing both benefits and challenges.
The same fertility that can grow and
sustain plentiful fish populations can
also produce less desirable conditions
such as excess algae growth which
sharply reduces water clarity.

Because of the high fertility, many
Iowa lakes have higher risks of
problems, according to Downing,
adding that his research has shown
that the climate can have a much
bigger effect on lakes here than in
other parts of the country.

"Even small variations in our weather can have a big impact.
Rainfall timing can make a huge difference on water quality in a given year because there are certain times when more nutrients can be washed in. The standard rainfall amount in

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said Dow

irveyed say they swim equently in Iowa lakes, vimmers should not ecessarily be scared away ecause of bacteria levels. At ate park beaches, where acteria levels are measured eekly by the DNR from May October, beaches exceeded e one-time standard for acteria only 7 percent of the me from 2000 through 2004. he beaches exceeded the cometric mean standard (a pe of average from five eeks of samples) only 6.1 ercent of the time over the me time period. There have

Swimmers enjoy the beach at Viking Lake State Park. Iowa's state park beaches exceeded one-time standards for bacteria only 7 percent of the time from 2000 to 2004.



owa for a year is 33 to 35 inches, but hat rain can fall in a variety of different ways. If we get half or more of that rain in the span of a week or wo, the water quality in a lake can see huge swings depending on when hat rain occurred," said Downing.

Downing said one of the biggest surprises of his research was the effect "plumbing" in the watershed—he land that drains to a lake—has on vater quality.

"We expect to see relationships between land use and water quality and, in general, water quality is better n lakes that have watersheds with ess agriculture. But what we found is hat how a watershed is put together an often have a bigger impact than he land use," said Downing.

Research indicates that 60 to 80 percent of the nutrient transportation o a lake is determined by only 5 to 10 percent of the land in the watershed, aid Downing.

"What we've found is that where you are doing something in a watershed may be more important than what you are doing. We're not talking about stopping farming in a watershed, but looking at how the land in the most vulnerable parts of the watershed get farmed," said Downing.

Downing said the scientific research he is doing combined with the economic research will provide a roadmap for state-wide lake management decisions.

But many of Iowa's lakes could experience water quality improvements through watershed management and in-lake restoration, said Downing.

"This research should give us an idea on which systems we can have the biggest impact in terms of improving water quality and be able to prioritize restoration efforts,"

Downing said.

Downing said he is not surprised by initial findings of the economic study that indicate lowans place a high degree of importance on water quality when choosing which lake to recreate at.

"The public votes with its feet and with its dollars. People are going to go to the lakes where they perceive the highest water quality and they are going to spend more money to do it. It's a natural selection process that is born within us. People gravitate to the areas that have good water quality," Downing said.

Information on the lake water quality research can be found on the internet at: http://
limnology.eeob.iastate.edu/
sample_ID/

not been any reported outbreaks of a waterborne illness associated with Iowa state park beaches.

About 60 percent of those surveyed took at least one trip to an Iowa lake. In comparison, less than 30 percent took a trip to the Mississippi or Missouri rivers, or to an out-of-state lake. Typical lake activities for Iowans surveyed include picnicking, fishing, boating, swimming and beach use.

Iowans also indicated through the survey that if water clarity were improved in a lake, they would take more recreational trips to that lake, while high levels of nutrients and the growth of algae would keep them from visiting.

Improving water quality at a site would draw more people and improve economic activity, as Iowans would travel further and spend more to visit a lake with better water quality.

What is clean water worth?

To help determine what economic value Iowans place on lakes, the researchers measured Iowans'

willingness to pay for lake improvements in different scenarios.

One option would improve nine "focus lakes" spaced across the state to the same quality as West Okoboji Lake, the cleanest lake in Iowa. This option would provide an exceptional lake within a reasonable distance for most anyone in Iowa.

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Estimated willingness to pay to improve the nine lakes to the level of West Okoboji is \$11.86 on average per Iowa household and result in 8.3 predicted trips per year for each



Public Opinion and Politics

by Kevin Baskins

Clean water may be a "motherhood and apple pie" issue for most citizens, but thrown into the political arena, even motherhood and apple pie can take their lumps.

Various polls have shown that vast majorities of Iowans consider water quality and other natural resources issues relating to outdoor recreational opportunities to be of significant importance and that they support additional money being spent on protection.

Political and financial support for environmental issues, however, has not necessarily followed that public opinion.

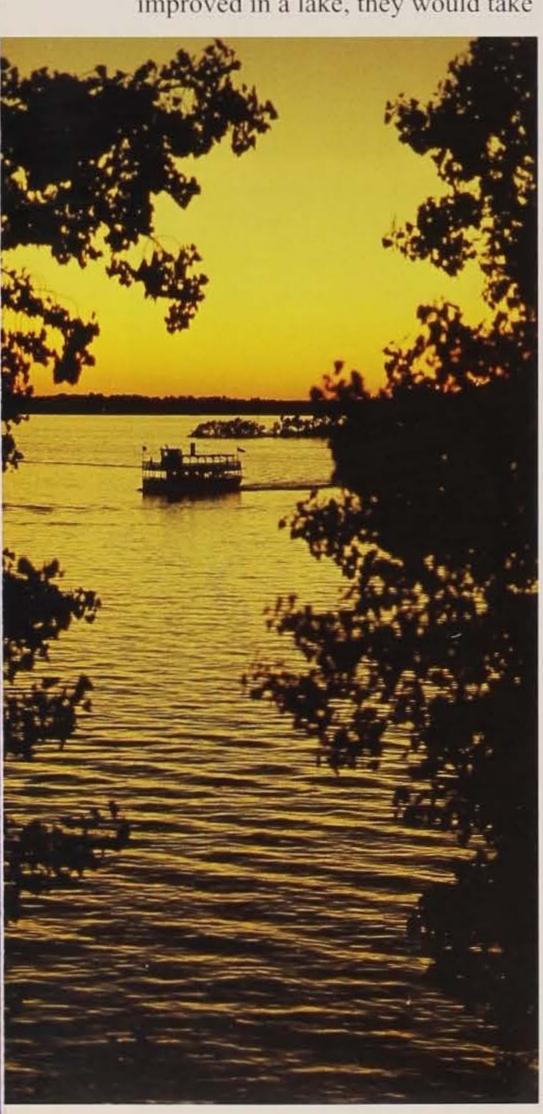
"Organization and intensity often carries the day in politics," according to Dennis Goldford, a professor of political science at Drake University.

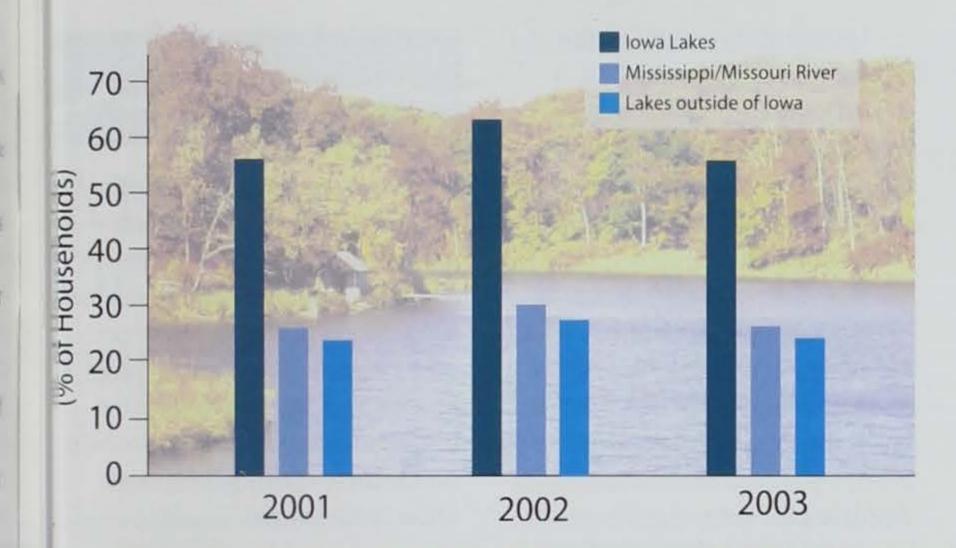
"Often times, an issue that may have a broad base of support by a majority of the people can lose out politically to a minority position that has a strong organization and intensity behind it," said Goldford.

As an example, Goldford points out that even though national polls show about three out of every four Americans support at least some gun control, the overall support for that position by the public is not nearly as intense or as organized as that of the opponents to such measures.

The number of Iowans supporting improvements to water quality and natural resources is not as important as where it ranks on the list of the public's priorities, said David Yepsen, political columnist for the Des Moines Register and a long-time observer of the Iowa Statehouse.

"With only so much money to go around, legislators need to look at what are the most important issues to their constituents and then rank them. Issues like jobs and the economy, education





The bar graph at left reflects the percentage of respondents who took at least one trip to an Iowa lake, the Mississippi and/or Missouri rivers and lakes outside of Iowa.

nd crime are going to rank ahead of nvironmental issues," Yepsen said.

When asked if they favor cleaner rand water, nearly everyone is bing to say yes, said Yepsen, teaning that the devils that are in the etails become the major challenges hen environmental issues are onsidered.

Goldford agrees, saying,
Everybody may be for conserving
atural resources, but the support
om different people will vary when
e decisions have to be made on
hat must be given up in order to
ovide more money to do it."

Goldford and Yepsen also agree at issues such as "protecting the ivironment" and "conserving natural sources" are much too broad to irner political support from wmakers.

"Issues like that are kind of grand ostractions when it comes to politics. Onserving natural resources, for ample, might mean vastly different ings depending on whether you're ving in Napa Valley just outside of est Des Moines or on a farm, just

outside of Mason City," said Goldford.

Yepsen said the keys to securing more funding for natural resources issues lie in building coalitions and injecting specificity into the political discourse.

"Natural resources are not necessarily a partisan issue. While Democrats are often identified more with environmental issues, the Republican party is the party of Teddy Roosevelt. A lot of Republicans who have interests in things like hunting have been frustrated as well that more hasn't been done in conservation.

"What's been lacking has been that coalition that could bring tree huggers and hunters together in a unified voice and with a common agenda too big and well supported to be ignored by the politicians," said Yepsen.

Such a coalition would need to bring an agenda to the table that has specific goals that will be obtained, said Yepsen, pointing to a successful program that Iowa State University put together several years ago in order to increase funding for agricultural research.

"What ISU was able to do was put together a proposal calling for \$5 million a year over five years to accomplish some very specific research needs. It was a program that sold to legislators because they understood that it was not going to be a budget killer and that specific performance measurement goals that they could understand would be met," said Yepsen.

Building that consensus agenda among those people interested in the environment has been what's missing in terms of getting the support needed, said Yepsen.

"The groups interested in these issues need to come together and build an agenda of 10 things that can be fixed over the next five years if money would get allocated. A coalition like this that has broad based support and a clear, performance-based agenda for fixing some of the problems has a much better chance of getting the legislative support they need," said Yepsen.

household. Currently, the number of predicted trips to Iowa lakes, in their current condition, is 8.0. The total value of this project would be an estimated \$13,675,685.

A second option would be to improve 65 lakes that are currently listed on the state's impaired water list to the median quality of the nonimpaired lakes in the state. Instead of a few lakes with exceptional quality, this option would bring all of Iowa's lakes to an adequate level of water quality.

The project would be worth an estimated \$10.23 per household, with atotal value of \$11,799,261, and result in 8.2 predicted trips per year.

Given the above options, survey respondents indicated that they would be more willing to pay for the first scenario, valuing a few lakes with superior water quality more than having all Iowa lakes at a nonimpaired level.

For example, if a person currently spends \$100 extra to travel to a high quality lake, that person should be willing to pay the same amount to improve a nearby lake to the same level of water quality.

Improving water quality didn't increase the number of expected trips much in the two scenarios, but it would affect where people take those trips, Herriges said.

"People would take about the same number of trips. If they go from Des Moines to Okoboji to get cleaner water, and a Des Moines lake is improved, people would go there instead," he said. "It makes it easier for everyone to travel to a high water quality lake."

Iowans also recognized that having a nearby lake can be important to their community, as 46 percent surveyed felt that a nearby lake is very important or somewhat important to the economic vitality of their community.

While the expected change is moderate, people also feel that community development and vitality would improve if their lake's water quality was also significantly improved.

Applying the data

As the Iowa Lakes Valuation Project continues, the findings can have both economic and environmental implications.

Using information on Iowans' willingness to pay for certain lake improvements, paired with physical water quality data, lake restoration projects can be efficiently prioritized. The same data can be used to set

water quality standards, which are used to designate specific uses for Iowa's water bodies and to protect water quality.

"Our hope is that by looking at patterns of lake use and physical changes, we can provide regulators and policy makers with information on what matters to people," Herriges said. "We hope that our study will provide an indication of where the biggest impacts would be and to help prioritize changes in what's most important to Iowans."

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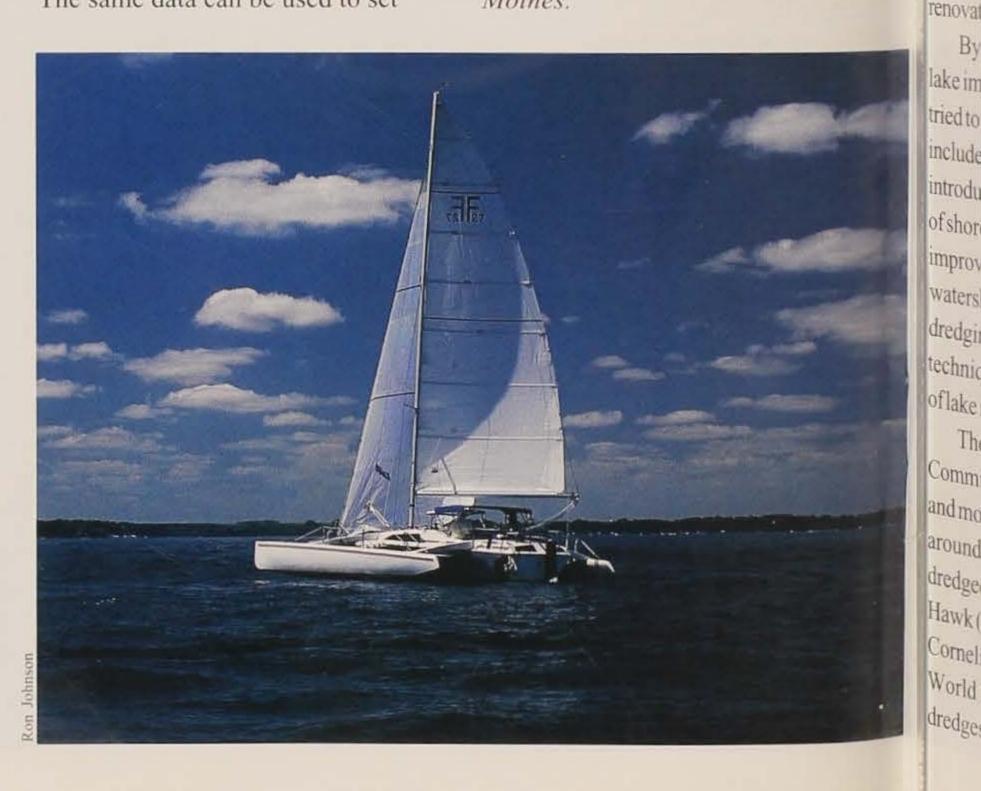
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Learn more about the project

For more information on the Iowa Lakes Valuation Project, including maps and specific lake details, visit www.card.iastate.edu/lakes/

Jessie Rolph is an information specialist for the department in Des Moines.





A History Of Lake Improvements by Mick Klemesrud

Motivated by the prospect of improved fishing, citizens from Emmetsburg financed a dredging project at Medium Lake in 1921. They believed that by increasing the lake depth, they would reduce the chance for a winter fish kill and provide better fishing. That first dredging project in Iowa was cited by the State Board of Conservation in 1931 when discussing lake renovation.

By the mid-1930s, a number of lake improvement efforts were being tried to improve fishing. These included rough fish removal, introduction of aquatic plants, control of shoreline erosion with rock and improved soil conservation in the lake watershed. But without question, dredging was the most popular technique used during the early years of lake restoration.

The State Conservation
Commission purchased two dredges
and moved the floating steel barns
around several natural lakes. Lakes
dredged included Manawa, Black
Hawk (1938), North Twin, Storm and
Cornelia (1941), but were idled during
World War II. After the war, the
dredges resumed pumping silt from

lake bottoms for nearly 20 years.

Folks watched as recently dredged lakes produced quality fishing for a few years, only to see the problem of silt and poor fishing return. The commission decided in the early 1960s that lake dredging wasn't cost effective and, for that reason, got out of the lake dredging business.

The early approach to improving lakes failed for several reasons, said Don Bonneau, fisheries research supervisor with the Iowa Department of Natural Resources. "The major problem was the lack of recognition that each lake and watershed is unique and present unique problems to restoration efforts. Some problems can be fixed and the fix can be cost effective, the public benefits far outweigh the cost of improvements. Other lake and watershed

improvements would be ill advised and the costs would far exceed the benefits," Bonneau said.

The second reason the early restoration efforts failed was that these efforts did not address the delivery of excess sediment and nutrients from the watershed. As a result, the commission had difficulty showing long-term benefits of their lake improvement efforts. In short, simply dredging lakes did not produce a noticeable improvement in lake use.

In the late 1970s, the U.S.
Environmental Protection Agency
began a program to help states fix
their publicly owned lakes. To
participate in the new program, states
were required to study all the lakes
and their watersheds, identify the
cause of poor water quality, identify
solutions to the problems and select

the most cost-effective solution to improve and maintain good water quality. This was the first comprehensive effort to understand the connection between lake water quality, the lake watershed and lake use. In 1979, Iowa completed its first statewide lakes study and found nonpoint source pollution (sediment and nutrients) delivered to the lake from its watershed was the number one problem.

"We started to recognize that a lake is part of the overall watershed and what happens in the



In the 1930s, the Conservation Commission purchased two dredges and hauled them around to several lakes in an effort to improve fishing.

watershed affects the lake," Bonneau said. Iowa lakes were ranked according to the degree of the water quality impairment, likelihood restoration would improve water quality, and if the benefits would outweigh the costs.

Bonneau said the cures began to focus on improving soil conservation practices in the watershed above the lake. These efforts, combined with construction of sediment basins and wetlands, improvement of in-lake habitat, reduction in shoreline erosion and lake deepening were very successful. "Dredging is often part of the overall lake improvement strategy, but not the main focus."

"We have worked more than two decades to improve lake water quality and in the process have learned not every lake is fixable, you have to pick and choose. There are more bad projects than good ones and we must look at each lake and its watershed to determine if an attempt at restoration would be a wise investment of taxpayer money. If prudently selected, we have found the return on investment can be as high as four-to-one," Bonneau said.

Lake Ahquabi Success Story

Lake Ahquabi is a prime example of how lake renovations should work.

The 125-acre lake was built in 1935 and by the 1980s the water quality had deteriorated to the point that the lake was in danger of filling in and eventually disappearing. A restoration project began in the early 1990s. The DNR designed sediment ponds and wetlands for specific areas in the watershed to catch silt and

reduce nutrients from entering the lake. A dredge removed 420,000 cubic yards of silt from the main lake basin and extensive in-lake habitat was installed.

But the project hinged on the willingness of the landowners to reduce soil and nutrient loss from the watershed. The landowners had to buy in to the improved land practices to reduce the impact on the lake. They did and the project was a resounding success.

Before the renovation project, lake water quality was poor, park use was down to 60,000 visitor days per year and fishing activity was nearly nonexistent. After the renovation, lake water quality was good; park use had increased to nearly 266,000 visitors per year and the lake now hosts more than 17,000 fishing trips each year. The cost of this project was \$4 million. It took only two years for the increase in lake and park use

Meeting the Challenge

by Mick Klemesrud

Three lakes are currently in an advanced state of restoration and five other lakes in the early stages. These projects take years of planning, on-site studies, meetings with local interest groups before anything happens on the landscape. The lakes are selected based on a number of factors such as probability of success, need, community support and commitment and funding partners. Partners include Soil and Water Conservation districts, lake associations, friends groups, home owners associations, the local business community, the NRCS and the Army Crops of Engineers.

"Before we start a project, we ask 'Is this money well spent?"

'Will water quality be improved?' and 'Will the final results fit with our overall goals?'" said Mike McGhee, lakes and streams coordinator for the DNR.

Lake renovations today take an overall approach with the intent to return and maintain good water quality for many years in the future. Addressing problems in the watershed is the most economical and logical approach before starting in-lake improvements.

"We get a great return on our investment dollars for these projects," McGhee said. "If money was available, we would also like to work on our shallow natural lakes across northern Iowa by reducing and or eliminating the rough fish, mainly carp. We would also use water fluctuation techniques to encourage aquatic plant growth. These actions would help reduce the problems with turbidity and blue-green algae. The improved water quality would benefit more desirable fish species and also waterfowl."

Current Projects

Lake of Three Fires near Bedford focused improvement on the entire lake, watershed and fish population. It was

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to justify the expenditure. "The best lesson in all this is that this high lake and park use continues indefinitely if we keep the soils and nutrients out of the lake and in the watershed where it belongs," Bonneau said.

Mick Klemesrud is an information specialist for the department in Des Moines.



The \$4 million in improvements to Lake Ahquabi and its watershed were justified within two years when park use increased more than four times its previous numbers.

he culmination of several years of study and planning by Iowa State Jniversity and the Iowa Department of Natural Resources. Dredging was inished last summer. Watershed improvements are nearly completed. The DNR is also planning to install a major wetland (20 to 50 acres) above he lake to further improve lake water quality.

Lake Icaria near Corning focused mainly on renovating the fish population because yellow bass and carp had dominated the fishery. The project also nad limited habitat, shoreline and vatershed improvements. The lake was lowered and the fish eliminated. Work then shifted to installing new fish nabitat and watershed improvements. The shoreline was deepened and protected with riprap. A 62-acre vetland above the lake is in the plans. Infortunately, money was not available to dredge the lake, but it could be dredged at a later date.

Crystal Lake in Hancock County
nas completed a diagnostic feasibility
tudy of the lake and watershed. This
lefines the problem, provides solutions
and estimates success depending on

several funding scenarios. The DNR has money budgeted to construct a dredge spoil site that will hopefully begin in the late spring. There is no money available for the actual dredging yet, but that could come as a legislative funding initiative.

Projects Just Getting Started

Projects at Clear Lake, Rock Creek, Lake Darling, Prairie Rose and Silver Lake (Delaware County) are in the early stages of restoration. Clear Lake, Rock Creek and Lake Darling are working in their watersheds. The projects at Clear Lake and Rock Creek are quite large and could cost \$10 to \$20 million each to complete. The DNR, in partnership with the CLEAR project, which is the association for the preservation of Clear Lake, and the Army Corps of Engineers are working on a massive restoration project to improve water quality at Clear Lake and the major marsh in Ventura that drains into the lake.

The project at Prairie Rose is

evaluating the status of the watershed and identifying problems and cures. The Silver Lake project has finished the diagnostic feasibility study, but has not started the watershed or lake improvements. The in-lake renovation will not take place until after the watershed work is finished.

"We have a series of projects already identified that would take \$50 million to correct," McGhee said. "But it is tough to move forward on projects when only \$1 million is available each year.

There are a number of projects that are either on hold or that can't be completed until we have additional dollars."

Ongoing Projects

State grants through the DNR initially funded lake renovations at Storm Lake and Five Island Lake. Both of these communities have continued lake dredging operations using local funding and initiatives with monetary assistance from the DNR and the federal government.



Case Studies For Quality Lakes

by Lowell Washburn

STORM LAKE—By the time this magazine hits the street, it is likely that almost everyone who listens to the radio, reads a newspaper or watches TV news will have heard of Project AWAYSIS.

Headquartered at Buena Vista County's Storm Lake, Project AWAYSIS is a \$29 million, multifaceted community project designed to bring positive enhancements to economic development as a result of improved water quality in Storm Lake. Project highlights include the construction of an 80-room lodge and conference facility — complete with an indoor/outdoor aquatic center; upgraded campground including new camping spots for RVs; county-wide bike trails; redesign of the golf course; additional family rental cabins at the lake's east end; development of a

by Alan Foster

THREE MILE LAKE—Most of the time, Three Mile Creek was a placid, mild-mannered stream that could be crossed without even getting a boot string wet. But every year the waters of Three Mile Creek would encroach on its earthen boundaries, spilling into adjacent croplands. Like in 1947, when heavy rains turned this small creek into a quarter-mile-wide river. In the blink of an eye, acres of young crops, fences, bridges, roadways and sometimes even

livestock would disappear in the rapidly rising waters. Sometimes, farmers could rebuild, replant and reap something off the land. Other times, Three Mile Creek would lay in wait, attacking whenever the conditions were right.

Union County farmer Bob Harpin knows the story all too well.

"If we were lucky, Three Mile Creek would wash us out only once a year," Harpin says. "Usually it was more often than that, sometimes five or six times a year." It's a much different story today, though. The creek, which for years had stressed the Union County coffers and drained the pockets of local landowners, is now giving something back — in a big way.

Three Mile Creek now drains into
Three Mile Lake, a sprawling 880-acre
impoundment actually conceived by
flood but born of drought. In the late
1980s, when drought strained the water
resources of Union County, Three Mile
Lake was seen as a back up water
supply to nearby Twelve Mile Lake.

by Lowell Washburn

CRYSTAL LAKE—Bruce Kluver remembers 1993 all too well.

"There was just a little area in the very middle of the lake where you could run a boat," says Kluver of the water-choking vegetation that had invaded Crystal Lake that year.

To Kluver, Crystal Lake was more than just a wet spot in the middle of farm country. It was where he had wet a hook and skied behind his father's boat as a youngster. It is an important component to his life and that of his community.

"People were saying the lake was going to die and that we should just let it die," Kluver remembers.

But a death sentence on Crystal Lake was a prognosis that Kluver, and ultimately others, were unwilling to accept. An effort to save the lake was soon launched.

Local residents knew their lake was in trouble. Shoreline erosion, siltation, nutrient loading and dense populations of rough fish were all taking a toll even after the Eurasian millfoil that had caused problems in the early 1990s.

But it wasn't until Iowa State
University released the findings of a
diagnostic feasibility study that the
magnitude of Crystal Lake's
degradation was truly defined. The
study revealed that a deadly
combination of sediment delivery and
nutrient loading had reduced the total
volume of this shallow 250-acre lake
by an incredible 52 percent.
Sediment deposits measured an
astounding 6 to 7 feet while actual

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upgrade includin develop education

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"The Lake is the focal poi Wahl, " family playground area; beach facilities; creation of a 1.5-acre Great Lawn where the public will be able to enjoy the arts, music and more. For details about the project see the website www.awaysis.com. Additional related projects include apgrades on a DNR-owned marina including fishing cabins and development of an environmental education center.

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Project AWAYSIS had its

beginnings in a one-year, DNR dredge project which removed 1.3 million cubic yards of silt from Storm Lake's west end and resulted in measurable improvements to water quality. That initial effort created an amazing domino effect that has become a spectacular portrayal of what can be accomplished through grassroots public involvement.

"The DNR's dredging activity occurred during the summer of 2002,

and it really started the ball rolling," says DNR Environmental Specialist Julie Sievers. "The public really liked what they saw and naturally wanted more. The level of commitment has really been amazing. So far, the Storm Lake Lake Preservation Association (LPA) has secured \$840,000 of private funding to keep the project moving forward. That's a really incredible effort and shows the public commitment to the dredging

hanks to federal funding, it was ompleted in 1995.

At the time, the recreational and conomic benefits of such a lake were of even considered. But Three Mile ake was destined for greatness. xtensive work in the watershed efore the lake was even built has nade Three Mile Lake the poster child or lake water quality. Water clarity, or example, is among the highest in the rate. A secchi disk measurement—ropping a black and white disk down to the water column to record

visibility—in June 2004 read 11.3
feet. Compare that to Jasper County's Rock Creek Lake, currently undergoing extensive watershed work on the heels of continuing water quality issues, which read 20 inches the same time last year.

The fact Three Mile Lake was essentially built backwards has resulted in it being one of the most popular artificial lakes in Iowa, offering some of the finest fishing in the state, as well as recreational boating, water skiing and waterfowl

hunting. It routinely draws anglers from all over the Midwest, created a tourism windfall and spawned several new businesses in this quiet rural county of roughly 12,300 people.

"In the last three or four years,
Three Mile has really gotten its name
out there," says Ellen Gearharz,
executive director of the Creston
Chamber of Commerce and Creston/
Union County Tourism. Aggressive
marketing at the state, county and local
level has been critical, she adds.

It's worked. From 2001 to 2003,

vater depths had been reduced to a nere 5 feet.

Because Crystal Lake is small, hallow and muddy, it would be easy or some people to think of it as nsignificant when compared to the tate's larger natural lakes. That ssumption would be a mistake, ccording to Jim Wahl, DNR district isheries biologist.

"There is no question that Crystal ake is the life's blood; the literal ocal point of this community," says Vahl. "When ISU released its diagnostic study, it confirmed what a lot of folks already knew, or at least suspected. The lake was in trouble, and that if it continued to deteriorate at current levels it would dramatically hurt the entire community."

As is the case with nearly all small, rural communities, Crystal Lake did not have a lot of money. But they did have some, and local residents lost no time in putting their limited resources to work.

"One of the first things to happen was that a really motivated guy named Bruce Kluver organized a group called Save Iowa's Crystal Lake," says Wahl.

"Their first project was to secure a large quantity of native field stone from local farmers. They stockpiled the rock and then began to systematically stabilize prioritized segments of erodible shoreline—starting with the worst areas first. Once one segment was finished, they just managed to keep on going and ended up putting rock around most of the lake."

STORM LAKE continued project. When it comes to seeking funds, the LPA has left no stone unturned, including securing more than \$500,000 of federal appropriations and more than \$1 million of state appropriations," says Sievers.

In addition, Buena Vista County has purchased a \$600,000 dredge to continue the removal of silt. The city of Storm Lake matched the \$600,000 with the purchase of 160 acres of

ground to be used as a future dredge spoil site. The city is also managing the operation of the dredge. The local dredging project began in 2003 and it is estimated that it will continue for the next 10 years.

Last December, Project AWAYSIS was awarded a grant of \$8 million through the Vision Iowa Program. The project has also been awarded \$150,000 in federal funding, and will bring a \$3.5 million GO bond to vote in February. "When Project AWAYSIS first got started, there were as many as 23 individual committees meeting on a regular basis. Those volunteers are now beginning to see some significant results from their efforts," says Sievers.

"From the moment our plan was unveiled, we have enjoyed an overwhelming level of community-wide support," says Mike Wilson, Project Manager for Project AWAYSIS.

THREE MILE LAKE continued

when the state was averaging an 8 1/2 percent increase in tourism dollars spent, Union County was enjoying a 14 percent jump. That equated to an increase in tourism revenue for Union County from \$9 million in 2001 to \$10.2 million in 2004. That rise in tourism activity also prompted adoption of a 7 percent hotel/motel tax, which has further padded the counties revenue base. Half of that new money is used for marketing the area, the other half for upgrading

existing local parks.

Three Mile has also been good for business activity. Installation Plus, a retail boat sales and camper sales and repair company, opened its doors in May 1998 in Creston, about 10 miles south of Three Mile.

"When I started doing boat shows four or five years ago, people didn't even know about Three Mile or where Creston was," says Joe Wolf, owner and president of the company.

That's changed.

"My business is here basically

because of it (Three Mile)."

Wolf started out selling boat and recreational vehicle accessories and repairing trucks, but due to Three Mile's popularity, it wasn't long before he ventured into boat repair. When business boomed and he had trouble finding the parts he needed, he purchased a boat line. Today, roughly three-fourths of his total sales volume comes from boat and marine sales, mostly boat motors and trailers. He has seen steady, almost rapid, growth in his business, posting a 30 percent increase

CRYSTAL LAKE continued

As is always the case with private sector fundraising endeavors, "spreading the word" became a key component to success. When it came to taking its message to the citizenry, the Save Iowa's Crystal Lake coalition pushed the envelope on inventiveness. One now-famous informational meeting, for example, took place in Crystal Lake's public school gymnasium — immediately following the school play.

"That meeting was really

something," recalls Wahl. "The floor and bleachers were filled, and it was as close to a captive audience as I've ever seen. As soon as the play was over, they brought us (DNR central office staff and local fisheries biologists) out to present our plan and take comments. It worked. When the meeting was finished I think everyone in the entire school district understood the problems and what needed to be done."

By now, ISU scientists had determined that the removal of 1.1

million cubic yards of excess sediments through dredging would be the most feasible way to improve water quality and enhance recreational opportunities at Crystal Lake. Other recommendations included the implementation of improved conservation practices on watershed croplands, securing permanent vegetation on 317 acres of highly erodable uplands and the construction of a sediment retention pond.

In 2003, the Iowa DNR finished construction of a 10-acre retention

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or dred ake rest "I think everyone has done an xcellent job of capitalizing on that nthusiasm. We have close to 180 olunteers on board and are still ecruiting for new projects. It's been ne most amazing thing. For our latest roject [the city bond issue] we ontacted 30 people to help us look at nat and boom, 25 of them said yes. That's just typical of how this effort as worked."

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According to the findings of a

recent economic impact study, those dollars could provide big dividends to the Storm Lake area as improved water quality provides direct benefits to economic development. Included among those benefits are \$28.4 million in new retail sales, \$10.7 million in new payroll, 27 new businesses, 690 new jobs (490 full-time equivalency), \$245,000 in hotel/motel tax revenues, \$144,000 in local option sales tax, \$144,000 in school

infrastructure local option tax and \$856,000 in new state tax.

"This is a huge project for a town this size — we are optimistic we can complete it!" says Wilson.

"DNR Director Jeff Vonk hit the nail on the head when he told us that if we improved water quality, economic development would follow. He was right."

sales from 2003 to 2004. Two years go, Installation Plus outgrew its 3,900quare-foot building and moved into a pacious 16,000-square-foot showroom and shop.

Other businesses have also thrived.
he walls are currently going up on a
uper Wal-Mart in Creston, replacing
e regular one. Casey's General
tores, which already has four stores in
reston, has plans to build on the
utskirts of Three Mile in Afton. The
uper 8 Motel in Creston recently added
) rooms—doubling its size—and it still

can be tough to find a room at times.

The county-run park also hasn't missed out on the growth. A year ago, the Union County Conservation Board doubled the size of the campground to meet demand, says director John Tapken. The eight, all-weather cabins are often rented, boasting a year-around occupancy rating of 54 percent. In fact, demand is so great a former concession building has been converted to a ninth "cabin." The 14-by-18-foot log cabins sleep six, and are furnished with heat, air conditioning,

electricity and basic furnishings. Showers, sinks and flush toilets are available in a nearby heated yeararound comfort station.

With all the growth and development, Union County is fast becoming a one-stop shop for someone's vacation needs.

"It's becoming a total package,"
Gearharz says. "You don't have to
come, drive, fish and leave. You can
come, stay and enjoy the ambiance of
the entire area. Make a mini vacation
of it."

ond, located on public land at the ortheast corner of the lake. Cost of ne pond was \$165,000 and the ompleted project is expected to educe incoming sediments by nearly 0 percent and reduce phosphorus by 6 percent.

"I think the retention pond has elped keep the people enthused. They can see something getting one," says Kluver.

Although the DNR has budgeted or dredging, funding is dependent on ake restoration money. Because of

keen, statewide competition for that funding, it is uncertain when dredging will begin.

"I think the real story at Crystal
Lake is that it shows how a very
small community can work together
to accomplish some pretty significant
things for natural resources," says
Wahl. "This was a bare bones,
grassroots effort that didn't happen
overnight. It took persistence, and
that persistence is beginning to pay
off."

Kluver agrees. It's been more

than a decade and several Vegas nights, bake sales and fireworks displays worth of fundraisers since he first became involved.

"I was told from the very beginning that if I wasn't in this for at least 10 years, to quit now. As a community, we've gone from low lows to being all fired up," says Kluver. "This has been good for the entire community because it has made many of us recognize that in the lake, we have something a lot of other communities don't have."



CLEAR Project Represents Most Complex Lake Cleanup

Story and photos by Lowell Washburn

Of all the water quality improvement initiatives ever attempted in the state of Iowa, none has been larger, more ambitious or as complex in nature than have the ongoing efforts of Clear Lake's Enhancement And Restoration (CLEAR) Project.

With 3,684 surface acres, Clear Lake is north-central Iowa's largest natural lake. A host of recreational opportunities make it one of the state's most popular resort areas, annually generating in excess of \$40 million in tourism.

Along with that tourism comes development. Although the lake's watershed is relatively small (only 4,500 acres), less than 20 percent is protected by natural ecosystems such as grasslands, timber or native wetlands. Sixty percent of the watershed is used for row-crop production. Twenty percent is covered by urban development, the towns of Clear Lake and Ventura.

Water quality issues created by

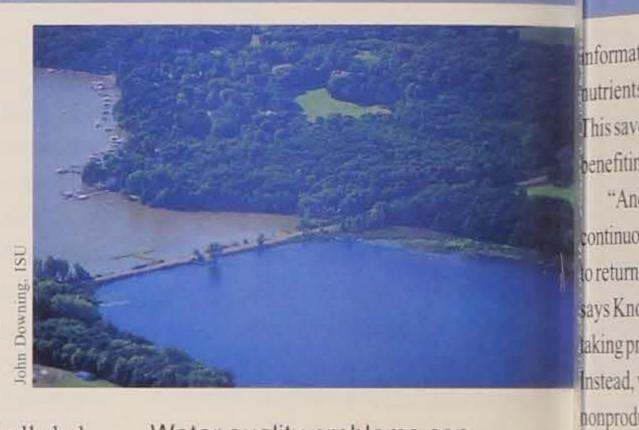
those land uses include sediment and phosphorus loading which serve to reduce water clarity and promote dramatic summer algal blooms. Additional contaminants are carried into the lake through storm water outlets or are washed off lawns and public roadways. Pet waste and

other pollutants have periodically led to unacceptable bacteria levels—most notably at public swimming beaches. With densities sometimes reaching 500 pounds per acre, bottom-feeding rough fish further aggravate the lake's problems by resuspending nutrients, occupying space better used by sportfish, and reducing water clarity.

Solutions include a major dredge project for the lake's west end, long-term contracted rough fish removal, upland prairie and wetland restoration, the renovation of Ventura Marsh and the implementation of intensified water management at Ventura Marsh.

"There is no question that the CLEAR Project is extremely complex. Consequently, communication and public education have become two of our most important components," says David Knoll, CLEAR Project coordinator.

"The most common perception is that people expect to see us working directly in the lake, which would actually be reacting to the symptoms instead of tackling the problems at their source. Instead, we are attempting to treat or clean up the



Water quality problems can sometimes be attributed to rough fish densities as this dramatic photo shows the difference between Clear Lake and the adjoining Venture Marsh.

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watershed first and then move into the lake."

On the agricultural landscape,
CLEAR is providing incentive
payments for farmers to use crop
consultant services, grid soil sampling,
and implement conservation tillage
practices. During the past two years,
participating landowners have applied
these programs to about one third of
the total ag watershed. The shortterm goal is to achieve 50 percent
participation.

"Our whole approach," says Knoll, "is to allow producers to have better



Nutrient runoff promotes dramatic summer algal blooms which affect water clarity.

nformation and be able to apply utrients only where they are needed. his saves farmers money while enefiting water quality."

"Another thing we're doing is ontinuously working with landowners preturn natural basins to wetlands." ays Knoll. "We are not talking about aking prime ag land out of production. istead, we're talking about taking onproducing, profit-loss acres and irning them into something positive for ne farmer and the watershed."

"This was something of a hard sell t first. But once the first landowner ent for it, more followed. All of a udden, we have around 400 acres nrolled in wetland reserve or farmable etlands projects and farmers have ubmitted applications for an additional 00 acres of wetlands," adds Knoll.

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On the urban front, Clear Lake is urrounded by more than 300 storm rain inlets and 68 major outlets that onvey city runoff directly into the lake. hat problem is being addressed in part y the installation of underground storm water filter boxes. So far, eight of these simple, yet highly effective, units have been installed for a cost of around \$50,000 each. CLEAR is currently working with DNR to install eight more boxes in the near future.



"One of the most important messages we can convey to the public is that the things people do every day has an effect on water quality," says Knoll.

Other urban improvement measures

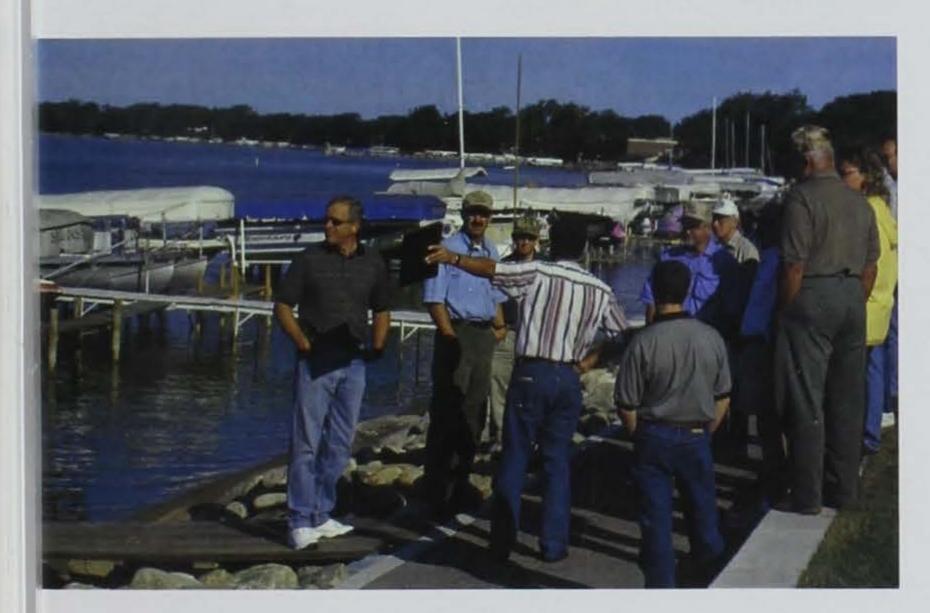
waste cleanup campaign, and use of

include storm inlet adoptions, a pet

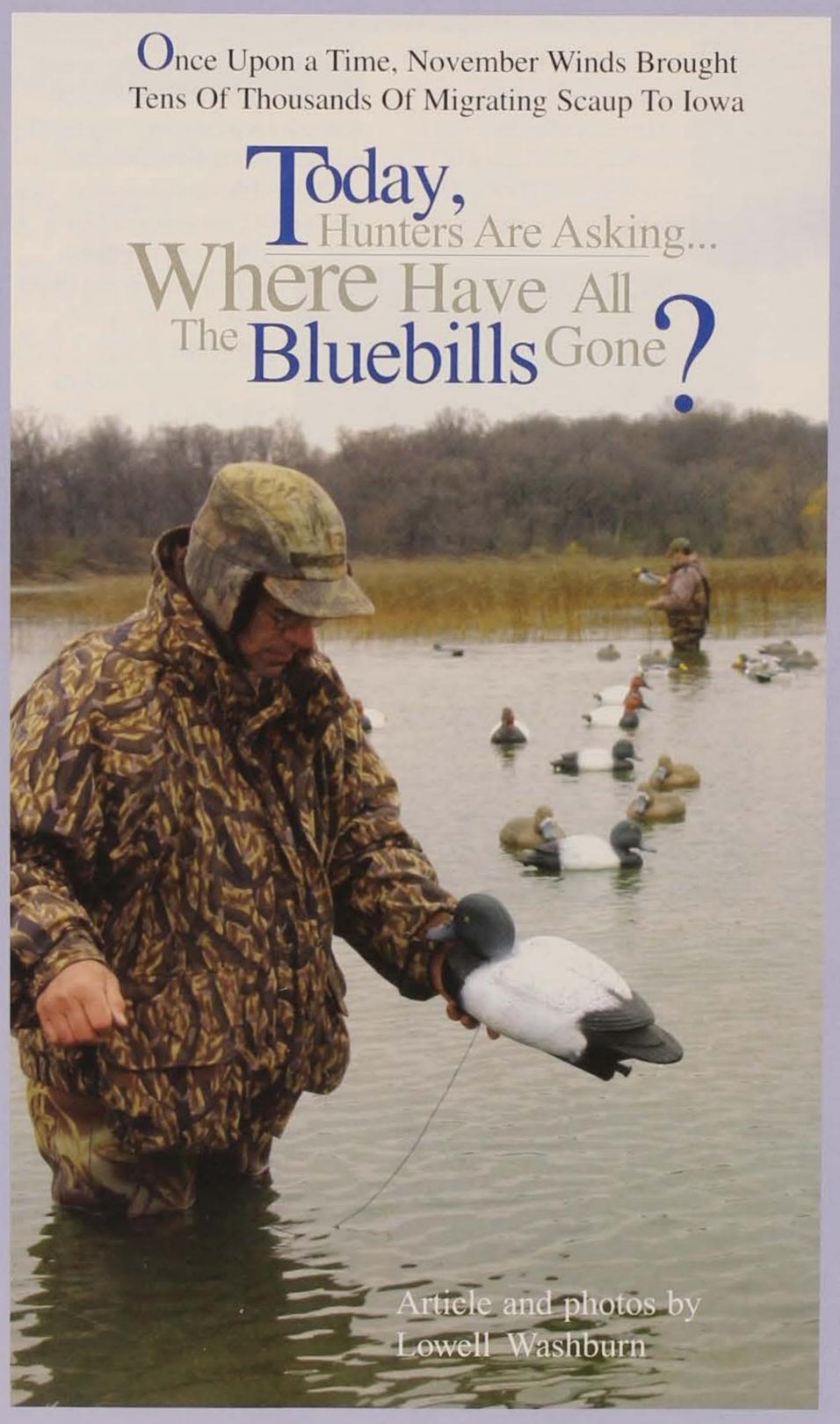
zero-phosphorus lawn fertilizer.

"Everyone working with CLEAR has just tried to build the awareness that everyone can make a difference. Everyone who lives here or visits here has a role to play in the water quality of Clear Lake."

Contaminants can be carried directly to the lake through storm water outlets, particularly after heavy rains, as evident by this photo (above) taken during a 3inch rain. Installation of storm water filter boxes, like the one along the east shore of Clear Lake (left), is helping address this problem.



DNR Director Jeff Vonk (left) and staff, along with Clear Lake city officials, tour another CLEAR project - riprap along the downtown area of the lake.



It's mid-November, and it is cold. Huddled against the elements, I'm sitting on the lea side of a point on Cerro Gordo County's Clear Lake. Adjacent wetlands are froze and the temperature is hovering somewhere in the low-20s. A howling northwest gale has turned the open water into an ominous, white-capped cauldron.

All things considered, it's a perfect day for hunting diving ducks. That's exactly what I'm doing—baby-sitting a big spread of black and white decoys while waiting for the arrival of migrating lesser scaup (commonly referred to as bluebills) as they flee the freeze-up conditions currently occurring on the northern lakes of Minnesota and Wisconsin.

In spite of optimum conditions, the morning has been somewhat of a disappointment. Although two flocks of mallards, a trio of widgeon and a dozen or so greenwings have been attracted to the diver decoys, the first bunch of bluebills has yet to be sighted.

It was on this very point that I received my first introduction to the joys of gunning for migrating scaup. It was during the mid-1960s, and the scaup migration typically picked up steam during the first week of November, and reached a crescendo as northern lake freeze-ups sealed off critical supplies of submergent aquatic

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food plants. Major storm systems greatly enhanced the intensity of the flights.

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Knowing exactly when to drop everything and head for the duck blind was a bit more difficult in those days. There were no computers, no internet, no weather channels, no Doppler imaging. Assembling a meaningful set of weather predictions was often little more than a dream. The local TV weatherman often flew by the seat of his pants, simply making his best guesstimate based on the information available.

But for the serious duck hunter, there were some cues that could not be ignored. When the weatherman noted that 11-inches of heavy snow had fallen at Bismark, or that high winds and the season's first blizzard had paralyzed traffic and closed schools at Fargo, or that the mercury had plunged to negative numbers in International Falls, we knew the 'bills were on the way. Arriving at the lake, we were seldom disappointed.

When daylight arrived, the divers would be swarming like bees. There were little bunches, big bunches, high flocks and low flocks. Thousands upon thousands of ducks suddenly forced from the North Country by a dramatic and magnificent late-autumn weather event.

Although the diver flights were represented by a variety of species redheads, canvasbacks, goldeneyes, buffleheads, and others-the migration was always dominated by lesser scaup. The numbers were incredible. In spite of traveling all night, the storm-tossed birds remained restless and active. Out on the open

water, the distant flocks rose and fell like great swarms of insects.

The Point, and our decoys, were strategically situated along a flight path that led between the open lake where the birds congregated and the rich beds of submergent plant life to the west.

The hunting was incredible, largely due to the fact that November bluebills consistently exhibited three traits. They were fast, fat and were exceedingly uneducated in the ways of human hunters. When the flight was on, we often limited out and were packing up by 7:30 or 8 a.m. Sometimes we were done before sunrise. Hunting budgets were limited. Sometimes we ran out of ammo and had to quit until we could scrounge the \$2.60 needed to purchase another box of 12-gauge shot shells.

Those incredible, awe-inspiring

Canadian wetlands. Duck populations rebounded.

But for reasons not yet understood, lesser scaup populations never recovered. Today, they are listed as a species of special concern by biologists with the U.S. Fish & Wildlife Service and are the current subject of widespread scientific investigation.

At Clear Lake, the bluebill flights have all but vanished. Of course, The Point is still there, and the November weather still arrives with a vengeance. They still get 11-inch snowfalls at Bismarck, school-closing blizzards at Fargo and negative temps in International Falls. But the bluebills don't come here anymore. To even see four or five small flocks of migrating scaup constitutes a good day. This same sort of decline is being reported



scaup migrations continued for the remainder of the 60s and through most of the 1970s. The widespread drought of the 1980s arrived, and continent-wide duck numbers began a rapid decline. The droughts passed. Water returned to on big waters up and down the great Mississippi Flyway.

Last year, I shot just three scaup at Clear Lake. The season before, I bagged two. Hopefully there are better days ahead.

IOWA Becomes for StudyOn

Declining Scaup Population

When the ice begins to thaw this spring, don't be too surprised if you happen to spot a lime green, fluorescent orange or bright red duck swimming across the surface of your favorite wetland.

According to Louisiana State University wildlife research assistant Mike Szymanski, the kaleidoscopecolored ducks are all part of an ongoing study designed to provide answers as to why populations of lesser scaup are on the wane. Known to most duck hunters as bluebills, lesser scaup are an important waterfowl species of the Mississippi Flyway. But while most ducks have shown a healthy increase in numbers during the past decade, scaup populations have exhibited an alarming decline. Although no one can say why scaup numbers are falling off so rapidly, finding the answers may depend in part on keeping track of color-coded bluebills as they travel to Canadian breeding areas.

"This study will ultimately involve hundreds of people from Louisiana to Canada," said Szymanski.

"This year, (for a second season)
we will be using baited live-traps to
capture, band and color mark as many
migrating scaup as we can possibly get
our hands on."



Capture efforts are focused on the Mississippi River at Keokuk where large numbers of diving ducks, including scaup, consistently stage during spring and fall migrations. During the spring migration, scientists hope to capture and color mark between 3,000 and 5,000 of the northbound ducks. As the birds disperse across Iowa and to points beyond, researchers will rely on public sightings to help unravel the mystery of scaup migration.

"We are attempting to document migration corridors and to determine the rates of movement as scaup travel from Keokuk to the breeding grounds in the boreal forest regions of western Canada," said Szymanski.

"It's possible that during the first half of the spring migration, a majority of scaup may visit the Dakotas. Later in the migration, more birds may travel north across Minnesota. At this point, we don't know the exact routes they travel, and visual sightings will play a key role in providing that information. What we're really looking for is the when and where of scaup migration."

What researchers do know is that when northbound scaup arrive at Keokuk, they are in excellent body condition. However, as the migration continues across Iowa many of the birds begin to lose weight. Biologists say the weight loss could result in decreased egg production, reduced survival of adult females and lower population recruitment.

During the next two summers, biologists plan to sample wetland feeding grounds in Iowa, Minnesota and North Dakota. Researchers will be looking at

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TRAPPED (left) - A group of lesser scaup captured on the Mississippi River. Scientists from Louisiana to Canada are hoping to discover why migrating scaup lose body condition as they migrate across lowa.

the abundance of invertebrate marsh life (the primary protein source for migrating scaup), testing for chemical pollutants and measuring the level of sedimentation due to agricultural runoff.

"During the next two years we plan to look at habitat conditions across those areas. We'll also continue to monitor the body condition of migrating scaup and see how that matches up against historical data."

Public sightings are important to project success. Observations of color-marked scaup can be reported at www.iowadnr.com/wildlife/, or by phone at 1-888-646-6367.

-LW



Ontario duck trapper Greg Dunn (rear) records data as DNR wildlife piologists Bill Ohde (left) and Greg Schmitt band a drake lesser scaup on a Mississippi River island near Keokuk. Biologists are trying to find out why scaup are showing a severe decline in numbers.





FACE PAINT (above) - A colorcoded female lesser scaup prepares to continue her migration to Canadian breeding grounds. Scientists are relying on public sightings to keep tabs on scaup migration routes.



STUDY Reveals WaterQuality

In Iowa Wetlands

An ongoing and severe decline of lesser scaup (bluebill) populations has recently prompted scientific investigations designed to examine water quality values in wetland basins stretching from central Iowa to western Manitoba.

"What we already know is that when migrating scaup arrive in northwestern Minnesota each spring they are substantially lighter than when they arrived in the same places during the mid-1980s," says Iowa DNR waterfowl biologist Guy Zenner.

Ironically, the same birds are substantially heavier than historic levels when spring migrators arrive at the Mississippi River's Pool 19 at Keokuk. Somewhere between the time the diving ducks leave the Mississippi until they arrive in northwestern Minnesota, scaup are losing the critical body reserves needed for successful reproduction. This, says Zenner, is resulting in later nesting dates, reduced clutch size and reduced survival of adult females. The end result is a declining population.

"In addition to looking at the body condition of individual ducks, we are also taking a serious look at the overall health of the wetlands migrating scaup and other birds use and depend on during spring migration," says Zenner.

"This is a huge endeavor. Essentially, our focus is covering groupings of wetlands that have been divided

into eight eco-regions that span an area from Des Moines to Riding Mountain National Park in western Manitoba."

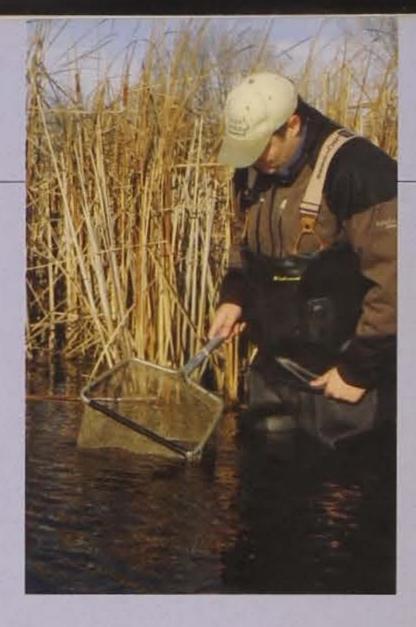
One of the things scientists are most interested in are population densities of invertebrate animal life.

Invertebrates such as amphipods – a tiny crustacean resembling fairy shrimp—are critical for building nutrient reserves needed for scaup egg production.

Studies will also examine aquatic plant life, existing fish populations, water clarity, chemical and other pollutant contamination.

"Water quality sampling began in 2003, and what we're finding is that scaup are currently unable to find the essential food items that were historically available in midwestern wetlands," said Zenner. "Food has disappeared because our wetlands have become substantially degraded during the past 25 years. This should come as no great surprise since our marshlands are stuck in the middle of the most intensively farmed region in the entire Midwest."

For lesser scaup to maintain the healthy body condition needed for



egg
production,
they must
have
amphipods,
says
Zenner.
Historically,
it was no
problem to
find that
nutritional

source in Iowa. Today, wetland water quality has been compromised to the point that amphipods no longer exist in most marshlands. Migrating bluebills are forced to feed on other, more tolerant inverts (such as snails) but even this food source may be in short supply. Consequently, scaup end up surviving on things like aquatic seeds or bloodworms which are insufficient to maintain or increase body weights.

Here's the alarming truth. In terms of amphipod, snail, mollusk and other important invertebrate food families – Iowa ranks at the very bottom of all wetlands examined from central Iowa to Canada.

At the same time, Iowa is at the very top of list for nitrate levels, phosphorus levels, rough fish densities, low water clarity and the sad list goes on.

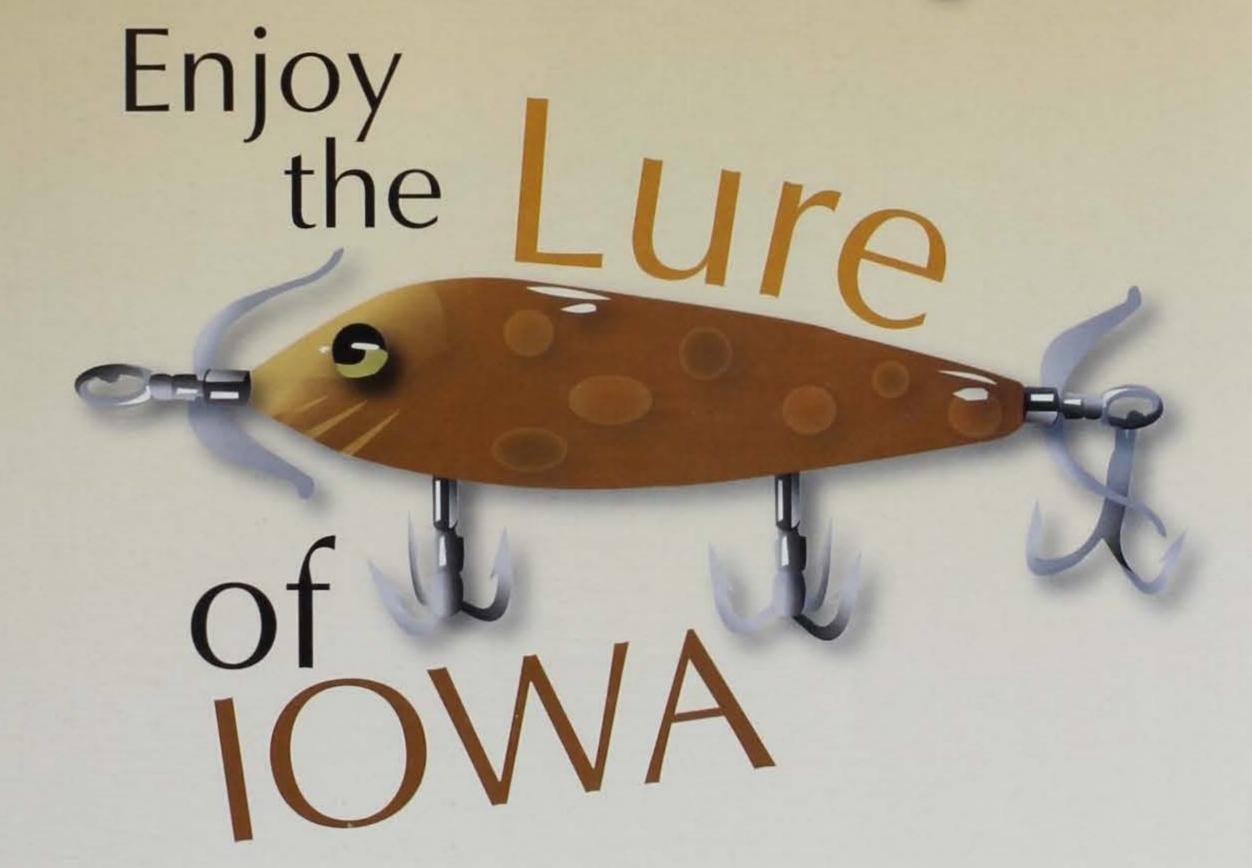
The quality of any Iowa wetland is simply a reflection of the quality of its watershed. Protecting or improving those watersheds has become our next challenge. -LW

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Relaxing Escapes

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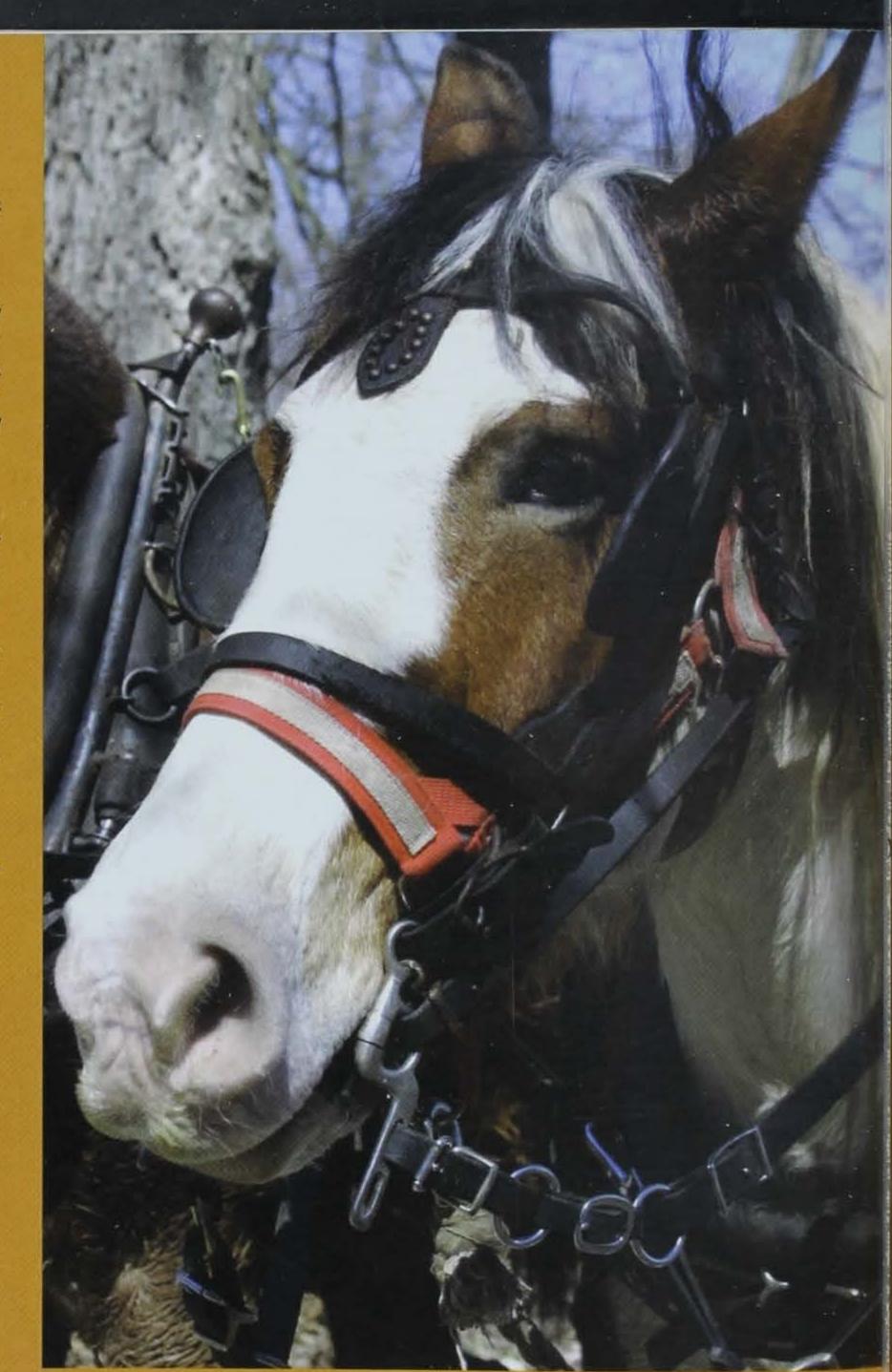
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Lengthening daylight
hours, rising temps,
melting snow — all
are sure signs that
spring is just around
the corner.
For work crews at
Green's Sugarbush,
the impending change
of seasons is also a
sure signal the sap is
rising and it's time to
hit the timbers for
another sugar run.



Story and photos by Lowell Washburn



Located in northeastern Iowa's Winneshiek County, Green's Sugarbush is one of the oldest, continuously run businesses in the state. Syrup crews have never missed a season since the first pail of maple sap was collected here in 1851.

"My grandparents were the first ones to collect sap and make syrup here; and that was 10 years before the start of the Civil War. My parents took over next, and eventually the business came to me," says Dale Green, current owner of Green's Sugarbush.

"I think that - besides its age the thing that makes our business unique is that we've been able to maintain tradition. Most operations, especially the ones out East, have gone to vacuum assist pipelines that gather sap mechanically. Here, we still use pails and horse-drawn tanks to gather sap. Essentially, things are still done exactly the same as they were a hundred years ago."

Sugarbush activities begin in late February with the arrival of the year's first major thawing. The first order of business is to bore a 7/16inch, hollow spike into the bark of a selected maple. Once the spike is tapped into about 3 inches of sapwood, a tin pail is hung from the spout.

Continuous cycles of freezing and thawing set the stage for a perfect run. Maple sap returns to its roots as temperatures fall below freezing each night, and pails catch the liquid as it rises the next day. Sugarbush production is entirely at the mercy of the weather. A good season usually runs around nine or 10 days.

"Although any tree in the maple family is good for making syrup, we only tap hard [sugar] maples," says Green.

"Our timbers are all natural. We don't plant any trees, the maples just naturally reseed themselves. It's a slow process and it takes a tree about 80 years to reach the 12- to 14-inch

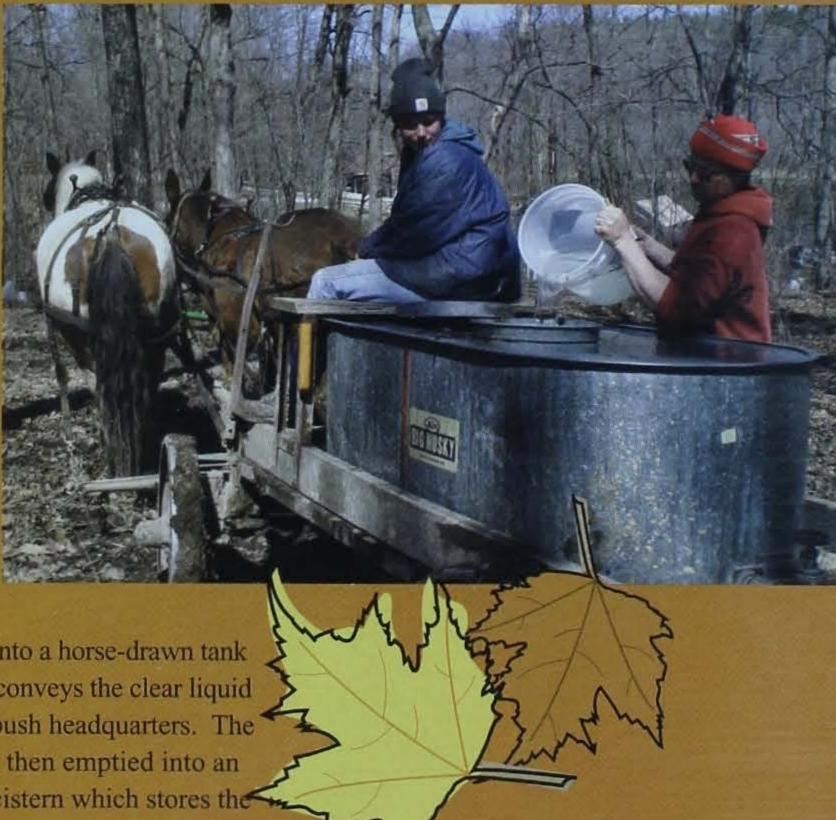
diameter that will allow us to begin tapping."

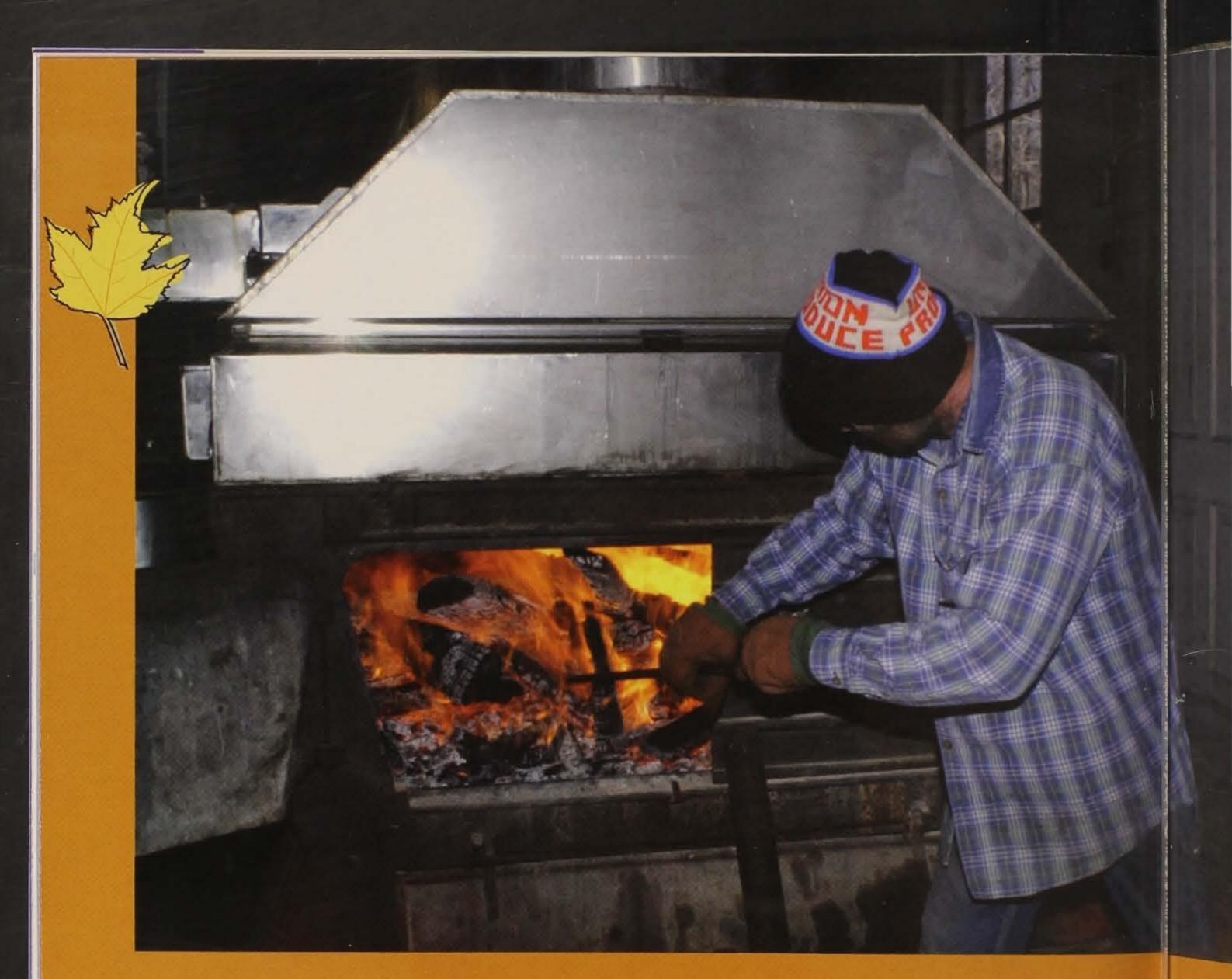
Once the run begins, workers take to the timbers daily, methodically gathering the sap collected in 2,000 tin pails. The

sap is poured into a horse-drawn tank wagon which conveys the clear liquid back to sugarbush headquarters. The tank wagon is then emptied into an underground eistern which stores the sap at optimum temps.

The actual process of converting raw sap to syrup begins as cold sap is piped from the cistern to the evaporator building. Once the chilled sap arrives at the evaporator, it is slowly heated, then boiled, filtered and canned. At least that's the very simplified version of a sensitive process. There are no LP tanks at Green's Sugarbush. Instead, every step of the entire process is

Tom Melcher pours maple sap into a horse-drawn tank as wife Jeni looks on.





Sugarbush Days Open Syrup-Making To The Public

CASTALIA – Located among the picturesque, postcard landscapes of extreme northeast Iowa, active sugarbush (maple syrup) operations represent a unique component of the state's food industry.

Founded in 1851, Green's
Sugarbush is the oldest maple syrup
operation in the state. Things haven't
changed much here during the past

150 years. Workers still take to the woods on foot each spring, gathering sap with tin pails and horse-drawn tanks.

As each year's sap run reaches a conclusion, the sugarbush celebrates the occasion by inviting the public to a Sunday morning pancake and sausage feed. In addition to enjoying a hearty meal, those folks who stop by are treated to a firsthand glimpse of how lowa maple syrup is made.

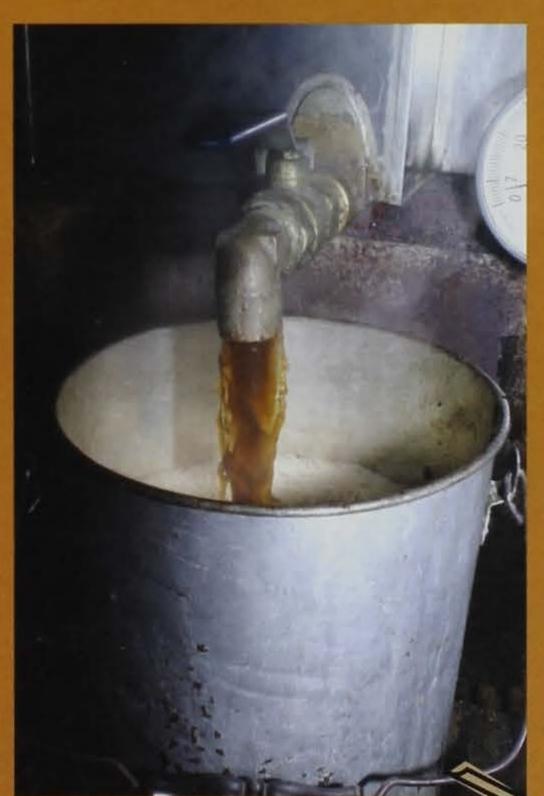
"We always have our pancake and sausage feed on the last Sunday of March," says Karen Green, coowner of Green's Sugarbush. "People are tired of being indoors by then, and if the weather is nice they really come out. Besides the food, we have horse-drawn wagon rides and give tours of the syrup processing."

For some people it's like a tradition. They show up every year to eat pancakes and buy some syrup. Some bring their own syrup containers for a refill. We've even had a few people show up from foreign countries, and they are really amazed. This is strictly a North American thing and isn't done in Europe."









Karen Green (left) filters off the lime from the syrup before bottling it. Northeast lowa is famous for its limestone formations and some of the lime is carried in the sap. Although it does not affect the taste of the syrup, it can leave it cloudy.

Jim Ludeking (far left) is the muscle behind the heat used to evaporate the sap into syrup.

"We burn all hardwood, and it takes a tremendous amount of heat to evaporate sap into syrup," says Ludeking. "When everything is right, we can evaporate around 275 gallons of sap per hour."

The sap from a hard maple is about 2 percent sugar. And although it has the clarity and consistency of water, a slightly sweet taste can be detected as the sap leaves the tree. It takes 40 to 45 gallons of sap to make one gallon of pure maple syrup.

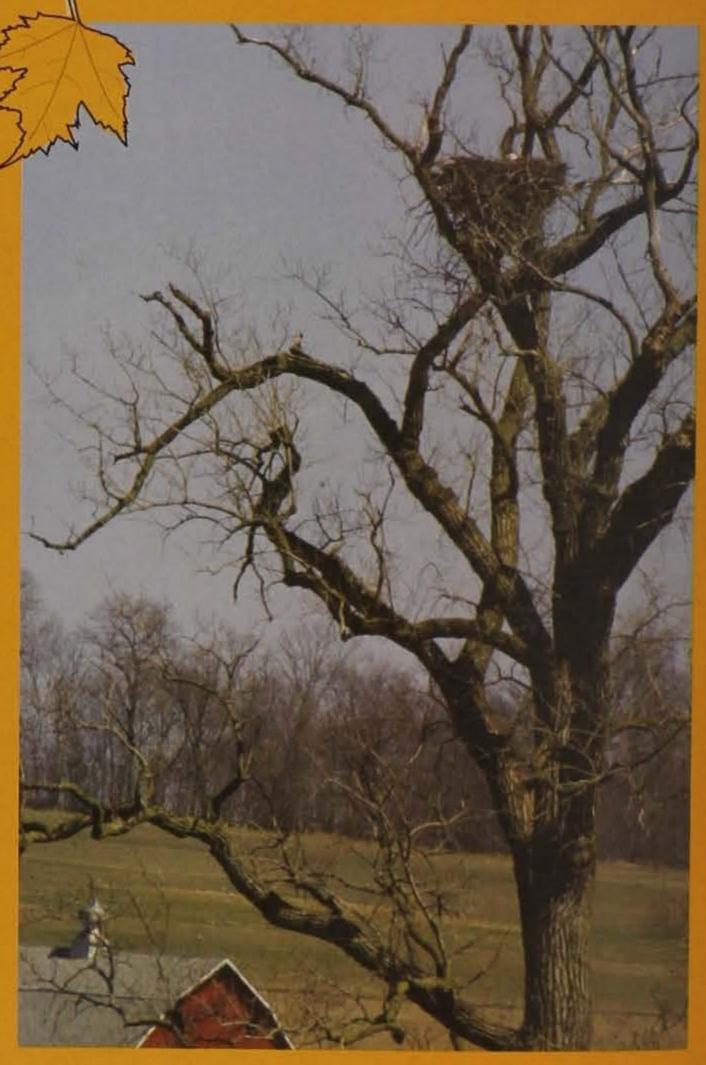


If You Go

Green's Sugarbush is located north of Postville and south of Castalia in northeastern Iowa's Winneshiek County.

The Sugarbush is easy to find. To get there take Highway 52, west of Postville, to 120th Avenue. Turn north on 120th Avenue. In about 2.4 miles the road will become 111th Avenue. The gravel curves and you are now traveling in a more or less easterly direction. There is a pasture to the left (north). Watch for a huge bald eagle's nest in the top of a big cottonwood tree (right). Look closely and you will see the female already incubating this year's clutch of eggs. Just past the eagle's nest, the road curves left (north). Green's Sugarbush is located just on the left-hand side of the road as you go north.

Some other sugarbush operations around the state include: Kossuth County Conservation Board, 2407 Hwy 169, Algona, 50511, 515-295-2138; Ruff's Sugarbush, Erwin Ruff & Family, 16451 King Rd., McGregor, 52157, 563-873-2152; Home Sweet Home Made, 8890 150th Street, Maquoketa, 52060, 563-652-5341; Indian Creek Nature Center, 6665 Otis Road SE, Cedar Rapids, 52403, 319-362-0664, www.idiancreeknaturecenter.org



by Bruce

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IOWA Wildlife

by Bruce Ehresman

Greatest Conservation Need

Establishing stable, dependable funding for nongame wildlife (those animals that are not hunted, fished or trapped) has been a concern for conservation agencies and the public for at least 25 years. Throughout the United States many nongame species have declined dramatically, and 116 land-dependent animals are now listed as threatened or endangered under the Endangered Species Act. The number of listed species has doubled in the last 10 years, while the cost for helping these species recover has increased six fold.

To reverse this trend and address problems early to avoid costly, intensive restoration measures, the International Association of Fish and Wildlife Agencies spearheaded the national fund-raising effort Teaming With Wildlife, which resulted in the 2001 legislation authorizing federal dollars in the form of the State Wildlife Grants (SWG) program. The federal funds that come to Iowa









Clockwise top left: Massasauga, red-headed woodpecker, regal fritillary, Indiana bat. Higgins' eye pearly mussel (top of page).

"The last word in ignorance is the man who says of an animal or plant: What good is it?"

Aldo Leopold

through SWG continue the precedent of cooperation between the federal government and the states for managing and conserving wildlife species. It's a partnership not unlike the 1937 Pittman-Robertson Act and the 1950 Dingell-Johnson Act.

Upon receiving SWG funds, Iowa and all other states are required by Congress to complete a State Comprehensive Wildlife Conservation Plan. Iowa's plan is focusing on a habitat approach, relating species of greatest conservation need to existing land cover, watersheds and ecoregions of the state. Efforts will concentrate on both terrestrial and aquatic habitats and the species that depend on them. Within Iowa's boundaries, nine primary terrestrial and seven aquatic habitats are identified. An analysis of habitat use by species of greatest conservation need shows that the terrestrial habitats most frequented by these species include two land cover types, herbaceous wetlands and native prairie, while the most used aquatic habitats include rivers and lakes. These findings also indicate that aquatic habitats and their associated communities offer the biggest challenge for restoration on Iowa's landscape.

Historic Land Cover

Historically, Iowa's landscape supported a rich assortment of wildlife and plants. In the early 1800s, before widespread European settlement, Iowa was covered by a mixture of tall-grass prairie, deciduous woodlands, oak savanna and wetland-associated vegetation. The dominant

land-cover was tallgrass prairie, which comprised approximately 70 percent of the state. Unfortunately for many of the prairie wildlife, the rich soil beneath the prairie became prized agricultural ground. Today, more than 99.9 percent of the original prairie has been plowed under, leaving only about 30,000 original acres – mostly as very small isolated remnants.

Forest and woodland communities once covered 6.7 million acres and made up 19 percent of Iowa's landscape. Although highly fragmented, about 43 percent of Iowa's original woodland land-cover remains.

Wetlandsare another important community type and once comprisedat least4million acres, or 11 percent of the Iowa landscape. Buthuman intervention has taken its toll, and today only about 5 percent of our original wetlands have not been drained.

With these massive changes to the landscape,

Iowa's natural communities have been extremely reduced and severely altered. In 1990, 94 percent of Iowa was considered farmland, with 70 percent of the landscape in row-crops

(mostly corn and soybeans). Iowa now holds the dubious distinction of having the most dramatically and completely altered landscape of all the United States. Certainly the loss of natural habitats has affected many of our wildlife species. While at least 29 vertebrate species already have disappeared from Iowa as breeding populations, many more species are now much rarer than they once were. To get a better idea which species are becoming rarer requires a closer look at Iowa's most important habitats and some of the species of greatest conservation need that frequent them.

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Percent of Species with the Greatest Conservation Need

Group	Total Iowa Species Considered	# with Greatest Need	% of Group Total
Breeding Birds	206	67	33
Migratory Birds	199	18	9
Mammals	82	18	22
Fish	153	67	44
Amphibians and			
Reptiles	71	31	44
Mussels	55	29	53
Land Snails	8*	8	100
Butterflies	119	30	25
Dragonflies and			
Damselflies	106	28	26
TOTALS	999	296	30

Only Iowa Endangered, or Threatened species listed.

Of the 999 species considered in lowa's plan, 296 are now "species of greatest conservation need." These 296 species translate into 30 percent of all of lowa's wildlife.

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Prairie is Iowa's most jeopardized land cover type. Not only is this true for Iowa, but also for most midwestern states where tallgrass prairie once was the dominant ecosystem. Because of the loss, it is not surprising to find that grassland birds are declining faster than any other North American bird group. Native prairie species from other animal groups are declining as well.

in extreme southern Iowa.

Iowa range: Once commonly found in prairie habitat statewide, this species was extirpated, as a breeder, from Iowa's landscape in the 1950s. Thanks to restoration efforts, there are now several established booming grounds in south-central Iowa, primarily within the Kellerton Bird Conservation Area in Ringgold County.

Why listed: This very rare

wherever large grasslands/prairie tracts exist.

Why listed: Conversion of grasslands to row-crops has had a



severe effect on bobolink populations. Since 1966, populations have decreased 70 to 90 percent in much of the tallgrass prairie region.





Except for herbaceous wetland, native prairie is the most used land cover type by Iowa's species of greatest conservation need, represented by 57 of these 296 species. Following are some prairie species of greatest conservation need.

Greater Prairie Chicken

Perhaps the best representative of the grassland bird group and of prairie itself is the greater prairie chicken. In spring, the male's low, booming calls can be heard emanating from a few prairie/grassland hilltops

species prefers areas of at least 60 percent grassland and requires large blocks of contiguous grasslands/ prairie to maintain healthy populations. By managing for the prairie chicken, a host of other species in need, including birds, mammals, reptiles and insects will also benefit.

Bobolink

The male bobolink is a handsome bird of open grasslands, often identified by its distinctive bubbly flight song.

Iowa range: Found statewide

Plains Pocket Mouse A

This nocturnal prairie mouse has large hind feet and an especially long tail.

lowa range: Formerly widespread in sandy grassland habitats of northern and western lowa, it is now restricted to isolated suitable habitats, particularly the Loess Hills of western Iowa.

Why listed: As an Iowa endangered species, few records exist for this species. Monitoring this species and protecting its remaining habitats are crucial to its survival.



Smooth Green Snake A

This unique pea-green snake is highly associated with prairies.

Iowa range: Found scattered throughout all but the western edge of the state.

Why listed: Once state-listed and believed limited to fewer than 10 populations, this species is now being found in many prairie remnants. It now is a state species of special concern and offers potential as a species by which prairie restoration quality might be measured.

Regal Fritillary

(see photo page 35)

Regal fritillary populations have declined in Iowa and the Midwest mainly due to the conversion of tallgrass prairies to cropland.

Iowa range: It is found in remnant prairie sites throughout the state.

Why listed: Because of loss of prairie habitat, the regal fritillary is a candidate for listing as a federally threatened species. Pesticides have also contributed to its decline. Large tracts of native prairie with abundant wildflowers are needed to protect this beautiful butterfly.

HERBACEOUS WETLAND

Wetlands are important because they serve as the vital link between land and water resources. Wetlands also play an integral role in the ecology of a watershed. Their shallow waters, nutrients and primary productivity are ideal for organisms that form the base of the food web upon which many species of wildlife depend. The land cover type, herbaceous wetland, is best represented by the prairie pothole region in north-central Iowa, but marsh habitat also occurs throughout the state. While this diminished habitat represents a small proportion of Iowa's original landscape, it is Iowa's most used land cover type by species of greatest conservation need. At least 62 of these 296 species can be found living in wetland complexes.

Trumpeter Swan ▼

Once an important part of the prairie pothole region, this species, disappeared in the late 1800s from

direct persecution and habitat drainage.

Iowa range: Since 1995, restoration efforts have led to the existence of about 15 wild nesting swan pairs, mostly in northern Iowa.

Why listed: The trumpeter swan has become the umbrella species for "trumpeting the cause for wetlands" in an effort to restore prairie marshes.

Southern Bog Lemming ▼

This mouse-like creature often is found in marshy meadows and is particularly fond of eating rushes and sedges found in that environment.

Iowa range: Found sparsely statewide but especially in southern Iowa.

Why listed: It probably once was





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Massasau (see photo

A rare prairie mar beneath wa

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Why liextirpated, i species mig southeaster surveyed.

more common in northern Iowa orairie marshes, but drainage of wetlands undoubtedly impacted its presence there.

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(see photo page 35)

A rare Iowa rattlesnake, it is a orairie marsh dweller that winters beneath water in crayfish burrows.

Iowa range: Only several remnant populations exist in eastern and southern Iowa public-owned narshes.

Why listed: An Iowa endangered species and candidate species for federal listing. Drainage of prairie marshes and improper marsh management threaten the existence of this species.

Crawfish Frog ▼

An amphibian representative of prairie marshes, it gets its name from ts tendency to hide in crayfish ourrows.

Iowa range: Last seen in wetlands of southeastern Iowa in the 1940s.



Why listed: If not already extirpated, this Iowa endangered species might still be found if enough southeastern Iowa wetlands are surveyed.



Canada Darner A

A northern species, this darner is among the largest and fastest-flying North American dragonflies. Best seen in late summer patrolling marshes for insect prey.

Iowa range: Found sparingly in eastern Iowa "squishy" marshes and marshy edges of ponds.

Why listed: A rare Iowa species with limited amount of suitable habitat.

FOREST/WOODLAND

Since the vast majority of Iowa species that inhabit forests also inhabit woodlands, these two land cover types are combined here. Iowa's largest tracts of forest occur in eastern and southern Iowa, although historically, significant

wooded tracts also existed along many of the major rivers. When we combine the land cover types of forest, woodlands, and wet-forest/ woodlands, we find that there are at least 80 species of greatest conservation need represented. A host of birds in need inhabit woodlands, including nine warblers, three flycatchers and two thrushes. Some representative species of greatest conservation need that depend on Iowa woodlands for their survival include:

Cerulean Warbler ▼

This cerulean blue woodland bird requires large contiguous tracts of forest to nest successfully and is often found close to woodland rivers and streams.



Iowa range: Uncommon nester in eastern Iowa and rare in western Iowa. Most often found in northeastern forested areas such as Effigy Mounds/Yellow River Forest Bird Conservation Area and in the southeast at Shimek and Stephens state forests. Most Iowa nesting records are in large public-owned forest tracts.

Why listed: This rare Iowa nester is a candidate species for federal listing and, since 1966, has seen a 70 percent reduction in its population across its range. By managing forest habitat for this species, a wide range of other woodland species of greatest conservation need will be managed for as well.

Bald Eagle 🛦

Usually nesting and roosting along rivers and lakes, this forestnesting species favors old white pines in the northeast and large cottonwoods elsewhere for its Iowa nest sites.

Iowa range: Extirpated as an Iowa nester in about 1905, this species now inhabits about 175 nests in 68 counties.

Why listed: Still federally threatened and state endangered.

Presently its biggest threat in Iowa is loss of nesting and wintering areas due to development along rivers.

Indiana Bat

(see photo page 35)

Iowa nursery colonies are often located in wooded areas (under the bark of living and dead trees) along streams but also in upland forest areas.

Iowa range: Reported in 13 southern Iowa counties and Dubuque County in northeast Iowa.

Why listed: Federal and state endangered. Clearing woodland areas where summer maternity colonies exist can significantly reduce this bat's population.



Blue-spotted Salamander A

This rare Iowa amphibian is found in association with forest wetlands.

Iowa range: Only two populations have been found, one each in Linn and Black Hawk counties in east-central Iowa near the Cedar River.

Why listed: State endangered.

Possibly more populations still exist in Iowa, but surveys are needed to determine for sure.

Iowa Pleistocene Land Snail ◀

This species is limited to cold air talus slopes (unique areas with cracks

or fissures in rock formations) in forested areas.

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Iowa range: This species exists at 30 known sites in extreme eastern Iowa, primarily in the Paleozoic Plateau region.

Why listed: Federal and state endangered. Overgrazing, logging, road construction and quarrying have reduced the habitat available for this snail.

SAVANNA

Like the tallgrass prairie, savanna now is recognized as one of the most endangered ecosystems in the world. This land cover type has been extremely reduced by human-caused disturbances, and it has largely been converted to cropland or degraded by fire suppression and overgrazing. Since historic records do not recognize this habitat type, it is difficult to gauge how much of Iowa's landscape was once covered by savanna. Bur oak is the dominant tree species for this habitat in Iowa, with a strong component of prairie species on the ground. Because savanna often represents the transition zone where prairies and woodlands meet, many scattered remnants exist throughout the state, particularly near waterways. Since

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this land cover type represents a presence of prairie and trees, it serves as habitat for a wide range of species. A few savanna species of greatest conservation need are:

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Red-headed Woodpecker

(see photo page 35)

This species is also tied strongly to savanna and can be found in most places where oak trees and open grassland occur.

savanna habitat in the few areas where this species still exists. Otherwise, this species will join the already significant list of extirpated Iowa mammals.





Barn Owl

Perhaps no species better represents Iowa savanna than the barn owl, since it requires grassland habitat to catch its small mammal prey and hollow trees to nest.

Iowa range: Although it historically nested sparingly throughout much of the state, it is now found mostly in southern Iowa where savanna habitat is less degraded.

Why listed: State endangered. Since the barn owl requires a fair amount of adequate habitat to nest successfully, it could serve as an umbrella species for savanna estoration, especially in southern lowa. By managing for the barn owl, he well-being of a large number of other savanna species will be promoted as well.

Iowa range: Occurs statewide wherever adequate habitat exists.

Why listed: Since 1966, breeding bird survey data indicate an annual average decrease of about 2 percent per year. Savanna restoration must be a high priority in Iowa if we wish to see this species recover.

Spotted Skunk

Perhaps another indicator of the severe degradation of savannas, this secretive skunk now is extremely rare in Iowa and surrounding states.

Iowa range: Although at different times found throughout the state, this species now appears to only occur in several isolated areas in southern Iowa.

Why listed: State endangered. Effort is soon needed to restore

Slender Glass Lizard A

Often confused for a snake, but unlike a snake, this legless lizard has eyelids and external ear openings.

Iowa range: This species occurs sparingly in savanna habitat in southcentral and southeastern Iowa.

Why listed: State threatened. The slender glass lizard seems especially vulnerable to the forestation of savanna habitat, since it appears to require open grassland areas for its survival.

AQUATIC HABITATS

Iowa's aquatic habitats have been severely altered, degraded or eliminated since European settlers arrived in this state. As poor as the outlook is for many terrestrial species of greatest conservation need, it is even more bleak for some of Iowa's aquatic species. This is especially true for those species that inhabit Iowa's rivers and streams. Presently 53 percent of Iowa's mussels and 44 percent of our fish are listed as species of greatest conservation need. Amphibians and reptiles represent another group largely dependent on aquatic habitats, and 44 percent of those species are also of greatest conservation need. The following represent a few of the aquatic species of greatest conservation need:



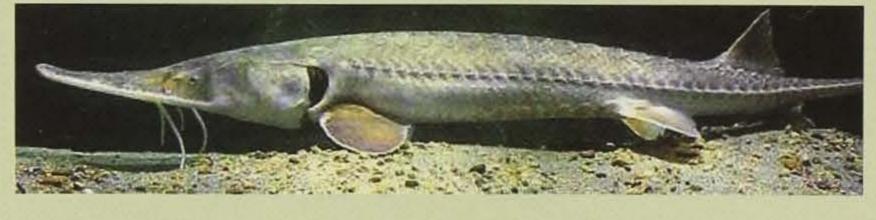
to swift riffles of headwater streams with sand, gravel, rubble or bedrock substrates.

Iowa range: This rare species is

containing clear, clean water, this small fish occurs generally where there is gravel, rock or sand bottoms.

Iowa range: This shiner occurs most often in the upper reaches of the Des Moines and Raccoon river watersheds with a few scattered populations in northwest and eastcentral streams.

Why listed: Federal endangered and state threatened. The Topeka shiner is adapted to prairie streams with high water quality, often in association with spring and seep flows. Due to its characteristic dependence on high quality aquatic habitats, this species serves as an indicator of the general health of an aquatic ecosystem.



Pallid Sturgeon

Occurring in large rivers in freeflowing areas with rocky or sandy bottoms, this big fish is found on the river bottom where there is strong current.

Iowa range: This sturgeon is found in the Missouri and lower Mississippirivers.

Why listed: Federal and state endangered. Pallid sturgeon populations have declined sharply during the last 40 years as its river habitat has been modified by construction of dams, changes in water flow, reduction of habitat diversity and elimination of spawning habitat.

Orange-throated Darter

A colorful fish, this darter prefers cool, clean water, and is found in slow locally distributed in small streams in eastern and southeastern Iowa.

Why listed: State threatened. Since this species is particularly associated with spring-fed streams flowing into the Cedar River, efforts to improve water quality for this watershed could be especially helpful to this and other species.



Topeka Shiner A

Primarily found in small prairie (or former prairie) streams in pools



Mudpuppy ▲

Iowa's only fully aquatic salamander is also the only salamander typically found in rivers. Most records are from anglers who caught this species using an earthworm on a hook, usually in deep river pools below dams.

Iowa range: This amphibian has been found in most large rivers in eastern Iowa but recently was caught by an angler in the Des Moines River in Boone County.

Why listed: State threatened.

Although SL nay be decl legradation survey work

Higgins' E see photo p Anextre refers large sand/grave

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lthough suspected that this species ay be declining because of habitat egradation and reduced water quality, irvey work is needed to verify this.

iggins' Eye Pearly Mussel ee photo page 35)

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River

An extremely rare mussel, it efers large rivers with deep water and sand/gravel substrate.

Iowa range: Now found only in the pper Mississippi River, it once also curred in the Cedar, Wapsipinicon d Iowa rivers in eastern Iowa.

Why listed: Federal and state dangered. Protection of known pulations in the Mississippi River from bitat alteration has been the main inservation effort in the past. ecently, efforts have been made to introduce larvae of this species into storic areas where this species no nger is found.



reek Heelsplitter A

This mussel is found in creeks and e headwaters of small to medium ers in fine gravel or sand. Rarely und in larger rivers.

Iowa range: Uncommonly found in eastern two-thirds of Iowa.

Why listed: State threatened. tation of rivers and streams resulting m poor agricultural practices threaten s species throughout its range.



Blue-faced Meadowhawk A

A colorful dragonfly associated with river oxbows, it has a reddish body and blue or green forehead.

Iowa range: Recently found in the flood plain of the Cedar River in Muscatine County and rarely found around old oxbows of the Chariton River in Wayne and Lucas counties.

Why listed: An extremely rare Iowa species and potential habitat quality indicator for southeastern Iowariver systems.

Now that we have taken a glimpse at some of Iowa's species of greatest conservation need, perhaps we can better understand the threats to many of these species' future. Also, we might now be able to formulate some solutions or conservation actions to assure a brighter future in Iowa for these species. In reality, some of these steps already are underway. Last summer, an advisory group made up of 93 people representing 59 organizations and agencies met for a day to help develop visions for Iowa wildlife 25 years from now, and to identify conservation strategies to achieve those visions. Work continues on the various plan element requirements with the goal of having a completed State Comprehensive Wildlife Conservation Plan by summer of 2005. Input from the public is welcomed, and in fact is a requirement for the plan.

While the process for creating Iowa's State Comprehensive Wildlife Conservation Plan might not sound very exciting, in reality, it is, to some of us, anyway. This is the first time a concentrated effort has been mustered in Iowa to formulate a state plan addressing the needs of all Iowa wildlife species. Those involved with this planning process are learning much and gaining a broader ecological perspective on the importance of the complex interrelationships that exist between so many organisms.

In nature, it seems that everything has its place. This is our opportunity to restore prairies, woodlands, wetlands and watersheds so that the many species of greatest conservation need can regain their rightful places in the landscape we call Iowa.

If you would like more information or to make comments about the plan, contact Wildlife Diversity Program coordinator Doug Harrat 515-432-2823 or 515-281-4815, or email doug.harr@dnr.state.ia.us.

Bruce Ehresman is a biologist for the department's wildlife diversity program in Boone.

This past February,
four Iowa businesses and
organizations were recognized
for their comprehensive
environmental programs.
Following is the last in a series
featuring the four Governor's
Environmental Excellence
Award winners.

Products, producing the widest range of products of any mill in the world. Davenport Works is the only Alcoa plant in North America that makes aluminum sheet and plate for the aerospace industry, employing 2,000 people at its 128-acre facility.

Alcoa Davenport Works' unique

Alcoa Davenport Works' unique environmental programs have resulted in many impressive reductions in water, waste, energy and air emissions and use.

High use of Mississippi River water (15.5 million gallons a minute) motivated Alcoa to reduce its reliance on the river by recycling and reusing it. The installation of a \$13 million closed loop water system allowed the plant to reduce its water use to approximately 700 gallons a minute.

The company has also helped improve local water quality in Mississippi River Pool 15. emissions

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Environmental innovation is apparent in nearly every aspect of Alcoa's efforts, especially in the area of air quality. Alcoa converted its fleet vehicles from regular diesel products to soy biodiesel. The fleet's use of a B20 blend (20 percent soy biodiesel, 80 percent No. 2 diesel) has significantly improved the levels of exhaust fumes emitted within the plant. Tests have concluded that using the B20 blend has reduced the concentration of diesel exhaust particulate in high traffic areas by 80 percent.

Alcoa has gone beyond compliance by

installing non-regulatory required air pollution control devices on three of its most recent process improvement projects at a total cost of \$7.2 million.

As the result of an energy survey, Alcoa invested \$1.2 million on energy savings projects during the past year. The projects will result in a reduction of 2.3 million pounds of carbon dioxide emissions, a reduction of 2 million pounds in sulphur dioxide

Alcoa Davenport Works

by Jill Cornell Photos by Clay Smith

potential negative environmental impacts, Alcoa Davenport Works has been a leading example for Iowa industry in its commitment to environmental excellence.

"We are a values-based company," said John Riches, manager of community relations at Alcoa. "We want to do the right thing for our company, the community and the environment. We all live and raise families in this community and we want to ensure a clean environment for future generations."

Alcoa Davenport Works is the flagship operation of Alcoa Mill



Alcoa installed an exhaust system (above) that reduces air particulate emissions. The plant converted its fleet vehicles from regular diesel to soy biodiesel (opposite page, above). With the Mississippi River as its primary water source, Alcoa reduced its reliance on the river through the installation of a closed loop water system (opposite page, bottom).

emissions and a reduction in 1 million pounds in nitrous oxide emissions, all from electricity generation. One of these energy-savings projects has curtailed the plant's energy use through the installation of highefficiency plant and office lighting.

Employee involvement

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In July 2003, Alcoa achieved ISO 14001 certification from the U.S. Environmental Protection Agency, signifying that it meets high environmental standards.

"This certification allowed our employees to have a much better understanding of how what they do on the job can impact the environment," said Riches. "Our employees all share a responsibility no matter if they work on the plant floor or in the office."

Employees established an office paper recycling program that has served as a benchmark for other Quad City businesses and Alcoa locations throughout the world. Other

company recycling programs have kept 57,000 tons of waste from going to the landfill each year.

Alcoa has been more than happy to share their environmental



successes. For the past 13 years, Alcoa has hosted environmental briefings for community leaders and environmental groups. Using a "report card" format, those attending hear

about the plant's progress or completion of environmental projects during the year.

"This is a great opportunity for us to develop partnerships with these organizations to strive for continued environmental improvement in our area," said Riches.

Alcoa has also developed a partnership with local schools. The plant worked with local environmentalists in creating 63 acres of wetlands located at Nahant Marsh and the Princeton Marsh. Each year, school children visit the marshland to conduct experiments and learn about ecology at the Nahant Marsh Education Center.

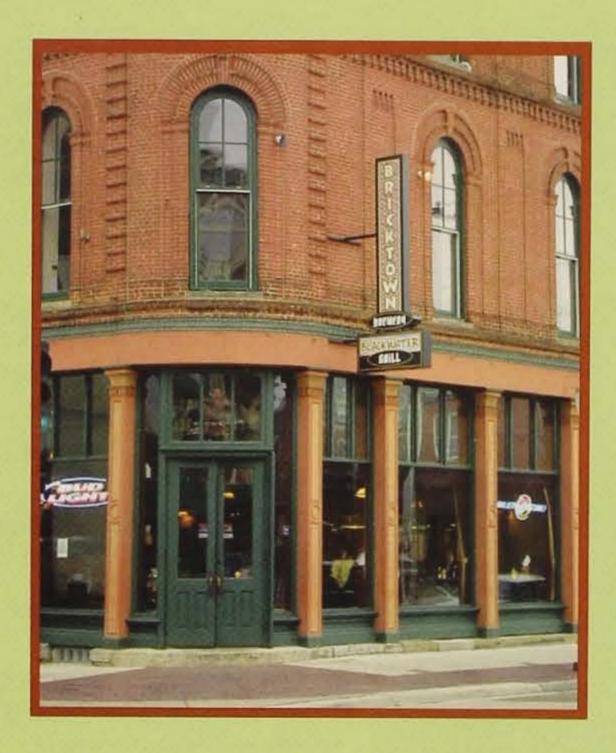
Alcoa has demonstrated that Iowa industry can significantly

change the impact they have on the environment. Alcoa's investment and results are a true example of environmental excellence.



Look for the 2004 awards winners in the March/April 2005 issue of the Iowa Conservationist.

Jill Cornell is an information specialist with the department in Des Moines.



MAIN COURSE

Cooking Caribbean-STYLE

by Joe Wilkinson Photos by Clay Smith

Listen closely. You might hear the century-old clanging of iron from the rafters of this remnant of Dubuque's storied riverfront. In the late 1800s, the four-story brick structure looked out on the 27-acre A.A. Cooper Wagon Works; producing more than 5,000 wagons each year. Today, though, the Bricktown Brewery Complex sits in the center of Dubuque's 21st Century downtown entertainment district. Within Bricktown's walls are a brew pub, restaurants, banquet facilities, a lounge and more. Entrepeneurs Scott A. Neuwoehner and Greg A. Prehm's vision is still developing, as renovation continues on the top floor; returning a vital piece of the Key City's heritage to the Old Main Street area.

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Fare here ranges from pizza to seafood; from chicken to chops. With a solid, working-class heritage that lured thousands of Irish and German immigrants to its factories, riverfront and packing plants, how would hometown native chef James Paradiso prepare Iowa's favorite game bird for us in Bricktown's Blackwater Grill? How about Caribbean-style stuffed pheasant?

"I've been hooked on Caribbean-style cooking since I came here, a year and a half ago," explains Paradiso, who studied cooking at the Johnson and Wales school in Providence, Rhode Island, but who grew up making pastries in a neighborhood bakery in Dubuque. "We have a couple dishes (on the menu) here. Items like Jamaican rib-eye or Caribbean chops. We make our own barbeque sauce as well. Most people think of 'blackened' entrees when they hear Caribbean. I like the nice sweet variety."

That means using his five-spice mix. Cinnamon, cloves, nutmeg, pepper and cumin provide the distinctive flavor for both the wild pheasant and special stuffing. Besides the crushed cracker base, Paradiso stuffed our bird with minced onions, celery, carrots, red apple, almonds, sliced red grapes, brown sugar and butter. A Jack Daniel's glaze brushed on the pheasant finished the presentation.

When the meal hit the table, the sweet, meaty smell wafted all the way across the banquet room. Dubuquers have been raised on beef, pork and catfish for nearly two centuries. But the islands are here now. "Caribbean is our specialty. It's definitely popular," offers Paradiso proudly.

The restaurants and lounges at Bricktown offer a variety of food, atmosphere and entertainment.

Appetizers range from about \$7 to \$9. Sandwich combinations (Chef James Paradiso recommends the focaccia chicken or chicken mango) run about \$8 to \$10. Entrees run about \$14 to \$17 for pasta, and from \$14 to \$15 for seafood, steaks, ribs, chops and chicken up to about \$20.

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Bricktown Reception Brewery (563) 582-0608 299 Main Street Dubuque, Iowa 52001



JACK DANIEL'S GLAZED CARIBBEAN PHEASANT

The Sauce

2 cups of water, 1 bouillon cube. Add cube to water as it comes to a boil

2 T butter, 5 T flour, mix to make the roux (thickener)

Add roux slowly to boiling water

Add 1 shot of Jack Daniel's whiskey as it thickens. (the heat breaks down the alcohol, but you keep the sweetness of the taste)

The Stuffing

20 saltine crackers, crushed 2 apples, minced 1/2 bunch red, seedless grapes

1/4 cup each: diced almonds, minced onion, celery, carrots

1/4 cup brown sugar

3 T (softened) butter or margarine

Combine all ingredients. Add more crushed crackers as needed. Stuff into bird's cavity.

The Bird

Place pheasant (stuffed) backside down, on a cookie sheet or pan. Keep it just off the surface with a grate. Add water to pan, to allow steam cooking. Bake at 300-350 degrees, basting as it goes into oven and then every 10 minutes; checking as you baste. Bake for about 30 minutes, until skin is golden brown. Inside temperature should be 160 degrees. Do not overcook. The steam accelerates the process without drying out wild game meat.



They're not in it for the Pay: Volunteers and the DNR

Volunteers across the state donate their time, efforts

by Michael Dhar

Some of them trek into prairies to hack at invasive brush. Others slog into the mud to test water quality. They slap paint onto picnic tables. They raise money for playgrounds. And they do it all for free.

They are Iowa's natural resources volunteers, and in 2003 they donated more than 114,000 hours of their time to Iowa's public lands.

These super-minimum wage workers served in the DNR's Keepers of the Land volunteer program—contributing to the high rate of volunteerism among Iowans.

Iowa boasts the second highest percentage of people aged 16 and older who donate their time (according to research released last year by the Points of Light Foundation). Keepers of the Land participants have shown just how indispensable that work can be.

"As far as I'm concerned, volunteers are instrumental in keeping our park open," said Carolyn Hack, park manager at Springbrook State Park. "We can accomplish some things without them, but it would take a lot longer...Somethings you just couldn'tdo."

Keepers volunteers come from all age groups and skill levels. School groups and scouts clean trash from parks. Older volunteers guide tours and test water quality. Adults form

Friends groups to raise funds and

spearhead large projects.

One group of volunteers, the members

scout masters are very motivated to

keep these young men active in the community."

While the Prairie Army enters its fourth

> year of service, some Iowans have been at it for decades. The DNR honored Marlene Ehresman in 2003 for 20 years spent protecting Iowa's

of Ankeny's

Boy Scout Troop 88, clear brush from Big Creek State Park with such militant

intensity

they've been nicknamed "The Prairie Army." They won the Keepers of the Land Directors Award in 2003.

"If I need something done, I can always call them up," said Big Creek Park Manager Kim Olofson. "The

wildlife.

Volunteers work wherever they're needed

Ehresman and her husband founded the Iowa Wildlife Rehabilitation Foundation in the 1980s to teach officials how to care for sick, injured or abandoned wildlife.

How to Get Involved

Interested in volunteering in Iowa natural resources? Go to the Keepers of the Land Website to learn more about the volunteer opportunties available, sign up to volunteer, or post an event!

www.iowadnr/volunteer/

Coming Up...

- * What: The third annual Volunteer Iowa! program, a pledge drive for volunteer hours
- * Where: Iowa Public Television
- * When: 7 pm, Sunday, Feb. 13
- * More info on our Website

Iowa Conservationist . January/February 2005

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Drawing on a lifelong concern for animals - Ehresman said she remembers wanting to help sick robins as a child - she has tended to all types of Iowa wildlife, from deer to bats.

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Two years ago a red-tailed hawk flew into a downtown Des Moines office building. When no DNR personnel could be found to help, Ehresman came to the rescue.

"For years she has accepted any and all calls regarding wildlife rehabilitation," said her nominator

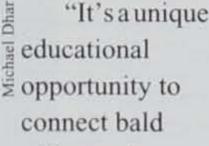
Keepers' Outstanding Large Project Award in 2003.

"I believe in the park," said Friends treasurer Darla Kelchan. "It came very natural to help it out. Everyone who volunteers their time has a special memory down there, and that's what keeps them coming back."

Outstanding projects still come in small packages, however. Knoxville natives John Aaron Mertz and Kevin James won 2003's Small Project Award after they built a life-size replica bald eagle nest for the Red

> Rock Bald Eagle Days. The roughly 6-foot by 5-foot nest has room enough for small children to climb aboard and see the world from an eagle-eye view.

"It's a unique educational connect bald



eagle awareness with people wanting to learn about their national symbol," said Schlarbaum, who nominated the pair.

The nest is now on permanent display at Red Rock, and will be viewed by 2,000 visitors every Bald Eagle Appreciation Day.

The Volunteer Corner highlights an exceptional DNR Keepers of the Land volunteer every issue. Turn to page 50 for our first volunteer profile.



Backbone State Park Friends with new playground

Pat Schlarbaum, wildlife diversity technician for the DNR's wildlife research station in Boone. "She's a volunteer's volunteer."

Sometimes volunteer projects grow so big that they must be measured in acres and tons. In 1997 a group of volunteers organized efforts to save Backbone Lake by hauling 150,000 tons of silt from the 20-acre lakebed.

Since then the group, now called the Backbone Lake Friends, has attempted a major project every year. They helped install a \$40,000 playground last year and won the

Volunteers Honored at '04 Awards Banquet

The Keepers of the Land recognized some of its most outstanding volunteers at the Fourth Annual DNR Volunteer Awards Banquet, held last November.

Award Winners

- * Group Award and Director's Distinction: The Iowa Frog and Toad Call Survey
- * Individual Awards: Campground hosts Marvel and Tom Griffey and park volunteer Warren Trotter
- * Youth Award: Red Oak Middle School 7th Grade Life Sciences class
- * Large Project Award: Penny Close, Susan Barts, and the Friends of the Guttenberg Aquarium
- * Small Project Award: Craig Rubenking and Scout Troop 30
- * DNR Staff Awards: Big Creek State Park Manager Kim Olofson and IOWATER geologist Lynette Seigly

IOWATER, the volunteer water monitoring group, also awarded five outstanding volunteers.



Volunteer Corner

From the Desert to the Park: A Soldier and a Volunteer

Former AmeriCorps member Ben Fay serves in Iraq and the state parks of Iowa

by Michael Dhar

Coming from a world of brown and tan sandstorms, Iowa looked like the tropics.

Former AmeriCorps Keepers of the Land member Ben Fay returned to Iowa in May 2004, after nearly a AmeriCorps trail crew, joining the program for the second time. (He'd also served in 2002.)

The trail crew, or ecosystem

AmeriCorps, the domestic Peace Corps, funds service positions across the country, including 47 in the Iowa DNR.

management team, refurbishes state park infrastructure, including trails,

bridges and buildings.

That close-to-nature working environment attracted Fay to AmeriCorps, said sister Marie Clark.

"He's always loved the outdoors and his ideal job is working outside," she said. "Ever since I can remember, he's loved to camp, fish and hunt. He's loved being outside."

For his second term of AmeriCorps service, Fay brought along a friend from Iraq. Fellow Guardsman Ryan Pearse worked alongside Fay at Palisades-Kepler State Park this summer.

"He talked about [AmeriCorps] a

lot while we were in Tikrit," Pearse said. "He said he'd had a blast."

Pearse said he's enjoyed the camaraderie he felt both in the Guard and in AmeriCorps.

"There's a lot of similarity between what I was doing in Iraq and my job this summer," he said.
"In both cases, I was with a good corps group of people...I made some

really good friends."

The two types of service differ pretty sharply, however, Fay said. He recalled boot camp drill sergeants who broke recruits down mentally and physically. He also remembered suffering through 130-degree temperatures in the desert.

"The first thing that hit us was the extreme climate," he said. "It's like opening an oven."

National Guard service and AmeriCorps work have suited Fay's personality well, Clark said.

"Ben has good character, he's a pretty trustworthy guy and a good leader," Clark said. "I think he's chosen his areas very well, both with the Guard and AmeriCorps."

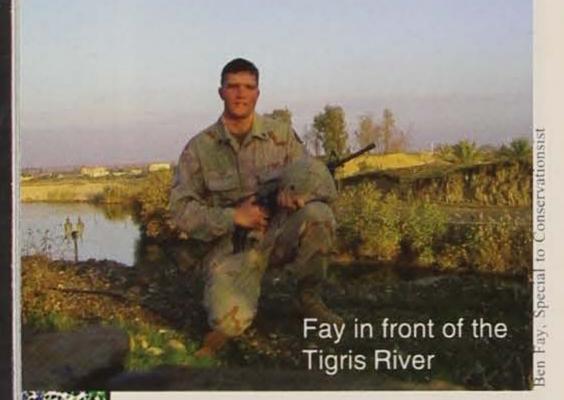
Fay ended his second
AmeriCorps term of service last
September, after helping to
refurbish more than a third of a mile
of trail and complete several
projects.

He stayed on, however, working under a trails grant through

November.

Having come home to a green Iowa, Fay stuck around on the trails to watch his home state turn yellow, orange and brown.

Learn more about DNR Keepers of the Land volunteers at: www.iowadnr.com/volunteer/



year of National Guard service in the Middle East. He arrived just in time to see the Hawkeye state bloom into spring.

"In Kuwait, everything is sand color, even the tents," Fay said. "There's rarely any shrubbery. In Iowa, it was a shock because everything is so green."

Fay, a Guard mechanic, served 11 months abroad with the Cedar Rapids 234th Signal Battalion, mostly in Tikrit, Iraq.

Upon his return, Fay traded one type of service for another. He set to work in the green forests of Iowa's state parks with the



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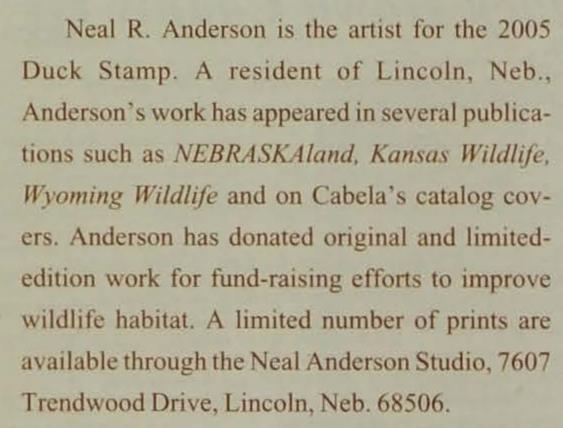
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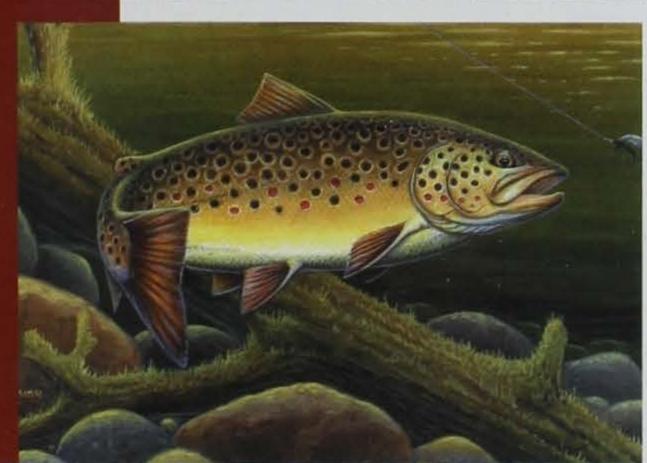
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"Ellie's Farm" by Susan Winter is the design for the 2005 habitat stamp. Winter, a life-long angler and hunter might be considered one of America's most dedicated sportswomen artists. In 2003 Susan's "Brookie In The Brush" was chosen to be Iowa's trout stamp. Limited edition prints are available by reaching the artist on the web at winteroriginals.com or 802-878-4942.



The 2005 Trout Stamp was designed by returning artist Greg Bordignon, a fixture on the Iowa wildlife painting scene. His work has appeared on the covers of the hunting and trapping rules and regulations and inside the *Iowa Conservationist* magazine. He also was awarded the Waterfowl USA "Print of the Year" in 2003 and 2004. A limited number of prints are available at Bordignon Ink, 630 Grand Court, Robins, Iowa 52328; 319-743-0874.

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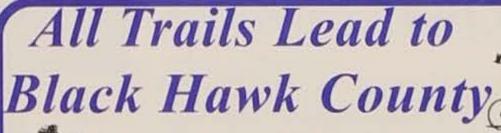
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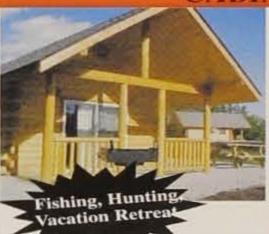
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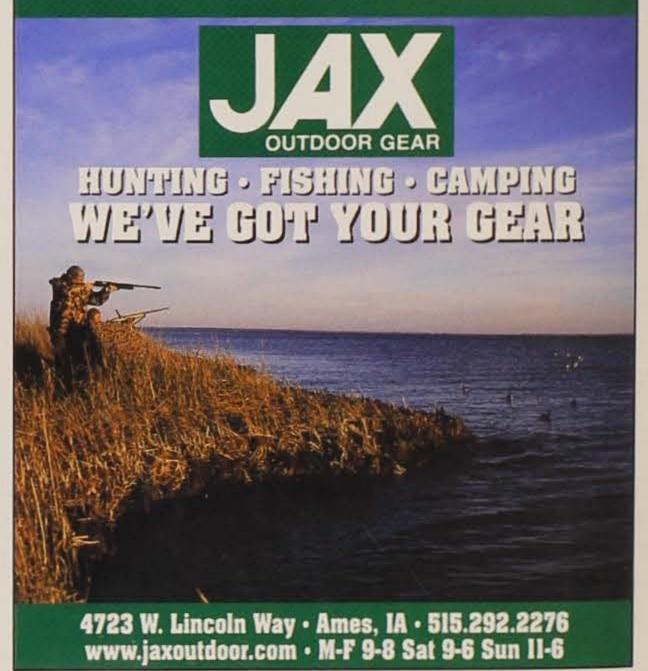
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"Without enough wilderness America will change. Democracy, with its myriad personalities and increasing sophistication, must be fibred and vitalized by regular contact with outdoor growths -- animals, trees, sun warmth and free skies -- or it will dwindle and pale."

- Walt Whitman





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I remember a hundred lovely lakes, and recall the fragrant breath of pine and fir and cedar and poplar trees. The trail has strung upon it, as upon a thread of silk, opalescent dawns and saffron sunsets. It has given me blessed release from care and worry and the troubled thinking of our modern day. It has been a return to the primitive and the peaceful. Whenever the pressure of our complex city life thins my blood and benumbs my brain, I seek relief in the trail; and when I hear the coyote wailing to the yellow dawn, my cares fall from me - I am happy.

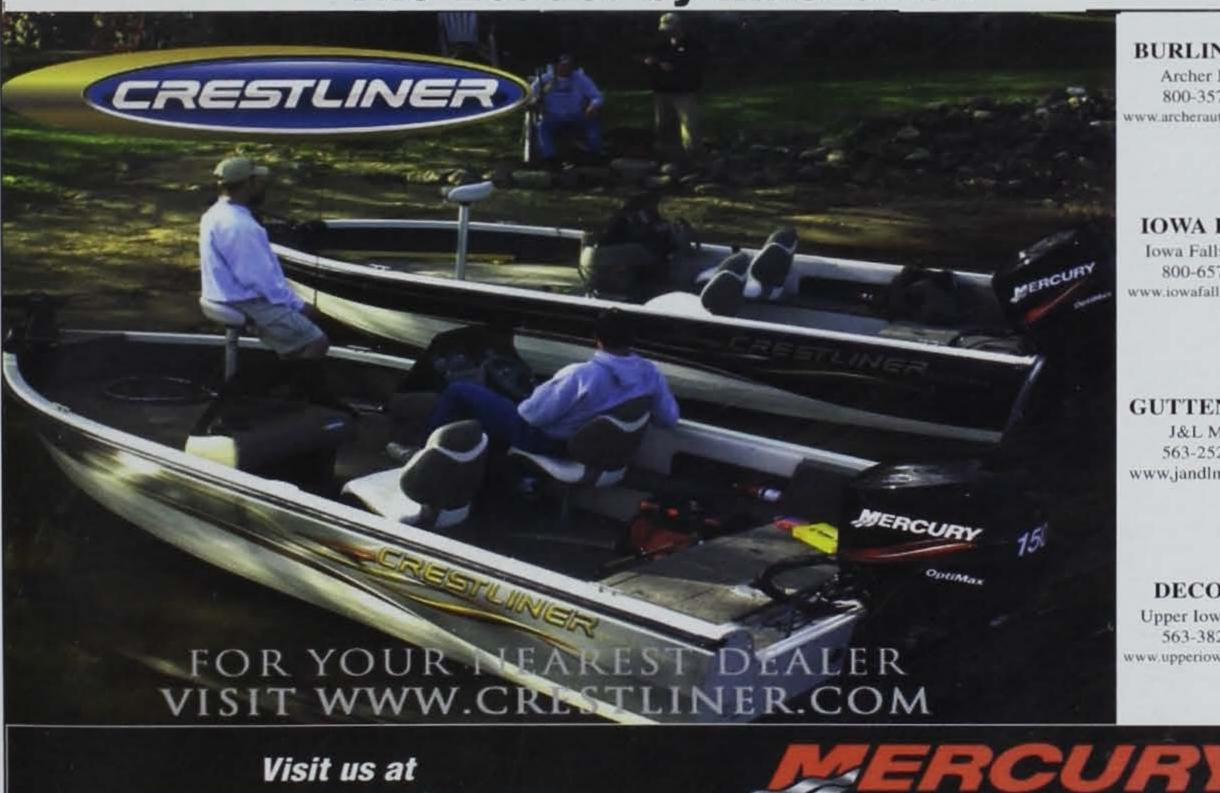
~ Hamlin Garland, McClure's, February 1899



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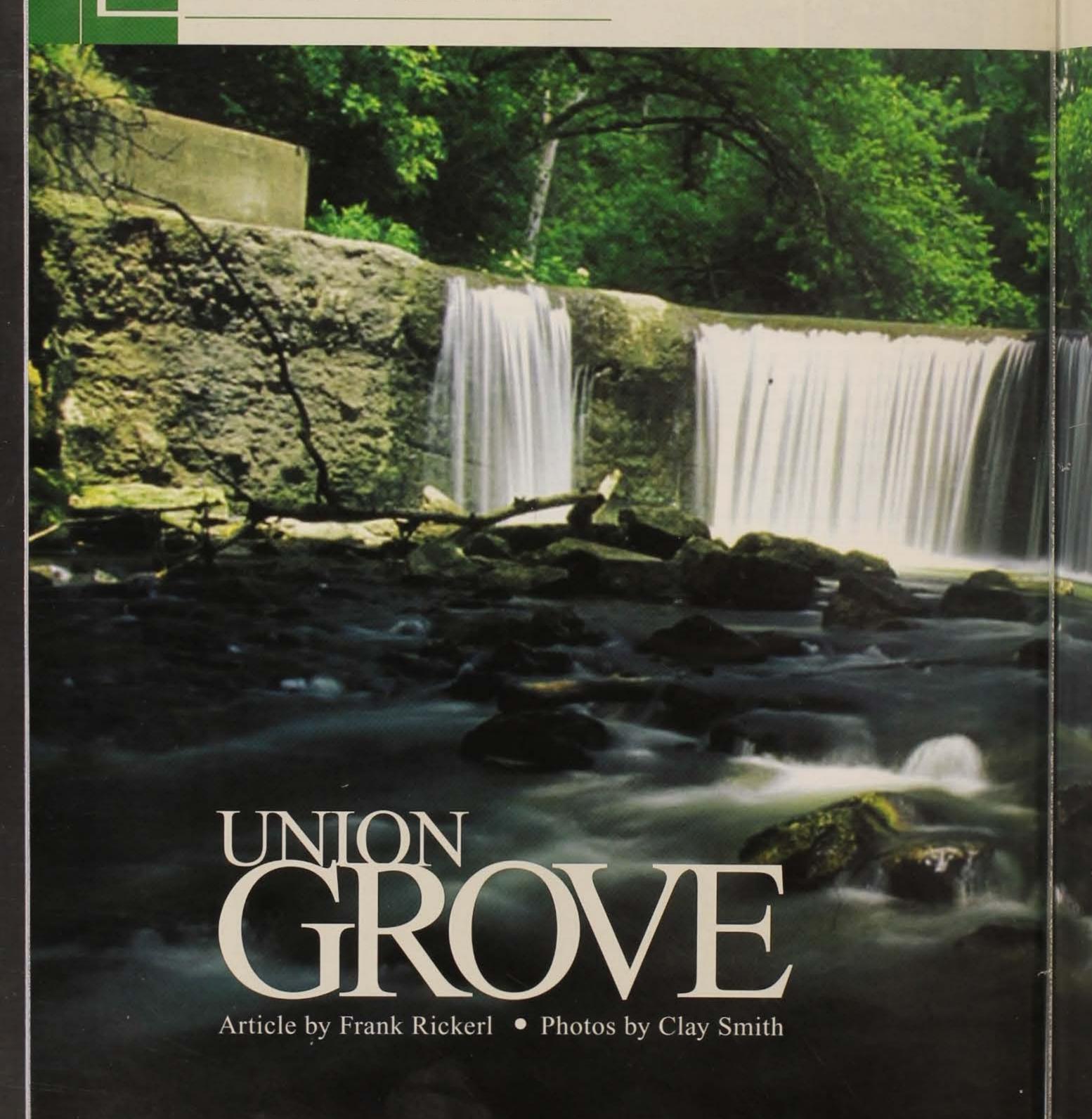
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FROURY #1 On The Water

PARKS PROFILE





PARKS PROFILE

For the next four years, the lake was operated privately by the holding corporation, but was open to the public. It attracted many visitors to the area for recreation and residential development.

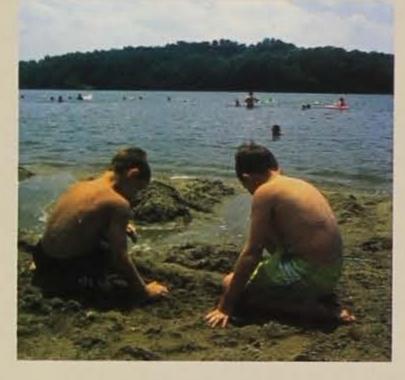
In July 1940, the holding company sold the area to the state for \$10,000. The residential lots were retained by their owners, however the state did purchase a farm on the south side of the park, currently home to the park office and campground.

Rather than disband after the state took possession of the park, the corporation remained active. It has evolved into a Friends Group, and has made several financial, material and labor donations to the park.

The name Union Grove comes from a town that was once located in the area. Originally called Spring Creek, the small village was renamed in the late 1870s in hopes of attracting the Union Pacific Railroad. It had a school, cemetery, post office, store, blacksmith shop and cheese factory. The railroad eventually picked a route that ran from Tama to Garwin to the newly developed town of Gladbrook, thus skipping Union Grove. Many of the Union Grove buildings and businesses were moved to Gladbrook, and the village of Union Grove was abandoned before 1890. Only a few foundations and the Union Grove Cemetery remain.

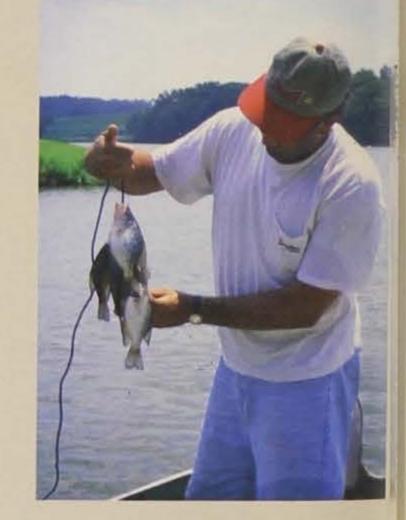
Union Grove State Park has a





non-modern campground, and a picnic shelter on the west shore of the lake that is available on a first come first served basis, or it can be reserved for special occasions. A second shelter near the campground, owned by American Legion Post#127 of Gladbrook, is open to the public on a first-come first-served basis. There are two boat ramps and a beach,. The lake is stocked with bass, bluegill, crappie, channel catfish, saugeye, walleye and northern pike. There is also a public hunting area southwest of the park.

Frank Rickerl is the park manager at Union Grove State Park.



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TOP: The campground has 21 campsites, providing a quiet, relaxing experience.

RIGHT: The 110-acre lake offers good catches of panfish, bass, catfish, walleyes, saugeyes and northern pike.

LEFT: The beach and swimming area is perfect for a family outing on a hot summer day.

UNION GROVE STATE PARK AT A GLANCE

LOCATION: Northwest Tama County near Gladbrook

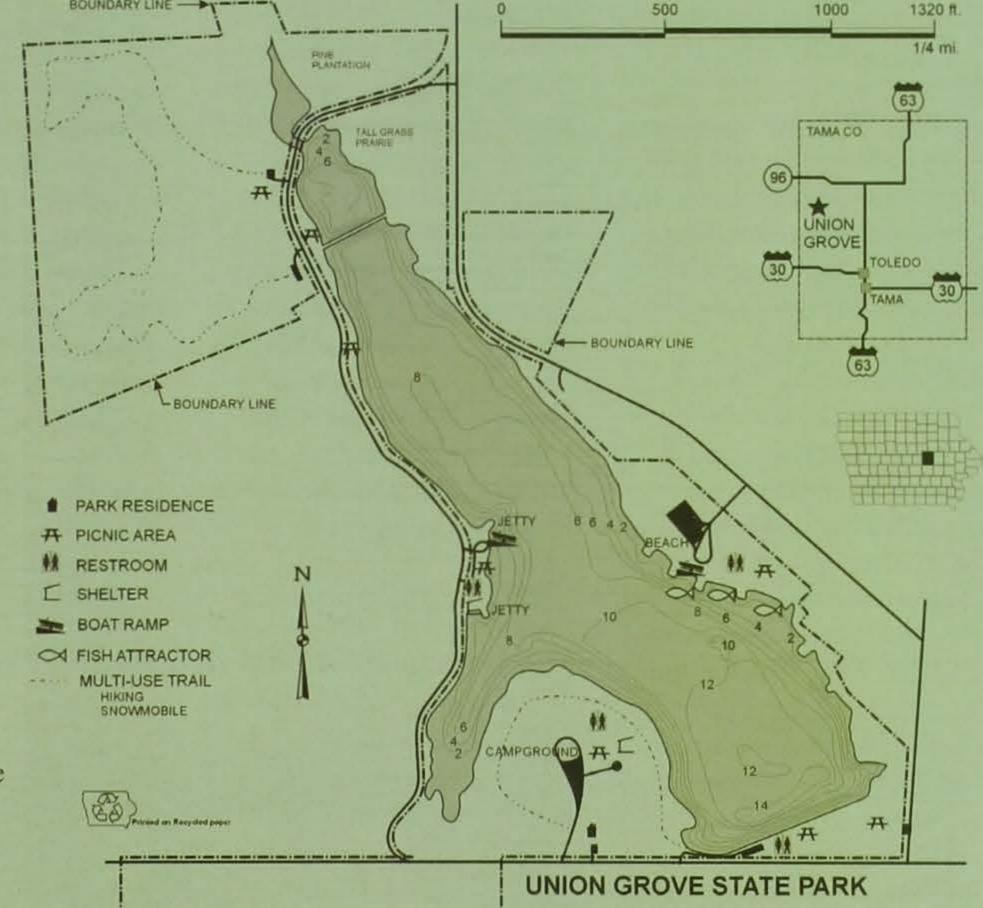
PICKNICKING/FAMILY GATHERINGS: Union Grove State Park is a fine place for a family cookout. A number of shaded picnic areas are present, all within sight of the lake. An open picnic shelter is available at the west boat ramp and may be reserved for a fee through the park ranger.

CAMPING: Union Grove campground provides an ideal spot for a family get-away. The campground has 21 campsites, 7 with electric hook ups. Non-modern rest room facilities are available. Camping permits are obtained by self-registration at the campground. Camping fees can be paid at the site.

TRAILS: Union Grove State Park has some excellent trails. One of these is located near the campground and the other, in the north corner of the park, is located in a beautiful woodland. Both provide excellent hiking opportuni-

ties. A variety of animals, including deer, can often be seen on the trails. The park hostsnumerous varieties of songbirds and waterfowl. The trails are open for snowmobilingin the winter. A beautiful reestablished prairie and a pine plantation are located in the northeast corner of the park, just off the main roadway.

und



LAKE ACTIVITIES:

The beach

offers unsupervised swimming fun for all ages. The lake is a great place to fish. Anglers can look forward to good catches of crappies, bluegills, catfish, bass and bullheads. Any size boat motors may be operated at no-wake speeds. Two boat ramps provide convenient lake access.

CONTACT: 1215 220th Street, Gladbrook, Iowa 50635; (641) 473-2556; email Union_Grove@dnr.state.ia.us.

CONSERVATION UPDATE

Kids, Educaters Dig Trees For Kids

"Jeff," a sixth grader from
McCombs Middle School in Des
Moines, digs planting trees. After
planting trees at school during last
year's Arbor Day festivities, he
says he "might even buy a tree."
"Nicole" thinks the new trees at
Lakewood Elementary near
Norwalk are Tough, Rough,
Exquisite, Exciting and Strong."

The trees were planted last year as a part of the Iowa-based Trees For Kids/Teens program.

Last year more than 300,000 students and 12,000 teachers and youth leaders participated and planted in excess of 100,000 new trees. Planting trees allows students and young people the chance to learn first-hand about the environment. It also gives them an opportunity to shape it.

"The opportunity to be involved in the planning and caring of planting a tree is a wonderful experience," says Glen Lohman, retired superintendent of Spencer Community Schools. "It also builds a real sense of responsibility."

Funding
and support for
Trees For Kids
for elementary
grades and its
companion
Trees For
Teens for
middle and

high school grades is made possible through a cooperative partnership between the DNR forestry bureau, MidAmerican Energy, Aquila, Alliant Energy, the Iowa Nursery and Landscape Association, the Iowa Bankers Association, Trees Forever, the Iowa Woodland Owners Association, the Iowa Tree Farm Committee, USDA Forest Service State and Private Forestry, and Iowa State University Extension Forestry.

Both programs produce and

distribute free educational packets full of Iowa natural resource education materials, including crossword puzzles, word searches, a full-color educational poster and internet activities.

Teachers receive instructions on how to obtain free landscapesized trees to plant during Earth Week (April 23-30).

The spring 2005 program will focus on the "Many Values of Iowa's Forests." For more information, contact Megan Enneking at 515-281-4915 or by email at tfkids@dnr.state.ia.us.



Winter Becoming An Outdoors Woman Workshop Returns in February

The Iowa Becoming an Outdoors Woman program is bringing back one of its most popular events—the winter workshop.

The one-day event will be held Feb. 5 in Clear Lake at the Tanglefoot Girl Scout Camp on the south shore of Clear Lake.

Participants will choose one of four different sessions in the morning and one of four sessions

in the afternoon. Session topics include cross country skiing, ice fishing, turkey hunting, falconry, fly tying, snowshoeing, winter survival/orienteering and game care and cooking. The \$50 registration includes class instruction and materials, and a continental breakfast, lunch and snack.

Becoming an Outdoors Woman is an international program aimed primarily at women, but is an opportunity for anyone 18 years or older to learn outdoor skills usually associated with hunting and fishing, but useful for many outdoor pursuits.

For more information and to download a registration form, visit www.iowadnr.com and click on Becoming an Outdoors Woman under "Reminders/News," or contact Julie Sparks at 515-281-6159.

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Living Snow Fence Program Benefits Landowners, Drivers And Wildlife

Landowners can benefit from a joint federal and state effort to combat drifting snow on roadways and other public facilities, while increasing wildlife habitat and controlling erosion.

Iowa landowners with property on the north or west sides of lanes, roads, railroads and public facilities with eligible land that was cropped four years from 1996 to 2001, are eligible to participate in the program.

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The living snow fence program consists of a combination of trees and shrubs that form a windbreak. For new windbreak plantings, the snow catch area will be eligible for cost-share for the first time in 2005.

"The inclusion of the snow catch area will be of great benefit to farmers who have hesitated to plant windbreaks because soils in the downwind area remain wet and cold in the spring," said Lyle Asell, DNR coordinator for agricultural programs. "We hope landowners will seed these areas to native grasses and wildflowers, forming a catch area for blowing and drifting snow, and providing much needed winter habitat for wildlife."

Sign-up for this Conservation
Reserve Program is continuous at local Farm Service Agency offices. A 40 percent practice incentive payment is available to establish the seedings, with a 50 percent cost-share rental rate available over the 10 to 15 years of the contract. An additional sign-up bonus of \$100 to \$150 per acre is also available.

The traveling public, landowners and wildlife will clearly benefit as properly placed snow fences reduce blowing snow and increase visibility. The snow catch areas will provide habitat for wildlife, reduce soil erosion and take the

downwind soils out of production.

The Iowa DNR recommends trees, shrubs and prairie seed grown in Iowa, because they are suitable for Iowa's growing conditions. Plant materials can be purchased at local nurseries and seed dealers. Quality, affordable bareroot nursery stock is also available from the DNR State Forest Nursery.

The Iowa departments of
Transportation (DOT) and
Natural Resources (DNR) have
teamed up with the U.S. Department of Agriculture's Farm
Service Agency (USDA-FSA)
and Natural Resources Conservation Service (USDA-NRCS) to
promote the program.

Ice Anglers Reminded Of Shack Requirements

With the ice fishing season in full swing, hard water anglers are reminded of their responsibilities regarding the use of ice shacks.

Shacks left on state-owned land or water must bear the owner's name, street address and city in 4-inch or larger block letters in a color contrasting to their background on all sides.

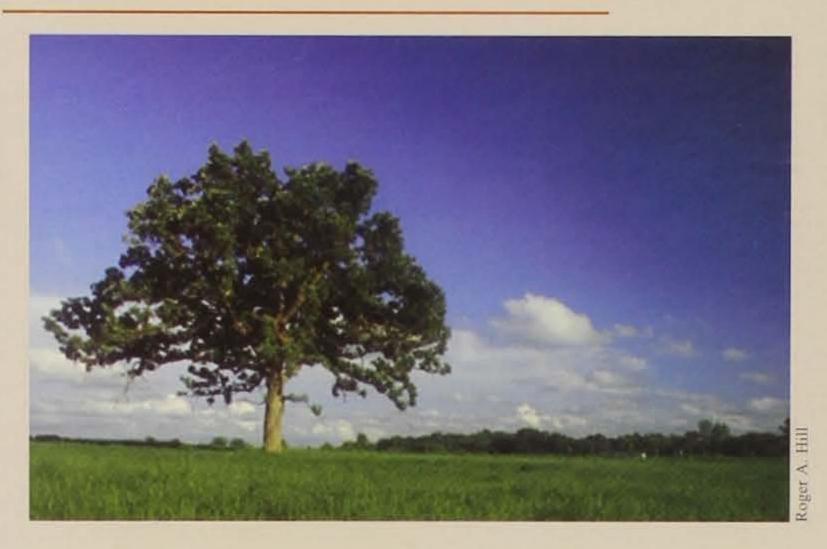
Reflectors must be attached to all sides on any shack left on the ice after sundown. Structures cannot be locked while in use.

Shelters must be removed from the ice on all state lands or waters by Feb. 20 or ice melt, whichever comes first, unless the deadline is extended.



More than 100 pheasants took shelter in this Boone County windbreak during heavy snowfalls.

CONSERVATION UPDATE



Choose Native When Selecting Nursery Stock

The decision has been made to plant trees and shrubs this spring on your property. The next big decisions are what type of tree and or shrub to plant and where to get them. While planting non-native species has an exciting appeal to it, using native trees and shrub seedlings from an Iowa-grown nursery is best for all concerned.

"Native trees and shrubs are better adapted to Iowa's extremes in weather and to our planting locations, providing superior native wildlife habitat," said John Walkowiak, forestry bureau chief with the Iowa Department of Natural Resources. "They have adapted themselves over time to insect and disease issues, and they are less likely to be stressed than non-native plants during extreme droughts.

"Whether you're planting trees to grow forest products,

increase or improve wildlife
habitat, protect the site from soil
and water erosion or improve
landscape scenery, you'll receive
extra as a bonus when planting
native trees and shrubs. While
native seedling plantings offer the
best chance for success, pick and
choose species according to your
land management objectives and
your planting site," he added.

The State Forest Nursery in Ames offers hardy, native trees and shrubs to landowners at affordable costs. The nursery buys its seeds from Iowa seed collectors, ensuring planting stock is better adapted to Iowa's land and weather conditions. The nursery produces 5 million bareroot seedlings per year for sale to private landowners for reforestation, soil erosion control and wildlife habitat. Visit www.iowatreeplanting or call 800-865-2477 for more information.

Program Aims At Enhancing Bobwhite Quail Habitat

Iowa producers can enroll up to 20,000 acres of cropland into the Conservation Reserve Program (CRP) to benefit bobwhite quail and other small birds.

Producers can sign up any time at their local USDA Farm Service Agency, if the counties normally support quail populations. However, the sign up is "first-come, first-served" according to Todd Bogenschutz, DNR upland game biologist. "With a limited number of acres available, I would encourage anyone who wants to create quail habitat to sign up in January."

Eligible areas include cropland and cropland around the edges of existing grain fields. The average width of the enrolled area must be between 30 and 120 feet wide. At least half of the field must be in crops. The land must have been cropped or considered cropped for four of the six years from 1996 to 2001.

Producers will not be able to enroll land that is used for turn rows, roads, or for storage of crops or equipment. In addition, cropland adjacent to a stream filter or buffer strip is not eligible.

Annual payments will be based on the average rental rates for the county. A combination of cost-share programs will pay up to 90 percent of the cost of establishing the field border. An additional sign-up bonus of \$100 per acre is also available.

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Remember Chickadee Checkoff At Tax Time

Research and habitat management for game species such as deer, turkeys, waterfowl and pheasants are funded through license fees, habitat stamps and excise taxes. But for the more than 80 percent of Iowa's wildlife that is not hunted, that duty falls to the Iowa Department of Natural Resources' wildlife diversity program.

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Historically, this program has had no stable source of funding and relies mainly on contributions from the public. But Iowans can contribute to the wildlife diversity program and invest in the future of Iowa's nongame wildlife by giving to the Chickadee Checkoff on their state income tax form. Contributions fund research and provide habitat management for Iowa's nongame species and promote education and enjoyment of those species.

In recent years, contributions to the nongame program have been used for research and surveys on Iowa's frogs and toads, wintering bald eagles, heron rookeries, bats and raptors. Public events such as Bald Eagle Appreciation Days, Pelican Fest and Hawk Watch - which attracted nearly 20,000 people - were also funded through donations. Several publications on the appreciation of Iowa's diverse wildlife and its management were distributed to thousands of people.

Research of the Fish and Wildlife Fund (Chickadee Checkoff) shows an average \$11.50 contribution from roughly 1 percent of the population filing income tax. Unfortunately, the funding does not match the level of management needed across Iowa. With 45 percent of Iowa's population over age 16 engaging in wildlife watching activities, there is much funding potential to realize.

Remember to tell your tax preparer that you would like to contribute to the Fish and Wildlife Fund (Chickadee Checkoff). By donating a few dollars, you will be helping in the conservation of 500-plus nongame animals.

Invest in Iowa's natural beauty by supporting its wildlife diversity.

For more information contact the Wildlife Diversity Program 515-432-2823.



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 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, 502 E. 9th St., Des Moines, Iowa 50319-0034.

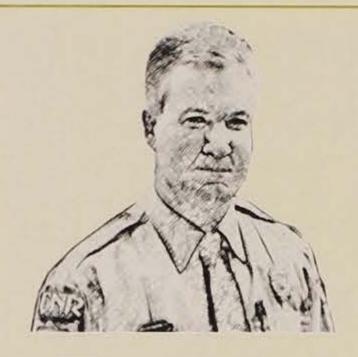
Natural Resource Commission:

- February 10Des Moines
- February 10Des Moines
- March 10
 Des Moines
- April 14Union County

Environmental Protection Commission:

- January 18Des Moines
- February 21
 To be announced
- March 21Des Moines

WARDEN'S DIARY



t was opening day of the second shotgun deer season, and like most officers, I was thinking, "Only eight days left to go."

With one deer season already under wraps, the tank was running a little dry as the calls backed up. It didn't help that we were short manpower, and like some of my fellow officers, I was answering calls for four counties. Fortunately, at that point, things were a little slow, and I was thankful for that. I hadn't run across many hunters, and it almost made me wonder, "Did everyone forget, or am I out on the wrong day?" I didn't really mind as my quest for adventure is not at the level it was 28 years ago when I first pinned on a badge. Boring is a good thing, it means everyone is behaving, and everyone is safe.

Since things were quiet, I turned onto the interstate thinking I would beat the noon crowd and take advantage of a sit-down lunch. I pulled into the parking lot just in time for the radio to blare, "C342 call radio reference poaching."

I picked up the cell phone and

The Best Kind Of Help

by Chuck Humeston

dialed dispatch. "There is a person waiting at the Kum & Go wanting to talk to an officer about deer poaching he witnessed. A deputy is also on the way."

I made a U-turn in the parking lot and headed across the street as my sit-down lunch had suddenly turned into a McDonald's drive through. The cell phone rang suddenly, and I answered.

"I'd like to report some deer poaching," the caller said.

"Are you at the Kum & Go?" I asked.

"Yes."

"I'm on my way."

As usually is the case, the call was on the other side of the county. I arrived to find a deputy sheriff talking to three guys dressed in hunting gear. The deputy was already taking notes.

"What happened?" I asked.

The oldest of the three answered, "We had been deer hunting. We were driving down the road, and we saw a pickup ahead of us. There was a guy in the box of the pickup. The driver slammed on the brakes, and the guy in the back of the pickup started shooting at a deer. Then he jumped into the ditch, and he ran up the bank after it."

"Did you get a license plate, and could you identify them?" I asked. "Yeah, I was as close to them as I am to you right now."

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"Really?" I asked. "How did you get that close?"

"I drove up beside the guy's window, and yelled at him that he shouldn't be doing that."

"You did?"

"Yeah, I'm a retired deputy sheriff, my grandchildren are with me, I've been hunting all my life, and I don't go for that kind of stuff. What they did isn't hunting."

The deputy had already radioed a description of the pickup. Moments later the radio interrupted with reports a police officer had stopped a pickup matching the description and license plate with individuals dressed in orange hunting gear.

"Can you get written statements from these three, and I'll head up there?" I asked the deputy.

"No problem," he answered.

I called the police officer and asked him how things were going.

"They say they don't know anything about it, and they didn't do it." Well of course.

I picked up the mic again, and called the deputy. "Would you ask them if they would mind driving up to see if they can identify the driver, the shooter and the pickup?" I knew this was asking a lot since it was a fairly long drive, they wanted to hunt and it would

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mean confronting the guys the police had stopped.

There evidently wasn't any hesitation on the part of the three as the deputy almost immediately answered, "We're on our way."

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I arrived in the city, and as usual, drove to the far side of town to find a police squad with its lights flashing behind a pickup. It was obvious the officer had followed my radio traffic requesting the witnesses drive up and make identification as he had evidently told the occupants of the pickup what was in store.

"They admit they did it," the

officer told me. He had already gathered up hunting licenses, deer licenses and drivers' licenses which he handed to me.

I walked up to the pickup, and talked to the driver. Yes, they had seen a deer. One admitted shooting at a deer. "BUT," he protested, "I did not shoot it from the back of the pickup." I got out my gun, loaded it and shot from the road."

"Really?" I asked. "Are you sure you shot at it from the road?"

"Yes"

"I just wanted to make sure, sir, because shooting a deer slug from the road is illegal."

"Oh," he said, and he seemed to slump in the seat a bit.

I went back to my squad to begin writing citations, and the deputy and the witnesses arrived. My plan was just to have the witnesses drive by and take a look. I didn't even have time to ask. They stopped, got out, walked up to the pickup, took a look inside, and walked to me. "That's them, and that's the pickup," they said.

Case closed. It's not very often everything comes together like that. The deputy and the police officer were alert and in the right place at the right time, and more than willing to help.

Never for a moment do I suggest that those witnessing wildlife violations confront the violators. But without the help and concern of three people who cared about their tradition, as well as the concern of a man wanting to set the right example for his grandchildren, that case would have never been investigated and the perpetrators would have walked away scot-free. My hat is off to them.

Editor's Note: Iowans don't have to put themselves in harms way to help stop poaching. Iowa's Turn In Poachers hotline — 1-800-532-2020 — allows concerned citizens to report fish and wildlife violations while remaining anonymous. Callers may be eligible for a cash reward.



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